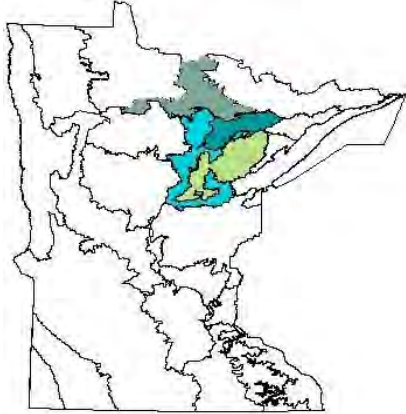


Minnesota
Department of Natural Resources
Division of Forestry



**St. Louis Moraines, Tamarack
Lowlands, Nashwauk Uplands,
and Littlefork-Vermilion Uplands
Subsections**

**Subsection Forest Resource
Management Plan (SFRMP)**

**Strategic Direction and
Stand Selection**



December 2010 – FINAL

Division of Forestry Planning Document
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This document and additional information about the Division of Forestry Subsection Resource Management Plan (SFRMP) process can be found on the Internet at:
<http://www.dnr.state.mn.us/forestry/subsection/index.html>

This information is available in an alternative format upon request.

Executive Summary

This subsection forest resource management plan (SFRMP) includes management direction, goals and strategies, and a 10-year stand examination list. It is intended to guide vegetation management on state forestlands administered by the Department of Natural Resources (DNR), divisions of Forestry, Fish and Wildlife, and Trails and Waterways, and covers the years 2010 – 2019. The St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands subsections landscape units cover approximately 5.5 million acres. State lands comprise 22 percent (1,240,000 acres) of the land ownership in these subsections; 70,000 of those acres are in state parks and Scientific and Natural Areas (SNAs) and are beyond the scope of this management plan. Of the remaining state lands, 712,415 acres (61 percent) are considered timber lands i.e., lands suitable for timber production.

Minnesota Statute 89A.02 states, “It is the policy of the state to: (1) pursue the sustainable management, use, and protection of the state's forest resources to achieve the state's economic, environmental, and social goals”; this is the underpinning of the entire SFRMP process. MS 89A.01 defines sustainability as, “Meeting the needs of the present without compromising the ability of future generations to meet their own needs.” The ecological, economic, and social considerations used in developing the cover-type change goals for these subsections include:

- Historic forest composition,
- Historic disturbance regimes,
- Range of natural variation,
- Wildlife habitat,
- Forest insects and diseases,
- Forest productivity (e.g., match the species to the site using NPC Field Guide),
- Increase availability of certain forest products (e.g., sawtimber), and
- Recreational values.

Under the direction of the Minnesota Forest Resource Council Landscape Program, the Northeast Regional Landscape Committee completed a report in 2003 that included desired future forest conditions for all forest lands in the Northeast Landscape Region, which includes Cook, Lake, St. Louis, and Carlton counties. The North Central Landscape Regional Landscape Committee report was completed in 2004, covering Itasca, Aitkin, Cass, Becker, Clearwater, Crow Wing, Hubbard, Mahnommen, east half of Polk, and south half of Beltrami counties. The Northern Landscape Committee report was also completed in 2004, and included all of Koochiching and the northern two thirds of Beltrami County. The goals and strategies in this subsection plan for state-administered forest lands are generally consistent with those recommended by these regional landscape committees.

Both young and old forest will be maintained on state lands. Goals for maintaining old forest in forest types typically managed using even-aged management regimes (aspen, birch, and jack pine) vary by subsection, between 11 and 16 percent. In an effort to achieve this, the subsections have between 39 and 53 percent of the acres in these cover types designated as extended rotation forest (ERF). Old forest conditions will also be provided in uneven-age managed cover types

(e.g., northern hardwoods), ecologically important lowland conifers (EILC), and designated old-growth stands.

The 0-30 age classes of aspen, balsam poplar, birch, and jack pine cover types represent young, early succession forest in this plan. Currently, these four cover types comprise 40 percent of the timber land acres while the long-term goal is that to have them comprise 35 percent of the acres. Currently, 66 percent of these cover type acres (185,000 ac) is in the 0-30 age classes while the long-term goal, after improving the age class distribution in these cover types, is 63 percent young forest, or 158,000 acres.

Upland conifer cover types, including white pine, red pine, white spruce, jack pine, upland black spruce, and upland white cedar are planned to increase. Historically, these species were more common in these subsections. To increase these cover types, a decrease will occur in the aspen, balsam poplar, birch, and balsam fir cover types. Aspen and birch are currently the predominant cover types and that will continue to be the case. Most cover type conversions will occur during the 10 years covered by this plan, and many will be “soft” conversions that take place gradually, often without the use of a final harvest.

It is a goal of this plan to maintain or increase within-stand species and structural diversity in some stands. Long-lived conifers (white pine, red pine, and white spruce) will be increased as a component in other cover types such as aspen and birch. Mixed species now comprise many plantations. Some stands will be managed using techniques such as variable retention and variable density, and will retain some trees of species and sizes typically found in older growth stages. Moving northern hardwoods stands toward an uneven-aged structure and providing a multiple-age structure in some white pine and white spruce stands are desired outcomes of forest management.

Maintaining *and* creating large (greater than 640 acres) and medium-large (251 to 640 acres) old patches of managed upland forest on the landscape is a priority of this plan. The North 4 team, with input and review from field staff, identified 53 patches and future patches for patch management emphasis. All 53 designated patches have a long-term goal of patch management directed towards managed old forest. These patches total 26,704 acres, or slightly less than 4 percent of the state timber lands in the planning area. Where possible, the state will cooperate with other landowners in patch management to reduce habitat fragmentation.

Vegetation management will provide a broad range of habitats that meet the needs of most game and nongame species (coarse filter approach) while providing specific habitat needs for individual species (fine filter approach) when needed. There are 42 game species and 214 nongame species found in the subsections. The goal is to provide healthy, self-sustaining populations of all native and desirable introduced plant, fish, and wildlife species. In some cases, strategies will attempt to reduce the negative impacts caused by wildlife species on forest vegetation.

Riparian areas will be managed to provide habitat for fish, wildlife, and plant species. The Minnesota Forest Resources Council Voluntary Site-Level Forest Management Guidelines will

be applied on all state lands. Management of riparian areas along streams is important from a fisheries perspective because the cold-water streams are very important for native and introduced fish species. Forest management strategies to maintain water quality and cold-water temperatures will be implemented.

Minnesota County Biological Survey (MCBS) work is currently not completed in these subsections. MCBS sites with statewide biodiversity significance rankings of Outstanding, High, and preliminary survey of High were determined to be the greatest concern or importance in this plan. Strategies have been developed to manage forest land in these MCBS sites while minimizing the loss to the biodiversity significance factors on which the MCBS sites were ranked. On all state lands, known locations of rare plants and animals and their habitats and rare native plant communities will be protected, maintained, or enhanced in these subsections.

The treatment level recommended by the 10-year plan is approximately 13,500 acres per year, compared to an estimated 15,000 acres per year (192,000 cords) during the decade preceding this planning period. This reflects a return to sustainable harvest levels after some years of attempting to address a backlog of wood that was over its maximum rotation age. With the addition of another 7,200 acres of black spruce and approximately 1,000 acres of red pine final harvest over that proposed in the draft plan, the current plan proposes a harvest in the range of 185,000 – 205,000 cords per year. So the current plan does not offer a volume of timber that differs significantly from past available volumes. Based on cover type treatment modeling using a Remsoft harvest-scheduling model, treatment levels will fluctuate each decade as the model attempts to achieve the desired age-class distributions in all the cover types. Strategies such as intermediate treatments and harvests in younger age classes have been implemented to increase timber productivity and quality, and to increase the average harvestable volume per acre growing on state lands over time.

Other topics addressed in the plan include: protecting wetland and seasonal ponds; limiting damage from insects, disease, and exotic species; minimizing forest management impacts on visual quality; mitigating climate change effects on forest lands; planning of new road access; protecting cultural resources; and evaluating disturbance events (e.g., fire and wind).

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Note: The maps (in color) and this report are available on CD and also the DNR Web site at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html>

1. Introduction

Planning Area Description

This Subsection Forest Resource Management Plan (SFRMP) process considers state forest lands administered by the Department of Natural Resources (DNR), Divisions of Forestry, Trails and Waterways, Fish and Wildlife – Wildlife Section in the *North-4 Subsections* subsection landscape units (*St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands*). These four units cover approximately 5.5 million acres in an area from near Tower on the east to Blackduck on the west, and from Aitkin on the south to International Falls on the north. (See *Map i—slm, Map i—tl, Map i—nu, and Map i—lvu.*) For more detailed land descriptions, refer to chapters 1 through 3 of the Preliminary Issues and Assessment, at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html#chapters>

Recreation, forestry, and tourism are major uses of land in these four subsections. Public agencies administer 50 percent of the land, with the state portion being 1.24 million acres or 22 percent. Approximately 1.17 million acres of the state land is timber land that will be considered for wood products production and other resource management objectives in this plan. Other state lands totaling 70,000 acres include state parks and Scientific and Natural Areas, which will not be considered under this plan.

In addition, the federal government owns 300,000 acres (5.5 percent) that are managed by the U.S. Forest Service as part of the Chippewa and Superior National Forests. Aitkin, Crow Wing, Cass, Itasca, Beltrami, Koochiching, St. Louis, and Carlton counties own and manage 1.23 million acres (22 percent). Private owners control 2.7 million acres (49 percent). Of that, industry owns 700,000 acres. For more details about land ownership, refer to Chapter 2 of the Preliminary Issues and Assessment, at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html#chapters>

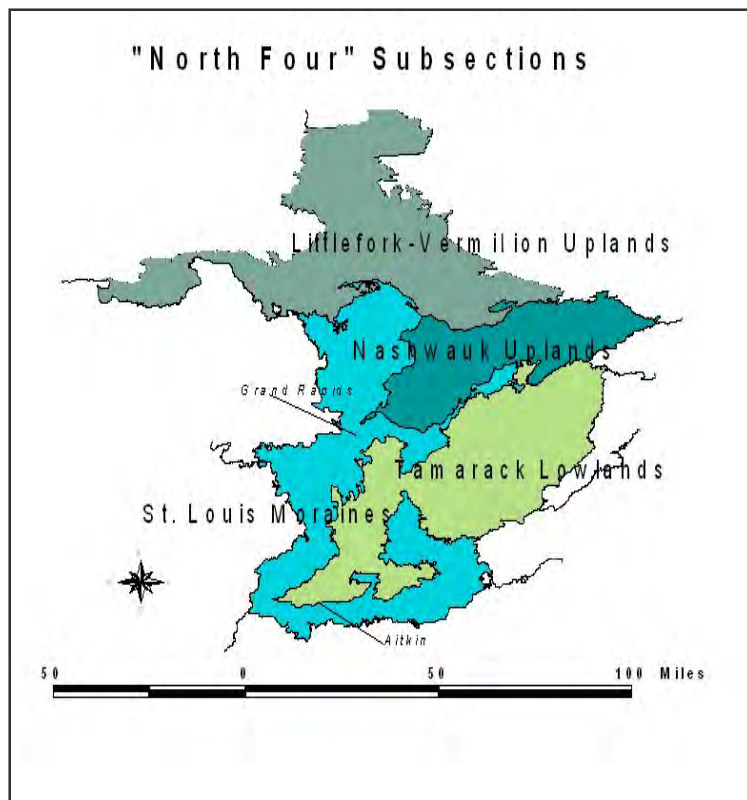
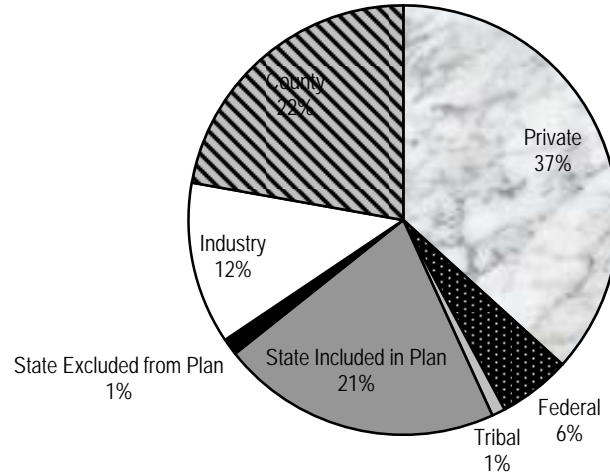


Figure 1.1a: Land Ownership in the St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands

**St. Louis Moraines / Tamarack Lowlands /
Nashwauk Uplands / Littlefork-Vermilion Uplands**



Source: 1976 to 1998 Minnesota DNR GAP Stewardship <Updated 2007>

Table 1.1a: Land Ownership by Subsection (Acres)¹

	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork- Vermilion Uplands	North Four Subsections Total
Private	704,410	641,424	264,277	418,426	2,028,537
Federal	157,413	12,477	92,401	39,126	301,417
Tribal	627	113	0	54,279	55,019
State Included in Plan	203,903	344,426	76,903	541,539	1,166,771
~ Forestry	196,010	293,776	76,864	540,704	1,107,354
~ Wildlife	7,813	47,096	39	835	55,783
~ Trails	80	3,554	0	0	3,634
State Excluded from Plan	19,292	10,843	8,724	31,231	70,090
State - All²	223,195	355,269	85,627	572,770	1,236,861
Industry	168,346	80,341	231,908	193,767	674,362
County	335,470	432,780	129,249	328,779	1,226,278
TOTAL	1,589,461	1,522,404	803,462	1,607,147	5,522,474

¹ Source: 1976 to 1998 Minnesota DNR GAP Stewardship <Updated 2007>

² Includes all lands administered by units of DNR including Forestry, Wildlife, Fisheries, Parks, and Ecological Resources. SFRMP only covers Forestry, Wildlife, and Trails and Waterways administered lands

Based on the Gap Analysis Program (GAP) classification completed by the DNR Division of Forestry using satellite imagery of all lands in the subsection, 66 percent of the land area (non-water) is covered by forest. Aspen and birch cover types comprise 49 percent of this forest. Three percent of the subsection land area is cropland. Based on the DNR forest inventory of timber land that will be considered in this plan, aspen, birch, and balm of gilead comprise 271,000 acres and non-forested lowlands comprise 225,000 acres. Table 1.1b shows the general cover type percentages for all ownerships based on GAP data for forested classes of land and for state lands in this SFRMP based on state land forest inventory data (CSA – Cooperative Stand Assessment).

Table 1.1b: Generalized Forest Cover Type Composition in these Subsections

Cover Type Group	All Ownerships (GAP) ¹	State Lands in SFRMP ²
Aspen, birch, and balm of gilead	1,636,900	277,300
Other upland hardwoods (maple, basswood, oak)	182,400	32,300
Lowland hardwoods (ash, elm, and silver maple)	187,400	59,500
Pine (red pine, white pine, and jack pine)	194,700	37,800
White spruce, balsam fir, and upland black spruce	98,800	35,700
Lowland conifers (black spruce, tamarack, and white cedar)	760,500	296,500
Stagnant conifers (black spruce, tamarack, and white cedar)	206,700	213,700
Other	73,800	293,900

¹ Source: 1976 to 1998 Minnesota DNR GAP Stewardship <Updated 2007>

² Includes all lands administered by units of DNR including Forestry, Wildlife, Fisheries, Parks, and Ecological Resources. SFRMP only covers Forestry, Wildlife, and Trails and Waterways administered lands: [FIM1d-April 2007]

For additional information, see the North 4 Preliminary Issues and Assessment (August 2007) or <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html>

Scope of Subsection Forest Resource Management Plan

Subsection Forest Resource Management Plan (SFRMP)

A SFRMP is a DNR plan for vegetation management on forest lands administered by the DNR divisions of Forestry, Fish and Wildlife, and Trails and Waterways. Vegetation management includes actions that affect the composition and structure of forest lands, such as timber harvesting, thinning, prescribed burning, and reforestation. The geographic area covered by these plans is defined by Ecological Classification System (ECS) subsections (Appendix A). Previous forest management plans were based on administrative boundaries (e.g., DNR forestry areas). The SFRMPs will also consider the condition and management of forest lands not owned by the DNR, but will only propose forest management direction and actions for DNR lands. The amount of DNR-administered forest lands within forested subsections will vary across the state. Examples of forest resource management planning activities that are beyond the scope of SFRMPs are: OHV trail system planning, comprehensive road access plans, state park land management planning, old growth forest designation, SNA establishment, wilderness designation, wildlife population goals, cumulative effects analysis at the watershed-level, fire management, and recreation facilities/systems planning.

Consistent with state policy (Minnesota Statutes 89A), the SFRMP process will pursue the sustainable management, use, and protection of the state's forest resources to achieve the state's economic, environmental, and social goals.

The SFRMP process is divided into three steps. In Steps 1 and 2, the subsection team prepares information to assess the current forest resource conditions in the subsection and identify forest resource management issues that will be addressed in the subsection plan. In Step 3, the subsection team finalizes the issues and develops general directions and strategies to address these issues. The strategies will help in developing the cover type management recommendations, stand-selection criteria, and stand treatment levels. In this step, stands to be evaluated for treatment during the 10-year plan period are also selected and preliminary prescriptions are assigned. There are two opportunities for public input.

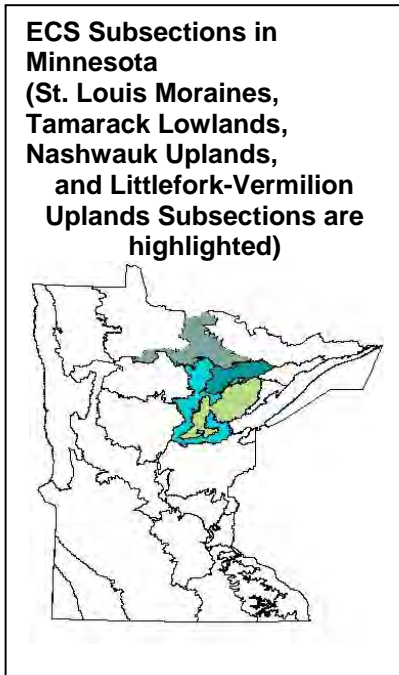
ECS Subsections

The DNR has developed an ECS as a tool to help identify, describe, and map ecosystems. ECS units are defined by climatic, geologic, hydrologic, topographic, soil, and vegetation data. The DNR ECS divides the state into six levels of ecological units, each level nested together within the next higher level. Subsections are the third level down in the ECS hierarchy in Minnesota. There are 17 forested subsections in the state, ranging in size from 339,285 to 3,657,011 acres.

Goals for the Planning Effort

While the planning process will produce many tangible “products,” such as assessment information, issues, and strategies, the end result of the planning process will be two key products:

- **Desired Future Forest Composition (DFFC) goals:** The goals will include long-term (50 years or more) and short-term (10 years) desired changes in the structure and composition of DNR forest lands in the subsection. Composition goals could include the amount of various cover types, age-class distribution of cover types, and their geographic distribution across the subsection. DFFC goals for state forest lands will be developed from assessment information, issues, the general direction identified in response to the issues, and strategies to implement the desired management direction.
- **List of DNR forest stands to be treated over the next 10-year period.** SFRMPs will identify forest stands on DNR Forestry- and Fish and Wildlife-administered lands that are proposed for treatment (e.g., harvest, thinning, regeneration, and re-inventory) over the 10-year planning period. Forest stands will be selected using criteria developed to begin moving DNR forest lands toward the long-term DFFCs. Examples of possible criteria include stand age and location; soils; site productivity; and size, number, and species of trees. Many decisions and considerations go into developing these criteria and the list of stands proposed for treatment. Examples include 1) identifying areas to be managed as older forest or extended rotation forest (ERF); 2) identifying areas to be managed at normal rotation age; 3) identifying areas for various sizes of patch management; 4) management of riparian areas and visually sensitive travel corridors; 5) age and cover type distributions; and 6) regeneration, thinning, and prescribed burning needs. Decisions will be made based upon the



management activities (including no action) that will best move the forest landscape toward the DFFC goals for state forest lands.

Who Develops SFRMPs?

SFRMP team members include DNR forestry, wildlife, and ecological services staff. A list of SFRMP team members for the North Shore subsections is on Page i. These teams have primary responsibility for the work and decision making involved with the subsection plans. Decision-making by the team is through an informed consent process. Managers of adjacent county, federal, tribal, and industrial forest lands may be invited to provide information about the condition of their forest lands and their future management direction. Data relating to all ownerships is used in the planning process. This information will help the DNR make better decisions on the forest lands it administers.

SFRMP and MFRC Regional Landscape Planning

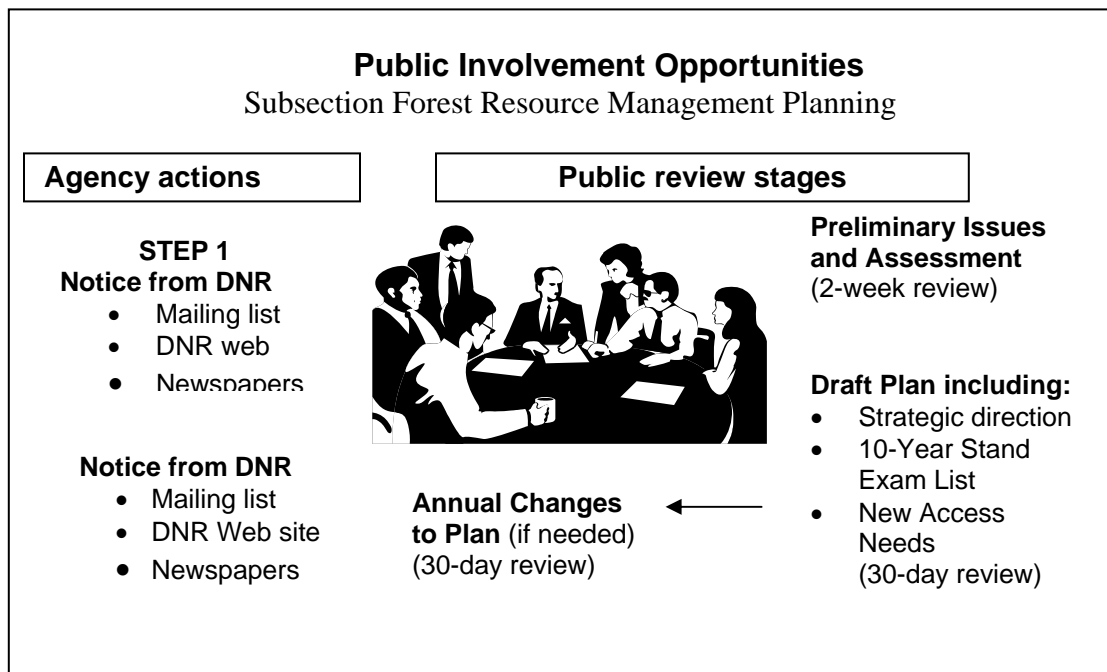
The recommended desired outcomes, goals, and strategies developed for the Northeast and North Central Landscape regions by regional landscape committees under the direction of the Minnesota Forest Resources Council (MFRC) Landscape Program were considered in developing this SFRMP. By considering the recommendations from the landscape region plans, the decisions for management of DNR-administered lands incorporate recommendations from a broader landscape perspective across all ownerships and assists in cooperation across ownerships in this larger landscape area.

SFRMP Process Overview

Table 1.1c outlines the steps in the DNR SFRMP process. As of this printing, this SFRMP is in the fourth step of the process, i.e., the DNR interdisciplinary team has developed general directions and strategies to address the final list of issues, established desired future forest composition goals for DNR lands in the subsection, developed stand-selection criteria, and identified stands to treat over the 10-year planning period. Figure 1.1b shows the opportunities for public involvement during the planning process.

Table 1.1c: SFRMP Process Overview

<p>Step 1</p>	<p>Initiating the Planning Process</p> <ul style="list-style-type: none"> • DNR forms interdisciplinary team for the subsection(s). • DNR staff assembles base assessment information. • Web page is established for the subsection on the DNR Web site. • DNR develops mailing list of public/stakeholders. • Public is informed that the planning process is beginning in the subsection, the estimated schedule for the planning process, and how and when they can be involved.
<p>Step 2</p>	<p>Assessment and Issue Identification</p> <ul style="list-style-type: none"> • Subsection team adjusts and supplements the base resource assessment information for the subsection. • Team identifies the preliminary issues to be addressed in the plan. • DNR distributes assessment information and the preliminary issues for public review and input.
<p>Step 3</p>	<p>Strategies, Desired Future Forest Composition, and Stand Selection Criteria</p> <ul style="list-style-type: none"> • DNR finalizes the list of issues to be addressed in the plan based on public input from Step 2. • Subsection team develops general direction statements (GDSs) in response to the final list of issues. • Subsection team and work groups develop strategies and desired future forest composition (DFFC) goals consistent with the general direction. • Team develops stand-selection criteria to help identify DNR forest stands for treatment over the 10-year planning period to move toward the goals. • DNR distributes GDSs, DFFC goals, strategies, and stand-selection criteria for public review and comment. <p>Draft List of Stands to be Treated and New Access Needs</p> <ul style="list-style-type: none"> • Subsection team finalizes DFFC goals, strategies, and stand-selection criteria. • DNR personnel identify state forest land stands to be considered for treatment over the 10-year planning period. • DNR personnel identify new access needs associated with the list of stands proposed to be treated. • Draft list of stands to be treated and new access needs is distributed for public review and comment.
<p>Step 5 <i>Current Step</i></p>	<p>Final Plan</p> <ul style="list-style-type: none"> • Subsection team summarizes public comments and develops DNR responses. • A summary of comments, responses, and plan revisions are presented to the department for commissioner’s approval. • Commissioner approves final plan. • Final plan is distributed, including summary of public comments and DNR responses.

Figure 1.1b: Public Involvement Opportunities

Public involvement will, at a minimum, occur through:

- Distribution of the initial assessment information (mailings and Web site).
- A public comment period to help identify key forest management issues and solicit public opinion of preferred management direction.
- A public comment period to review the draft plan and strategic direction (i.e., general direction, forest management strategies, and DFFCs proposed by the DNR to address identified issues) along with the 10-year list of stands proposed for treatment and associated new access needs.
- Public review and comment on proposed plan revisions.

Contents of Document and Focus of Current Review

This document is the final product developed by the SFRMP interdisciplinary team after revisions based on public review in Step 3 in the planning process. It includes the final list of issues addressed in the plan, GDSs and strategies to address the issues, DFFC goals, stand-selection criteria, cover type management recommendations, final 10-year stand examination list, a list of new access needs, and a summary of public comments from Step 3 (Chapter 5).

In Step 3, the subsection team developed GDSs and strategies to address the final list of issues. Strategies developed by the work groups are based on existing DNR policies/mandates, technical expertise from within and outside the subsection team, forest resource information from the Preliminary Issues and Assessment and other sources, and public input from Step 2 of the process. Strategies developed to address the various issues were then examined to ensure consistency with each other, to identify and group similar strategies, and to address strategies that might be contradictory. The strategies in this document are the product of that effort to

develop a refined list of strategies to address the final list of issues, as well as input from stakeholders and partners within the DNR.

The subsection team developed the DFFC goals based on current conditions on DNR forest lands in the subsection, and on the output of the Remsoft harvest-scheduling model. DFFC goals are most commonly expressed in terms of desired changes in the age-class structure, the amount of various forest types within the subsection, and the geographic distribution of forest types and age-classes across the subsection.

GDSs, strategies, DFFC goals, and cover type management recommendations were used to define proposed criteria to select a pool of forest stands for treatment over the 10-year planning period. Stand selection criteria can include: “normal” rotation ages (i.e., ages at which most forest stands will be harvested); extended rotation forest rotation ages (i.e., ages at which stands designated for older forest management will be harvested); potential productivity of the site for timber (i.e., site index); soil types; stand density, or stocking measures (e.g., basal area); tree species composition; brush and ground cover; stand size; stand location; insect and disease occurrence; and other specific criteria needed to address issues. Stand selection criteria presented in this document are those identified by the subsection team as best moving DNR forest lands toward the identified DFFC goals for the North Shore subsections.

The subsection team summarized comments received during Step 3 of the process (Chapter 5). Specific references are provided as to where and how comments and concerns were incorporated into the final issues, strategies, DFFC goals, or stand-selection criteria.

Viewing the Final Plan Documents

The GDSs, strategies, DFFC goals, stand-selection criteria, cover type management recommendations, stand examination list, and list of new access needs in this plan will be available on the DNR Web site. This document is available on the DNR web site at: <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html> , or upon request as hard copy or CD. Requests for a copy of the plan can be submitted via the Web site or submitted to:

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Chapter 2: SFRMP Issues

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Introduction

How SFRMP Issues Were Identified

Subsection Forest Resources Management Plan (SFRMP) teams used assessment information¹, Minnesota Department of Natural Resources (DNR) policies and guidelines, local knowledge, existing plans, and public input to identify the final issues relevant to the scope of this plan. The subsection team began with a common set of issues developed from previous SFRMPs. These common SFRMP issues were refined and supplemented based on subsection-specific conditions and considerations and public comments.

Issue Definition

A SFRMP issue is a natural resource-related concern or conflict that is directly affected by, or directly affects decisions about the management of vegetation on lands administered by the Minnesota DNR divisions of Forestry, Fish and Wildlife, and Trails and Waterways. Relevant issues were defined by current, anticipated, or desired forest vegetation conditions and trends, threats to forest vegetation, and vegetation management opportunities. The key factor in

¹ Minn. DNR, July 2008, *Preliminary Issues and Assessment*, Subsection Forest Resource Management Plan.

determining the importance of issues for a SFRMP is whether the issue can be addressed in whole or substantial part by vegetation management decisions on DNR-administered lands.

Issues that *cannot be addressed* in whole or substantial part by vegetation management decisions on DNR-administered lands *are outside the scope of the SFRMP process*. For example, a SFRMP will not address recreation trails system issues or planning. However, aesthetic concerns along existing recreational trail corridors can be a consideration in determining forest stand management direction in these areas. Another example is that with respect to wildlife populations, the plan establishes wildlife habitat goals (e.g., amount of various cover types and age-class distribution) but not goals for wildlife population levels.

Issues

Issue topics A through M were identified as “Preliminary Issues” in the first steps of the SFRMP process. No new issues were added as a result of comments received during the public review period that was completed in October 2007.

A. Desired Age-Class Distribution

A1. What are the desired age-class and growth-stage distribution of forest types across the landscape?

Adequate representation of all age classes and growth stages provides a supply of wildlife habitats, timber products, and ecological values over time. A forest with a variety of stand ages and growth stages provides habitat suitable for more species and has greater potential to provide a sustainable yield of timber. A diverse forest is healthier and more resilient to widespread insect and disease outbreaks than a less diverse forest.

There are many likely consequences of managing a non-diverse forest (without adequate representation of all age classes and growth stages). A forest with too few age classes and growth stages risks epidemic insect and disease outbreaks, loss of species with age-specific habitat requirements, and the loss of forest-wide diversity. Such a forest would also provide a boom-and-bust scenario for forest industries that depend on an even supply of particular forest products over time.

A2. What is the appropriate amount, kind, and location of old forest?

Old forest, in the context of this issue, is defined as stands that exceed their normal rotation age. The distribution of old forest represents age classes and growth stages of forest beyond the normal rotation age of each cover type. Old forest provides necessary habitats for some animal and plant species and communities, and diversity. Old forest can also reduce timber quantity and quality for some types of forest products over time by holding timber longer between harvests. Therefore, a balance is needed that considers necessary habitats, forest diversity, and timber productivity levels.

The likely consequences of managing a forest *without* age classes beyond the normal rotation age are 1) the loss of individuals or populations of species with old forest-specific habitat requirements; 2) loss of diversity; 3) reduced recreational and economic opportunities associated with the loss of old forest values such as rare bird watching, fall color viewing, mushroom gathering, and camping; 4) reduced ecological services associated with old forest values such as maintaining water quality, natural disturbance regimes, and biodiversity; and 5) the loss of potential for some large-diameter forest products (sawtimber, cabin logs, etc). The likely consequences of managing a forest *with* an overabundance of age classes beyond the normal rotation age are 1) reduction in populations of species that use younger forest habitats; 2) decreased timber productivity; and 3) decreased timber quality and quantity due to decay, disease, windthrow, and mortality.

A3. What is the appropriate amount, kind, and location of young, early successional forest?

The 0-30 age group of aspen, balsam poplar, birch, and jack pine cover types represents young, early successional forest in the context of this issue.

Young, early successional forest is an issue because it provides important habitat for several plant and animal species that must be represented on the landscape to maintain overall biodiversity. These plant, game, and nongame species are important to those who use state forestlands. Some species depend on dense young forests to provide cover from predation and an ample supply of available foods. In addition, the patch size and spatial distribution of this young forest on the landscape is an important element of habitat quality.

Currently, significant acres of young age classes exist in the aspen, birch, and jack pine cover types. Forty-four percent of the birch cover type (4,480 ac.) is currently in the 0-30 age group.

If an appropriate amount of early successional forest does not occur in the landscape, the likely consequences of *not* addressing this issue are 1) reduced populations of important game species, particularly ruffed grouse, deer, moose, and American woodcock; 2) reduced recreational hunting opportunities associated with these game species; 3) reductions in some associated songbird populations; 4) loss of social, economic, and ecological value of these species; and 5) loss of traditional use of the natural resources associated with these young forests (e.g., berry picking).

B. Desired mix of forest composition, structure, spatial arrangement, growth stages, and Native Plant Communities

B1. What is the appropriate forest composition, structure, representation of growth stages, within-stand diversity, spatial arrangement of vegetative types, and native plant community distributions necessary to maintain sustainability goals for biodiversity, forest health, and productivity across the three subsections? How do we get there?

The three subsections have experienced changes that represent a movement away from ecological diversity. Since European settlement, forest composition and structure have been simplified. White pine, white spruce, yellow birch, tamarack, and upland white cedar have declined while aspen and balsam fir have increased markedly. Many forest stands today are not as diverse as they were historically. The age structure of the forest has been truncated (cut short) compared to historical conditions. Currently more of the forest is in younger age classes and less in older age classes. Harvesting and other factors have reduced forest patch size. The forest is becoming increasingly fragmented by construction of roads, trails, and residential development. Ongoing sales of large tracts of land by private corporations will undoubtedly exacerbate forest change. Habitat connectivity has suffered as a result of all of these changes.

The likely consequences of *not* addressing this issue are 1) loss of wildlife habitat, 2) loss or reduction of species associated with declining habitats, 3) increase in exotic and undesirable species, 4) increase in populations of desirable species to the point where they reach undesirable levels, 5) dominance of a few species (i.e., loss of biodiversity), 6) loss of ecologically intact landscapes, and 6) loss of ability to produce a diversity of forest products (e.g., sawtimber, aesthetics, nontimber forest products, recreation, and tourism).

B2. How will we ensure restoration of important component tree species that have declined within forest communities in these subsections?

Declines in many important species have occurred in these subsections. For example, white pine, yellow birch, white cedar, and white spruce have declined in mesic (moderately moist) hardwood forests. Mesic mixed forests have experienced declines in white pine, white spruce, white cedar, white birch, and tamarack. These declines have resulted from historic harvests that were not sustainable, insect infestations, disease, drought, and herbivory (plant communities resulting from the browsing and grazing of wildlife). As a result, many forest stands have lost the composition, structure, and function of native plant communities. This results in a loss of regenerative capacity for these tree species, and also the composition and structure necessary to sustain associated species. Many of these tree species are difficult to regenerate due to herbivory, lack of long-lived trees and large downed trees (for nurse logs and to create micro-sites for seed germination and plant and wildlife habitat), spruce bark beetle, white pine blister rust, a lack of seed trees, and management in forest communities that doesn't retain these species and the structure needed to regenerate them.

The likely consequences of *not* addressing this issue are 1) loss of native tree species diversity within forest communities; 2) simplified forest stands and landscapes; 3) loss of native plant community composition, structure, and function; 4) loss of associated wildlife to the ecosystem; and 5) loss of the social, economic, and ecological values of these species and the forest communities that sustain them.

B3. How will we maintain forest communities of particular concern in these subsections?

Certain native plant communities are outstanding for their uniqueness, known association with rare species, limited occurrence in these subsections, and representing native plant community diversity of pre-European settlement. Examples of these types of forest communities in the

North 4 Subsection are rich northern hardwoods, upland white cedar, white cedar-yellow birch, floodplain forest, wet cedar forest, rich spruce swamps, rich tamarack swamps, forested acid peatland complexes, mesic white pine-white spruce-paper birch, mesic mixed conifer types (red and white pine, upland tamarack, upland black spruce) and jack, white, and red pine woodlands. There is a concern for maintaining the composition, structure, and function of high-quality examples of these native plant communities.

The likely consequences of *not* addressing this issue are 1) loss of examples of high-quality intact native plant communities used as controls to compare and monitor the effects of management on biodiversity, 2) continued forest stand and landscape simplification, and 3) loss of habitat for rare species.

B4. How can intensive management of forest communities be adapted to retain some of the characteristics of natural stand-replacement disturbance events?

Intensive management of forest communities often results in forest simplification and fragmentation of native plant communities at the stand and landscape scale. Even in fire-dependent systems, where the intensity of a natural disturbance (e.g., wind and fire) is often a “stand-replacing” event, a forest mosaic results with undisturbed islands of vegetation. These areas are considered refugia (areas where plants and animals persist through a wind and/or fire event).

Plantations often include ground-disturbing activities such as rock-raking and herbicide application that can further reduce plant species and structural diversity in the forest community. It may result in disruption of the soil profile, soil compaction, loss of native herbaceous species diversity, reduced structural complexity, and an increase in exotic plants such as smooth brome grass and aggressive native plants such as bracken fern, Canada blue-joint grass, reed canary grass, and raspberry.

The likely consequences of not addressing this issue are increasing 1) simplification of forest stand and landscape communities, 2) fragmentation of high-quality native plant communities, and 3) loss and fragmentation of habitat for associated wildlife species.

B5. How can management on state lands, especially large patch management, better reflect natural landscape patterns (the size and configuration of growth stages and types resulting from broad-scale natural disturbances) in these subsections?

Existing landscape patterns do *not* reflect natural disturbance patterns and the composition, structure, and function of native plant community complexes that have developed historically over long periods of time. This has resulted in problems with 1) fragmentation and simplification of forest ecosystems at the landscape scale, 2) lowered availability of habitat complexes and associations, and 3) reduced habitat for native animals and plants.

The likely consequences of *not* addressing this issue are 1) increasing isolation of wildlife and plant populations; 2) species loss or decline; 3) reduced resilience of forest ecosystems to

disturbance events; and 4) increases of certain populations to undesirable levels resulting in negative impacts to forest communities.

B6. How do we limit forest fragmentation and maintain connectivity between habitats?

In these subsections, harvesting and other factors such as road and trail construction and residential development have reduced forest patch size, composition, structure, and age. These changes represent a movement away from biodiversity and a forest able to produce a range of forest products. Ongoing sales of large tracts of land by private corporations will undoubtedly exacerbate forest change. Habitat connectivity has suffered. Forest fragmentation results in a loss of habitat and loss or reduction in the population of species associated with those habitats. Loss of connectivity will result in the loss of ecologically intact landscapes.

The likely consequence of *not* addressing this issue is a reduction in forest patch size and less connectivity between habitats.

C. Riparian and Aquatic Areas

C1. How can we address the impacts of forest management on permanent wetlands, wetland inclusions, and seasonal ponds?

Site-level considerations and guidelines that are routinely applied without considering site-specific conditions may not be adequate to protect aquatic resources such as permanent wetlands, wetland inclusions, and seasonal ponds.

Relying strictly on existing guidelines without considering specific conditions associated with a given site, such as soils, topography, hydrology, past management, existing vegetation, and desired vegetation may negatively impact these ecosystems. These impacts include loss or degradation of these communities and loss of associated wildlife. There is also a concern for impacts to permanent wetlands from management activities in adjacent upland stands, such as skid trails along the wetland-upland boundary.

C2. What vegetative management activities will be allowed to take place within the riparian management zone (RMZ) and how will the appropriate width of the RMZ be determined to minimize the impacts of forest management activities on water quality, fisheries, and wildlife habitat?

Forest management activities carried out within the RMZ can affect the functions associated with riparian areas. RMZs are areas of special concern along streams, lakes, and open water wetlands and are among the most important and diverse parts of the forest ecosystem. They are intended to retain a relatively continuous forest cover for the protection and maintenance of aquatic and wildlife habitat, aesthetics, recreation, and forest products.

Historically, northern Minnesota streams maintained cold-water temperatures, but over the last 100 years the vegetation has changed dramatically due not only to turn-of-the-century logging and subsequent fires, but also to more recent changes in land use such as commercial and

residential development near lakes and streams. Stream temperatures have increased, becoming marginal for trout in a number of streams.

These subsections include many lakes, rivers, and trout and non-trout streams. Failure to protect riparian zone functions may cause negative impacts to the water quality, fisheries, and wildlife habitat in the North 4 subsections.

C3. How can we address cumulative impacts to aquatic resources of forest management on a watershed/sub-watershed level?

Forest management activities may greatly affect the hydrology within any specific watershed or sub-watershed because the amount and type of vegetative cover greatly influences the rate of hydrologic change. Failure to consider the cumulative impacts to aquatic resources could result in increased run-off and stream bank erosion, more conspicuous run-off events, less stable flows, and reduction or destruction of habitat for aquatic organisms.

Issue is beyond the scope of this plan: This SFRMP will not address this issue for the following reasons: 1) the issue cannot be addressed in whole or a substantial part by vegetation management decisions on DNR-administered lands. State-administered timber lands comprise 21 percent of the land ownership in these subsections. To fully evaluate cumulative impacts within watersheds, timber harvest, forest development, and forest land-use changes (current conditions and planned) need to be evaluated across all ownerships. 2) A standard definition for young forest and a critical threshold for the of young forest and open forest within a watershed need to be established to evaluate cumulative impacts uniformly in watersheds in Minnesota.

Future SFRMPs may include a current assessment of young forest on DNR ownerships in watersheds where DNR forest lands contain a significant portion (e.g., more than 50 percent) of the land ownership. This would be done to identify watersheds of particular concern that could serve as subject areas of a focused study such as the one mentioned above. If a process is developed to monitor cumulative impacts of forest management at the watershed level across all ownerships, the DNR will be a participant/cooperator.

D. Access to State Land

D1. How can we plan for providing access to the stands identified for management during the 10-year plan period while protecting and minimizing the negative impacts that timber access development or use may have on other forest resources?

Access routes are necessary to effectively manage forest stands identified for management during the 10-year planning period. These access routes will have both positive and negative attributes. They provide access for forest management activities, insect and disease control, fire response, and recreation. However, the development, construction, and maintenance of forest access routes has costs, i.e., land disturbance, loss of acres from the timber land base, increase in the spread of exotic species and undesirable native plants and animals, potential conflicts with adjacent private landowners, potential for user-developed trails, degradation of water quality, destruction of fish habitat, forest fragmentation, and road densities greater than needed.

The likely consequence of *not* addressing this issue is the lost opportunity to have a well thought-out forest access plan to minimize the negative attributes.

E. Biological Diversity

E1. How can management of stands within larger areas of biodiversity significance be adapted to enhance biodiversity and native plant community composition, structure, and function?

Larger areas with biodiversity significance provide reference areas to improve our understanding of these ecosystems and help us evaluate the effects of vegetation management on biodiversity. These areas present opportunities for large patch management of older forest communities and the restoration of forest communities and ecosystems. These areas have great potential for addressing biodiversity-related goals of the Minnesota Department of Natural Resources and other landowners.

The likely consequences of *not* addressing this issue are 1) degradation of existing biodiversity and ecosystem function, and 2) loss of opportunities for maintaining or restoring patch relationships that are ecologically based (e.g., based on natural disturbance processes, wildlife habitat connectivity, and wildlife-habitat associations).

E2. How do we plan to retain and restore within-stand structural complexity (e.g., vertical structure, stem size and density, coarse woody debris, and pit and mound micro-topography) on actively managed lands where natural succession pathways are truncated (cut short)?

Forests are dynamic ecosystems. Management has altered the rate and direction of natural change. Current practices tend to reduce within-stand structural complexity and diversity of vegetation, both directly and indirectly (through substrate modification). The concern is that structure is impacted directly by management where the objective is usually maintenance of a simplified structure and by silvicultural practices where existing woody debris and finer organics are removed and micro-topographic features are reduced or eliminated.

The likely consequences of *not* addressing this issue are 1) loss of composition and vertical structure necessary to sustain native plant and animal species; 2) loss of regeneration sites for some species; 3) loss of native tree species diversity within forest communities; 4) simplified forest stands and landscapes; 5) loss of native plant community composition, structure, and function; and 6) loss of associated wildlife.

F. Wildlife Habitat

F1. How do we manage forest vegetation to balance the habitat needs of game and nongame species?

Forest wildlife is important to society. A wide range of factors, from timber harvest to development, has an effect on wildlife species and populations. Interest groups advocating for wildlife are many and varied. Some are interested in the full range of species while others are species specific. Interests include the preservation of biodiversity and management of individual species for hunting opportunities or for wildlife viewing. At times, the goals of these groups may conflict. Forest wildlife depends on healthy forest ecosystems. Legal mandates, the expectations of stakeholders, and Minnesota DNR internal policies require the ecological integrity of the forest to be maintained and enhanced. Practical reasons to maintain ecological integrity include 1) the economic vitality of forest and tourism industries; 2) the maintenance of recreation opportunities for the public; 3) the health of wildlife species and populations; 4) public health; and 5) the control of forest insects and disease. Forest change affects forest wildlife. Some species' populations have increased in the three subsections and decreased in others. At least one species (e.g., woodland caribou) has been extirpated (i.e., no longer found in this portion of its historical range). Several species listed by the state as either threatened or of special concern live in these areas. Loss of important vegetative habitat types is a reason for concern for a number of other species.

The likely consequences of *not* addressing this issue are 1) loss of wildlife habitat; 2) loss or reduction of species associated with declining habitats; 3) economic losses resulting from a decline in recreational activity associated with wildlife viewing and hunting; and 4) social losses because of a decline in enjoyment associated with wildlife viewing, hunting, and aesthetics.

G. Forest Health

G1. How do we address the impacts of forest insects and disease on forest ecosystems?

Forest insects and disease organisms influence forest ecosystem dynamics. These influences have both positive and negative impacts. What is perceived to be beneficial from one perspective may be viewed as detrimental from another. Insects and diseases can reduce timber production and lumber grade and increase fire hazard. Alternatively, they promote diversity of tree species and forest structure and generate dead wood, which provides important habitat and soil nutrients. Widespread pest outbreaks outside their natural range cause high levels of tree mortality and can have significant ecological and economic consequences. If attempts at control are too heavy, there may be an imbalance in pest populations. If control is not adequate, timber volume, aesthetics, and recreational enjoyment of the forest may be negatively impacted.

G2. How will we respond to exotic plant species threats/invasions?

Natural resource managers are concerned about exotic species that are introduced and become established on public land. Exotics have the potential to displace natives, carry or cause diseases, or disrupt natural community functions. On the other hand, there are good examples of the control of invasive exotic species. For example, introduced exotic beetles are controlling purple loosestrife populations. Some species are managed for timber production (e.g., European larch) and are technically exotic species. Increased use of public lands results in greater risk for

the transport of exotics of all kinds. Failure to address the exotic species issue could result in permanent changes to native communities through invasion or displacement.

G3. How will natural disturbances like fire and blowdown be considered in forest management decisions?

Catastrophic events such as wind and fire may have a negative impact on the amount of forestland “harvested” during the 10-year stand treatment time frame. It may also impact the long-term desired future forest condition (DFFC) goals of the subsection plan. It is difficult to predict when and where a catastrophic event may occur. However, failure to consider the possibility of natural disturbances occurring within the subsections, and what forest management practices might be allowed within these disturbed areas, could result in a loss of marketable timber available for sale and an increase in fire danger in the vicinity of the catastrophic event.

G4. How do we manage vegetation to reduce herbivory, crop depredation, nuisance animals, potential spread of animal disease, and possible human health issues (e.g., Lyme disease)?

Vegetation management directly affects wildlife populations. Undesirable increases in certain wildlife populations can have adverse impacts on plant communities resulting from the browsing and grazing by wildlife (herbivory), crop depredation, nuisance animal complaints, potential spread of wildlife disease, and possible human health issues (e.g., Lyme disease).

The likely consequences of *not* addressing this issue are 1) loss of public support for management programs, 2) undesirable competition between species, 3) increased exotic and undesirable species, 4) an increase in populations to the point they become a nuisance, 5) negative economic impacts, and 6) negative impacts to native plant communities.

G5. How should forest management respond to global climate change within the planning period?

Predictions for the Midwest (*Canadian and Hadley Models - 2000*) suggest that the average temperature will have increased two to five degrees Fahrenheit by 2030 and five to 12 degrees Fahrenheit by 2095. Precipitation is expected to increase 99 to 109 percent by 2030 and 124 to 127 percent by 2095 (Jeff Price). Scientists believe that predicted climate change will affect the size, frequency, and intensity of disturbances such as fires and windstorms (blowdown). It will affect the survivorship of existing plant and animal species and the distributions of plants and animals. Increases in the reproductive capability and survivorship of exotic species, insect pests, and pathogens will impact forests and wildlife. Certain tree species, such as black spruce, balsam fir, birch, and jack pine will respond negatively to increased soil warming, decreased soil moisture, etc. Carbon sequestration by forests and wetlands may be affected.

The likely consequences of *not* addressing this issue are 1) acceleration and exacerbation of climate change impacts to forest communities, 2) lost opportunity to begin directing management toward mitigating and slowing the effect of climate change on most vulnerable species and

native plant communities, 3) species and community losses, and 4) reduced habitat for use and occupation by native wildlife and plants.

H. Harvest Level

H1. What is the appropriate timber harvest level on state lands with consideration for the sustainability of all forest resources?

One of the primary outcomes of this plan is to develop a timber harvest plan for state forest lands in the subsection for the next 10 years. The harvest level will determine the future age-class distribution of the forest. Some of the cover types in the planning area have a pronounced age-class imbalance and the harvest level will be the primary tool used to correct this imbalance over time.

Establishing an appropriate timber harvest level will require the successful integration of economic, social, and ecological factors. Timber harvest provides forest products for society and jobs for those in forest-related industries. Demand for timber continues to grow in most parts of the state. Managing for sustainability requires that we balance timber harvest with other forest benefits. Sustainably managed forests can support a healthy and competitive timber industry, provide the diversity of habitats needed by plant and animal species, maintain water quality, and provide a wide array of recreational opportunities.

H2. How can we ensure adequate and sustainable “nontimber forest products” for the future?

Demand for some of these types of forest products has been light, for others it is increasing. Nontimber forest products (e.g., balsam boughs and decorative trees) provide diversification for local economies and are a traditional harvest for some groups. Nontimber forest products are particularly important in areas where employment opportunities in the mainstream economy are limited. They help support local individuals, families, and cottage industries in an expanding worldwide market. For example, the Christmas wreath industry is a multi-million dollar enterprise in Minnesota that relies on thousands of individuals who collect boughs in the forest.

The consequences of *not* addressing this issue include the possible unsustainable harvest of these resources, adverse impacts to wildlife habitat and native plant communities, and inadvertent harvest of rare species.

I. Timber Productivity

I1. How can we increase timber productivity on state lands?

Society continues to demand both forest products and old forests from the same public land base. In the 1990s, demand for timber increased, while some acreage previously available for harvest is now being managed on an extended rotation, reserved as old growth, or managed with less emphasis on timber production. Increasing the productivity of state forest lands is a way to

continue to provide the current, or greater, harvest levels and improve timber quality, while still managing some lands with less emphasis on timber production.

A consequence of managing state forest lands without regard for increasing timber productivity levels is further declines in timber quality and quantity as older age classes continue to lose merchantable volume without harvest. This would 1) negatively impact logging and forest products industries as the decrease in useable volumes (because of decay and mortality) would cause higher stumpage rates for timber producers and 2) higher procurement, chemical, and waste management costs for the forest products industries. Timber producers buy state timber in a competitive bidding process, which drives up base stumpage rates during times of decreasing timber availability. The forest products industry, especially paper-making, continues to compete in a global market where the associated costs of using low-quality wood are an important factor in their ability to remain competitive.

Another important consequence is increasing the acres necessary to produce equal volumes of useable forest products over time. As stands are held past their normal rotation age, the average growth rate per year usually declines, so more acres need to be harvested to produce the same amount of merchantable timber volume. The opportunity for more harvests over time on the same piece of land are less if actual harvest ages are significantly longer than the normal rotation age, as is the case currently. Usually, a longer rotation age for a cover type requires more acreage to be harvested over time to produce the same volume of timber that is produced at the normal rotation age.

J. Visual Quality

J1. How will forest management activities minimize impacts on visual quality?

Scenic beauty, or visual quality, is one primary reason people choose to spend their recreation and vacation time in or near forested areas. Where forests lie adjacent to recreational trails, lakes, waterways, or near public roads and highways there is a need to consider the impacts of forest management activities to the visual quality of the site after the forest management activity is completed.

Failure to be sensitive to the visual quality impacts of any management activity may result in a negative experience for the vacationing and recreating public in forested areas of the state and increased regulations for most forest management activities.

K. Balancing forest management needs with statutory requirements

K1. How will land managers achieve desired results and continue to uphold various state and federal statutes?

Divisions within the DNR must follow legal mandates, while fulfilling both department and division missions. For example, State Trust Fund lands must generate income for various trust accounts under state law, and timber sales are currently the primary tool for this process.

Wildlife habitat management and preservation, not timber sales, is the mandate for acquired Wildlife Management Area (WMA) lands.

Vegetation management will take administrative land status and relevant statutes into consideration during the planning process.

Failure to follow these mandates and legislative intent may be a violation of federal or state law.

L. Cultural Resources

L1. How will cultural resources be protected during forest management activities on state-administered lands? *(Added after first public review step.)*

Cultural resources are scarce, nonrenewable features that provide physical links to our past. A cultural resource is an archaeological site, cemetery, historic structure, historic area, or traditional use area that is of cultural or scientific value. Cultural resources are remaining evidence of past human activities. To be considered important, a cultural resource generally has to be at least 50 years old. A cultural resource may be the archaeological remains of a 2,000-year-old Indian village, an abandoned logging camp, a portage trail, a cemetery, food gathering sites such as ricing camps and sugarbushes, or a pioneer homestead. They often possess spiritual, traditional, scientific, and educational values and should be treated as assets rather than liabilities. In addition to federal and state laws that protect certain types of cultural resources, the *Voluntary Site-Level Forest Management Guidelines* provide information and recommendations to assist private and public land managers in taking responsible actions when cultural resources are encountered.

Failure to follow the recommended management practices to protect cultural resources could result in loss of or damage to the cultural resource.

M. Rare Features

M1. How can we ensure that rare plants and animals, their habitats, and other rare features are protected in these subsections? *(Added after first public review step.)*

Protecting rare features on state lands is a key component of ensuring species, community, and forest-level biodiversity in these subsections. In 1978, the Minnesota Legislature, through the Legislative Committee on Minnesota Resources (LCMR), established requirements for the DNR (Natural Heritage Program) to collect and disseminate data on Minnesota's significant biological resources. Information on the distribution, abundance, and ecology of rare species, their habitats, and other rare features gathered by the DNR (Minnesota County Biological Survey and Natural Heritage and Nongame Research Program) provides much of the basis for determining the status of rare features in the state. The DNR acknowledges this leadership role in advocating for maintaining habitat for rare features throughout the state, regardless of ownership, and in protecting and providing habitat for rare and threatened species on state lands (Directions 2000).

Minnesota's List of Endangered, Threatened, and Special Concern Species (ETS List) was created in 1984 and was last revised in 1996. Created under Minnesota's Endangered and Threatened Species Statute, the ETS List draws attention to species that are at greatest risk of extinction within the state; special regulations are applied to those listed as endangered or threatened. By alerting resource managers and the public to species in jeopardy, activities can be reviewed and prioritized to help preserve the diversity and abundance of Minnesota's flora and fauna. Because of the importance of the ETS List in influencing resource use and management activities in Minnesota, it is critical that it reflect the most current information regarding the distribution, abundance, and security of species within the state. Consequently, Minnesota law requires that changes to the ETS List be considered periodically. A set of changes to the ETS List was proposed in 2007; rule making begins during the summer of 2009.

Note that the federal Endangered Species Act of 1973, as amended (16 USC 1531 _1544) requires the U.S. Department of the Interior to identify species as endangered or threatened according to a separate set of definitions, and imposes a separate set of restrictions pertaining to those species. Four species on the federal list occur in these subsections. They are the gray wolf, Canada lynx, bald eagle, and piping plover.

The possible consequences of *not* addressing this issue are 1) rare species extirpation at the local and state level; 2) rare species declines leading to status changes, e.g., special concern species changed to a threatened or endangered species; 3) rare species habitat loss or degradation; and 4) loss of biodiversity at the species (genetic), community, and/or landscape level.

From Issues to General Direction and Strategies

Table 2.1a provides a linkage between the issues described in Chapter 2 and the associated general direction statements (GDSs) and strategies in Chapter 3.

Table 2.1a: General Direction Statements Generated from SFRMP Issues

Major Category	Issues	General Direction Statement(s) that address the issue(s)
<p>1 Biological Diversity, Forest Composition, and Spatial Distribution</p>	<p>B1. What is the appropriate forest composition, structure, representation of growth stages, within-stand diversity, spatial arrangement of vegetative types, and native plant community distributions necessary to maintain sustainability goals for biodiversity, forest health, and productivity across the three subsections?</p> <p>B4. How can intensive management of forest communities be adapted to retain some of the characteristics of natural stand-replacement disturbance events?</p> <p>B2. How will we ensure restoration of important component tree species that have declined within forest communities in these subsections?</p> <p>B3. How will we maintain forest communities of particular concern in these subsections?</p>	<p>1B. Species of Greatest Conservation Need and Key Habitats are maintained or enhanced in these subsections.</p> <p>1C. Forest cover type composition on state lands moves closer to the range of cover type composition that historically occurred within the ecosystems found in these three subsections.</p> <p>1E. Management of state lands within MCBS sites of statewide biodiversity significance implements measures to sustain or minimize the loss to the biodiversity significance factors on which these MCBS sites were ranked.</p> <p>1F. Rare plants and animals and their habitats are protected, maintained, or enhanced in these subsections.</p>

Major Category	Issues	General Direction Statement(s) that address the issue(s)
	<p>B5. How can management on state lands, especially large patch management, better reflect natural landscape patterns (the size and configuration of growth stages and types resulting from broad-scale natural disturbances) in these subsections?</p> <p>B6. How do we limit forest fragmentation and maintain connectivity between habitats?</p> <p>K1. How can we ensure that rare plants and animals, their habitats, and other rare features are protected in these subsections?</p>	<p>1D. Patch management in these subsections maintains existing large patches and increases the average patch size on state lands over time, with consideration of natural spatial patterns.</p> <p>2C. State lands will include a representation of each of the growth stages that historically occurred in the ecosystems found in these three subsections.</p> <p>1A. Old forest is distributed across the landscape.</p> <p>2D. Young, early successional forest is distributed across the landscape.</p> <p>3A. Species, age, and structural diversity within some stands will be maintained or increased.</p>
<p>2 Age-Class Distribution</p>	<p>A1. What are the desired age-class and growth-stage distribution of forest types across the landscape?</p> <p>A2. What is the appropriate amount, kind, and location of old forests?</p> <p>A3. What is the appropriate amount, kind, and location of young, early successional forest? (added issue)</p> <p>D1. How can management of stands within larger areas of biodiversity significance be adapted to enhance biodiversity and native plant community composition, structure, and function?</p>	<p>1E. Management of state lands within MCBS sites of statewide biodiversity significance implements measures to sustain or minimize the loss to the biodiversity significance factors on which these MCBS sites were ranked.</p> <p>3B. Some stands on state lands will be managed to reflect the composition, structure, and function of native plant communities.</p>

Major Category	Issues	General Direction Statement(s) that address the issue(s)
<p>3 Within-Stand Composition and Structure</p>	<p>D2. How do we plan to retain and restore within-stand structural complexity (e.g., vertical structure, stem size and density, coarse woody debris, pit and mound micro-topography) on actively managed lands where natural succession pathways are truncated?</p>	<p>4A. Adequate habitat and habitat components exist, simultaneously at multiple scales, to provide for nongame species found in these subsections.</p> <p>1B. Species of Greatest Conservation Need and Key Habitats are maintained or enhanced in these subsections.</p> <p>4B. Adequate habitat and habitat elements exist, simultaneously at multiple scales, to provide for game species found in these subsections.</p>
<p>4 Wildlife Habitat</p>	<p>D3. How do we manage forest vegetation to balance the habitat needs of game and nongame species?</p> <p>E1. How can we address the impacts of forest management on permanent wetlands, wetland inclusions, and seasonal ponds?</p>	<p>1B. Species of Greatest Conservation Need and Key Habitats are maintained or enhanced in these subsections.</p> <p>5A. Riparian areas are managed to provide critical habitat for fish, wildlife, and plant species.</p> <p>5B. Forest management on state lands adequately protects permanent wetlands and seasonal ponds.</p>
<p>5 Riparian and Aquatic Areas</p>	<p>E2. What vegetative management activities will be allowed to take place within the riparian management zone (RMZ) and how will the appropriate width of the RMZ be determined to minimize the impacts of forest management activities on water quality, fisheries, and wildlife habitat?</p> <p>E3. How can we address cumulative impacts to aquatic resources of forest management on a watershed/sub-watershed level?</p>	<p>5B. Forest management on state lands adequately protects wetlands and seasonal ponds.</p> <p><i>Cumulative impacts are beyond the scope of this SFRMP.</i></p>

Major Category	Issues	General Direction Statement(s) that address the issue(s)
6. Timber Productivity	G1. How can we increase timber productivity on state lands?	6. Timber productivity and quality on state timber lands is increased.
7. Forest Pests, Pathogens, and Exotic Species	<p>H2. How will we respond to exotic plant species threats/invasions?</p> <p>H1. How do we address the impacts of forest insects and disease on forest ecosystems?</p> <p>H4. How do we manage vegetation to reduce herbivory, crop depredation, nuisance animals, potential spread of animal disease, and possible human health issues (e.g., Lyme disease)?</p> <p>H5. How should forest management respond to global climate change within the planning period?</p>	<p>7A. Limit damage to forests from insects, disease, and exotic species to acceptable levels where feasible.</p> <p>7B. Reduce the negative impacts caused by wildlife species on forest vegetation on state forest lands.</p> <p>7C. Forest management on state lands attempts to mitigate global climate change effects on forest lands. Management is based on our current knowledge and will be adjusted based on future research findings.</p>
8 Visual Quality	I1. How will forest management activities minimize impacts on visual quality?	8. Minimize forest management impacts on visual quality.
9 Harvest Levels	<p>F1. What is the appropriate timber harvest level on state lands with consideration for the sustainability of all forest resources?</p> <p>F2. How can we ensure adequate and sustainable “nontimber forest products” for the future?</p>	<p>9A. The SFRMP treatment level for each cover type moves toward the desired age-class structure of even-age managed cover types (both normal and extended rotation forest) and improves the age structure and timber quality of uneven-age managed cover types.</p> <p>9B. The harvest of nontimber forest products is managed to provide a sustainable supply for humans while providing for wildlife habitat and biodiversity.</p>
10 Access to State Land	C1. How can we plan for providing access to the stands identified for management during the 10-year plan period while protecting and minimizing the negative impacts that timber access development or use may have on other forest resources?	10. Forest access routes are well planned and there is a high level of collaboration with federal, private, and local units of government to share access and minimize new construction.

Major Category	Issues	General Direction Statement(s) that address the issue(s)
11 Cultural Resources	J1. How will cultural resources be protected during forest management activities on state-administered lands?	11. Cultural resources will be protected on state-administered lands.
12 Natural Disturbance Events	H3. How will natural disturbances like fire and blowdown be considered in forest management decisions?	12. Disturbance events that occur on state land within these three subsections are promptly evaluated to determine the appropriate forest management needed to address the impacts of the disturbance on the landscape.

Chapter 3: General Direction Statements and Strategies

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3.0 Introduction

In response to the final list of issues identified in Chapter 2, the subsection team developed general direction statements (GDSs) to address the issues, strategies to achieve the general directions, and desired future forest composition (DFFC) goals. General direction statements take into account the direction provided in state statutes and rules; department policies, guidelines, and direction (e.g., *Directions 2000*, *The Strategic Document*, and *A Strategic Conservation Agenda 2003-2007*), and management that will sustain the forest resources on state-administered forest lands in the subsections. GDSs provide general direction such as: increase, decrease, maintain, or protect a certain condition, output, or quality. Strategies were developed for each of the GDSs to achieve the general direction.

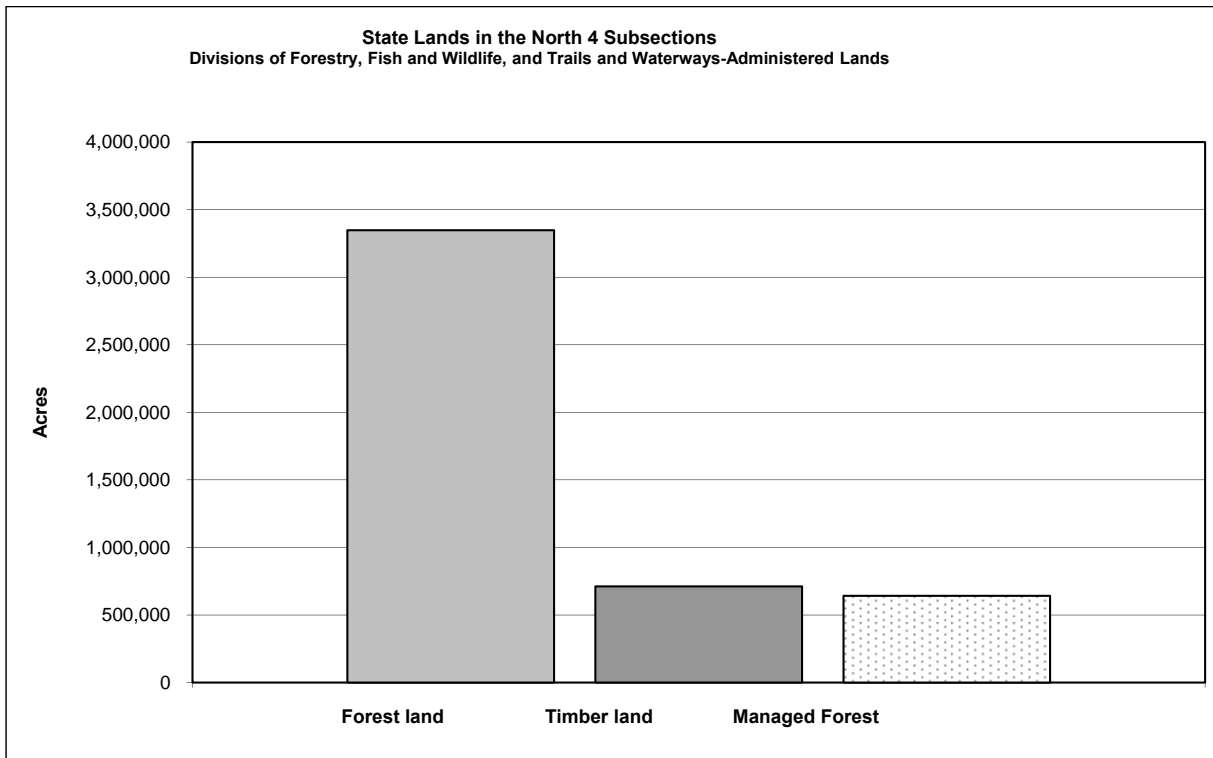
In situations where there is currently an ability to measure and quantify progress, DFFC goals were identified. DFFC goals are long-term (50+ years) goals for the ultimate desired condition of DNR forest lands in the subsections. Examples of DFFC goals are: cover-type acres, age-class distribution, amount of young and old forest, and cover-type treatment levels (e.g., harvest level). DFFC goals, general direction strategies (Chapter 3), and cover-type management recommendations (Chapter 4) were used to determine stand treatment levels and define stand selection criteria to identify a pool of stands from which to select stands to be treated during this 10-year plan. This step of the plan provides recommended treatment levels by cover type to move toward the DFFC goals a 10-year stand treatment list, which will include information regarding locations, acres, and prescriptions for stands selected for treatment. The GDSs,

strategies, and DFFC goals presented in this chapter guided the selection of stands and the application of treatments to stands selected for treatment.

Under the direction of the Minnesota Forest Resource Council (MFRC) Landscape Program, the North Central Landscape and the Northeast Regional Landscape committees completed reports that included desired future forest conditions for all ownerships in the Northeast and North Central landscape regions, which include the following counties: Itasca, Aitkin, Cass, Becker, Clearwater, Crow Wing, Hubbard, Beltrami (southern half), Cook, Lake, St. Louis, and Carlton. The four subsections included in this plan (St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands) are located in the two ecological sections covered by these MFRC landscape plans, i.e., the Northern Minnesota Drift and Lake Plains and the Northern Superior Uplands. Parts of the planning area are also located in the Northern Minnesota and Ontario Peatlands Section, which has not yet been the subject of a MFRC regional landscape plan. These reports recommend desired outcomes, long-term goals, and strategies for forest lands (specific recommendations were made for five ecosystem types) in the North Central and Northeast landscape regions. The goals and strategies in this subsection plan for state-administered forest lands are generally consistent with those recommended by the regional landscape committees.

Figure 3.a. shows the state land acres administered by the divisions of Forestry, Trails and Waterways, and the Wildlife Section of the Division of Fish and Wildlife in these subsections. Neither Fisheries Section-administered lands, nor state parks are addressed in this plan.

Figure 3.a. Forest Lands, Timber Lands and Managed Forest Lands in the North 4 Subsections



Forest land consists of all lands included in the forest inventory from aspen to stagnant conifers, muskeg, lowland brush, and lakes. *Timber land* includes those cover types that are capable of producing merchantable timber. Very slow growing trees (e.g., stagnant lowland conifers) are not included as timber lands. In this plan, *managed* acres are those acres available for timber management purposes. These managed acres are approximately 21 percent of the total forest land (all ownerships) in these subsections. State lands reserved from harvest such as designated old-growth stands and Scientific and Natural Areas (SNAs) (70,090 acres¹) are not included in managed acres.

Note: Due to updates to the forest inventory and other data sources during the planning process, there may be slight differences in acreages shown between various tables and figures in this planning document. These differences will not have a significant effect on the recommendations in this plan.

In this chapter, the 20 GDSs and associated strategies are grouped under 12 forest resource management topic areas or categories. Some categories have several GDSs to address the associated issues while others have only one.

3.1 Biological Diversity, Forest Composition, and Spatial Distribution

GDS-1A: Old forest in these subsections is distributed across the landscape to account for timber products, wildlife habitat, and ecological diversity.

Consideration of old forest during planning was done to:

- Ensure an adequate representation of older stands and old forest components within even-age cover types.
- Address visual quality concerns and recreation desires.
- Help maintain the integrity of forested riparian areas.
- Complement or connect old-growth stands and other old patches.
- Provide habitat for wildlife species associated with old forest.
- Provide for older growth stages of NPC types.
- Provide large-diameter timber products.
- Help contribute to carbon sequestration on state forest lands.

A forest stand of any particular even-age managed forest cover type is considered old forest whenever its age exceeds the normal rotation age agreed on by the landscape rotation age work group for that cover type. Determining the amount of old forest to be sustained in these subsections required balancing many factors: timber productivity, economic impacts, historical forest conditions, habitat requirements, forest health, and timber quality. The goal is to provide a representation of older forest stands and old forest components that is sustainable over time, balanced with the need to provide a stable timber supply, increased timber productivity, and early successional forest habitat. Information about Minnesota's old-growth forest policy can be found at http://www.dnr.state.mn.us/forests_types/oldgrowth/index.html

¹ 1976 to 1998 Minnesota DNR GAP Stewardship – “All Ownership Types” data.

The type, acreage, and general location of old-growth forests in the North 4 Subsections can be found in the North 4 Subsections *Preliminary Issues and Assessment*, Chapter 3:

http://files.dnr.state.mn.us/forestry/subsection/north4/n4chapter3_draft_20070717.pdf

Providing for adequate and sustainable amounts of old forest across the landscape over time requires:

- Designating some current old forest to be maintained as old over time (e.g., as done in the old-growth designation process).
- Designating forest that is held to an older forest condition (i.e., extended rotation forest).
- Specifying situations under which forest managers will create or maintain old forest components within treated stands, based on site factors found there (e.g., some patch management; management within Minnesota County Biological Survey (MCBS) sites of biodiversity significance).

Uneven-age managed stands and other state lands (e.g., state parks and SNAs) also contribute to old forest conditions. In addition, compositional changes to more long-lived conifers will provide more forest with longer rotations in the future.

GDS-1A Strategies

a. Determine the desired level of effective extended rotation forest (ERF) for even-age managed cover types.

The acreage and age of DNR timber lands to be managed as Extended Rotation Forest (ERF) was provided to the North 4 team by the interdisciplinary statewide ERF Workgroup. Forests managed as ERF are key to achieving DFFCs for the North 4 subsections. Effective ERF (EERF), or “old forest”, is the portion of ERF acreage that is actually over the normal rotation age (NRA) for the cover type. Because forest stands designated as ERF can (and should) be in any age class, there are cases where large numbers of acres must be designated ERF to achieve the identified old forest goal, due to the current cover-type age-class distribution. Cover types typically managed under even-age regimes are the focus of ERF designation – such a management designation is unnecessary for cover types managed under uneven-age regimes.

Designated ERF stands are harvested in stages between normal rotation age and maximum rotation age to help achieve the desired tapering distribution in older age classes. The harvest-scheduling model was programmed to consider ERF acreage goals together with other goals (see strategy c, following). There was some resistance to designating younger stands as ERF, so some adjustment was required to the original model run of ERF.

Figure 3.1.b: Extended Rotation Forest Example

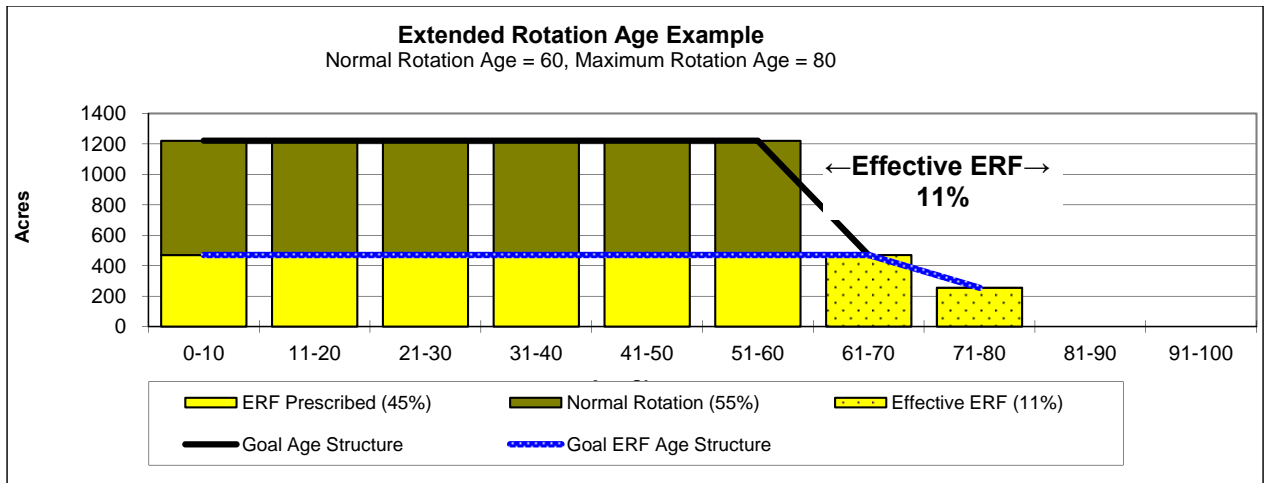


Table 3.1a: Current old forest acres for Even-age Managed Cover Types

Cover type	Acres ¹	Ac >NRA ²	% >NRA	Goal % >NRA ³
Aspen/balm of gilead	260,992	65,621	25	11.5-12.0
Birch	10,064	7,220	72	12.0
Black Spruce, Lowland	179,474	49,901	28	11.0 - 16.0
Tamarack	74,008	32,578	44	15.0
Jack Pine	13,506	2,325	17	12.0
Red Pine	20,992	1,493	7	100
White Spruce	10,695	70	1	10.0

¹ Managed Acres: Forestry and Wildlife lands considered available for timber harvest.

² Acres of managed forest older than the normal rotation age (NRA) established for the cover type.

³ Old Forest percentage goal: Percent goal of cover-type timber land acreage to be managed beyond the normal rotation age. Not a range for each subsection – the range indicates the differences among subsections in percentages.

b. Utilize Remsoft model to prescribe ERF stands in even-age managed cover types so that when a balanced age-class distribution is achieved, the desired amount of effective ERF will be provided.

Due primarily to existing imbalances in age classes in some cover types, there will be fluctuations in the amount of effective ERF until a balanced age-class distribution is reached. After this, fluctuations may occur periodically because of major disturbances such as wind or fire. Table 3.1 b - e shows the percent of effective ERF at the beginning of each decade based on the prescribed ERF and treatment levels (GDS-9) for the cover types. These estimates are based on modeling of proposed stand treatments over the next five decades.

Table 3.1 b - e: State Timber Land Percent Old Forest and Effective ERF Per Decade by Type for Even-age Systems

b. St. Louis Moraines Type	Period (10 yrs)						Goal %
	0	1	2	3	4	5	
Aspen Old Forest Area	19.1	11.2	9.2	12.3	14.1	11.8	
Aspen EERF Forest Area	3.3	3.9	6.3	10.4	13.0	10.3	12.0%
Birch Old Forest Area	45.3	24.0	6.9	0.0	1.6	15.4	
Birch EERF Forest Area	11.1	5.3	1.1	0.0	1.6	15.4	12.0%
Red Pine Old Forest Area	13.6	16.0	17.0	18.4	22.6	25.3	
Red Pine EERF Forest Area	13.6	16.0	17.0	18.4	22.5	25.2	53.3%
Jack Pine Old Forest Area	16.7	12.7	8.6	11.1	10.6	16.2	
Jack Pine EERF Forest Area	0.0	3.1	3.7	8.9	8.5	14.1	12.0%
White Spruce (planted) Old Forest Area	1.7	10.5	5.0	28.7	16.2	9.1	
White Spruce (planted) EERF Forest Area	0.6	2.9	2.2	14.0	5.3	2.8	10.0%
Balsam Fir Old Forest Area	38.8	10.1	1.9	0.0	0.0	0.0	
Balsam Fir EERF Forest Area	0.0	0.0	0.0	0.0	0.0	0.0	
BSL (SI 40+) Old Forest Area	36.0	33.1	21.9	16.9	11.1	11.0	
BSL (SI 40+) EERF Forest Area	16.2	13.0	7.7	5.6	4.7	5.3	15.0%
BSL (SI 30-39) Old Forest Area	18.0	25.9	26.3	22.7	19.2	13.0	
BSL (SI 30-39) EERF Forest Area	9.1	14.6	17.5	15.3	14.6	13.0	13.0%
BSL (SI <= 29) Old Forest Area	23.8	24.2	25.6	22.7	22.6	14.5	
BSL (SI <= 29) EERF Forest Area	13.1	14.9	16.6	15.7	16.0	14.5	11.0%
Tamarack (SI 40+) Old Forest Area	47.5	38.5	39.6	31.5	20.3	21.0	
Tamarack (SI 40+) EERF Forest Area	16.0	14.5	20.0	18.6	17.0	18.0	15.0%
Tamarack (SI < 40) Old Forest Area	27.4	28.5	20.1	10.0	13.2	15.1	
Tamarack (SI < 40) EERF Forest Area	13.7	13.6	7.5	2.4	11.9	15.1	15.0%

c. Tamarack Lowlands		Period (10 yrs)					Goal
Type	0	1	2	3	4	5	
Aspen Old Forest Area	23.3	15.2	11.6	10.3	13.9	10.5	
Aspen EERF Forest Area	4.8	3.3	7.3	8.1	13.0	10.5	11.5%
Birch Old Forest Area	40.2	3.4	4.2	4.2	2.0	40.0	
Birch EERF Forest Area	0.0	0.0	4.2	4.2	2.0	28.6	12.0%
Red Pine Old Forest Area	3.6	6.3	6.1	6.3	9.2	13.1	
Red Pine EERF Forest Area	3.6	6.3	6.1	6.3	8.7	11.4	37.2%
Jack Pine Old Forest Area	26.9	16.6	5.4	11.3	10.7	9.7	
Jack Pine EERF Forest Area	8.9	4.3	3.2	10.3	6.9	9.7	12.0%
White Spruce (planted) Old Forest Area	1.5	2.6	6.8	2.6	6.9	1.8	
White Spruce (planted) EERF Forest Area	0.0	0.8	4.2	0.8	3.3	0.8	10.0%
Balsam Fir Old Forest Area	54.3	13.8	1.5	0.0	0.0	0.0	
Balsam Fir EERF Forest Area	0.0	0.0	0.0	0.0	0.0	0.0	
BSL (SI 40+) Old Forest Area	48.1	33.1	19.9	15.2	8.6	10.8	
BSL (SI 40+) EERF Forest Area	14.2	10.5	3.5	3.6	6.2	10.8	15.0%
BSL (SI 30-39) Old Forest Area	18.0	23.5	28.1	25.6	19.8	13.0	
BSL (SI 30-39) EERF Forest Area	9.7	10.8	12.2	9.7	7.0	3.4	13.0%
BSL (SI <= 29) Old Forest Area	19.7	21.2	20.3	18.5	17.0	14.5	
BSL (SI <= 29) EERF Forest Area	7.7	9.4	11.8	12.9	14.1	14.5	11.0%
Tamarack (SI 40+) Old Forest Area	16.5	14.4	12.5	11.7	8.4	4.7	
Tamarack (SI 40+) EERF Forest Area	8.7	7.8	8.2	8.5	6.2	4.7	15.0%
Tamarack (SI < 40) Old Forest Area	5.4	7.1	6.9	6.2	3.5	1.8	
Tamarack (SI < 40) EERF Forest Area	3.4	4.6	4.4	3.8	2.2	1.8	15.0%

d. Nashwauk Uplands		Period (10 yrs)					Goal
Type	0	1	2	3	4	5	
Aspen Old Forest Area	9.7	2.7	4.5	9.2	12.2	12.0	
Aspen EERF Forest Area	1.5	1.1	4.2	9.0	11.9	12.0	12.0%
Birch Old Forest Area	66.1	15.9	0.3	0.0	0.4	21.3	
Birch EERF Forest Area	0.5	0.0	0.0	0.0	0.4	21.3	12.0%
Red Pine Old Forest Area	6.2	9.7	14.3	21.4	25.5	25.9	
Red Pine EERF Forest Area	6.1	9.7	14.2	21.4	25.4	25.8	53.3%
Jack Pine Old Forest Area	19.0	18.6	9.2	7.6	12.1	9.7	
Jack Pine EERF Forest Area	2.4	7.0	6.7	6.1	11.8	9.7	12.0%
White Spruce (planted) Old Forest Area	0.6	0.0	6.1	0.9	15.2	23.0	
White Spruce (planted) EERF Forest Area	0.0	0.0	6.1	0.9	12.9	8.8	10.0%
Balsam Fir Old Forest Area	26.8	10.4	11.8	0.0	0.0	0.0	
Balsam Fir EERF Forest Area	0.0	0.0	0.0	0.0	0.0	0.0	
BSL (SI 40+) Old Forest Area	50.6	44.8	16.9	6.4	4.5	4.5	
BSL (SI 40+) EERF Forest Area	19.4	17.8	7.3	4.8	4.5	4.5	15.0%
BSL (SI 30-39) Old Forest Area	12.1	23.8	27.5	25.6	20.9	12.9	
BSL (SI 30-39) EERF Forest Area	4.4	12.1	13.8	11.4	9.4	6.7	13.0%
BSL (SI <= 29) Old Forest Area	17.8	24.2	23.0	24.8	20.5	15.1	
BSL (SI <= 29) EERF Forest Area	11.1	15.8	17.2	20.4	17.7	15.1	11.0%
Tamarack (SI 40+) Old Forest Area	35.9	27.7	20.4	16.6	9.8	5.3	
Tamarack (SI 40+) EERF Forest Area	20.3	15.7	14.1	10.3	5.1	2.9	15.0%
Tamarack (SI < 40) Old Forest Area	5.1	20.5	19.6	13.6	6.8	0.1	
Tamarack (SI < 40) EERF Forest Area	2.5	13.1	14.1	7.4	2.2	0.0	15.0%

e. Littlefork-Vermilion Uplands		Period (10 yrs)					Goal
Type	0	1	2	3	4	5	
Aspen Old Forest Area	22.5	14.8	12.8	14.1	13.8	8.3	
Aspen EERF Forest Area	7.3	6.5	7.1	9.8	11.0	8.3	11.50%
Birch Old Forest Area	47.9	13.4	12.0	0.0	2.5	12.0	
Birch EERF Forest Area	7.0	6.9	8.2	0.0	2.5	12.0	12.00%
Red Pine Old Forest Area	9.2	12.9	15.3	19.3	26.2	27.6	
Red Pine EERF Forest Area	9.0	12.7	15.1	19.1	26.0	26.2	42.40%
Jack Pine Old Forest Area	20.0	13.0	9.3	11.5	8.9	8.7	
Jack Pine EERF Forest Area	5.3	3.7	6.2	11.4	6.4	8.7	12.00%
White Spruce (planted) Old Forest Area	0.0	0.9	1.8	19.5	16.3	43.1	
White Spruce (planted) EERF Forest Area	0.0	0.6	1.0	14.7	11.8	28.4	10.00%
Balsam Fir Old Forest Area	49.6	10.0	2.4	0.0	0.0	0.0	
Balsam Fir EERF Forest Area	0.5	0.2	0.0	0.0	0.0	0.0	
BSL (SI 40+) Old Forest Area	36.8	29.7	22.4	13.3	9.7	11.0	
BSL (SI 40+) EERF Forest Area	10.0	8.6	8.5	4.7	5.2	7.0	16.00%
BSL (SI 30-39) Old Forest Area	23.4	24.7	21.8	19.0	14.5	13.0	
BSL (SI 30-39) EERF Forest Area	11.7	13.3	12.3	11.2	9.2	7.2	13.00%
BSL (SI <= 29) Old Forest Area	32.3	32.0	23.4	21.9	17.4	15.5	
BSL (SI <= 29) EERF Forest Area	16.1	17.1	14.1	15.6	13.1	15.5	11.00%
Tamarack (SI 40+) Old Forest Area	45.7	40.9	37.1	25.8	20.6	12.8	
Tamarack (SI 40+) EERF Forest Area	27.8	26.1	22.3	13.1	10.1	7.0	15.00%
Tamarack (SI < 40) Old Forest Area	18.2	32.0	22.6	8.6	2.9	3.3	
Tamarack (SI < 40) EERF Forest Area	10.1	23.2	14.4	3.6	1.8	3.1	15.00%

c. The Remsoft harvest-scheduling model selected ERF, using the following criteria provided by the North 4 Core Team:

- Total prescribed ERF targets by type and subsection Pre-selected plus model selected
- Cover-type Rules (all WP and C) Pre-selected ERF
- Old Forest Management Complex Pre-selected ERF
- Patches (those designated ERF) Pre-selected ERF
- Natural Heritage Locations Pre-selected ERF
- Ruffed Grouse Mgmt Areas Pre-selected not ERF; neutral for distance
- Riparian (stands w/in 400' of trout streams and their tributaries) Pre-selected ERF
- Watershed Protection Area Pre-selected ERF; neutral for distance
- Natural Conifer Rule (WS, RP) ERF positive
- High Production Aspen (A, Bi, Bam) ERF negative when SI>=70
- Plantation Conifers (WS, RP, JP and SI 60+) ERF negative
- Natural Heritage Elements buffers ERF positive
- Priority Open Landscapes ERF negative
- Riparian (stands adjacent to Major River Centerline -- Traces in Minnesota) ERF positive
- Riparian (adjacent to DNR 24K Lakes) ERF positive

Table 3.1 f: Acres Designated as EILC by Subsection³

	Tamarack Lowlands	St. Louis Moraines	Nashwauk Uplands	Littlefork-Vermilion Uplands	Total
<i>Black spruce</i>					
Cover type Total Ac	26,353	17,504	6,570	129,082	179,509
EILC Acres	3,569	2,816	1,000	13,083	20,468
EILC % of Cover type	14	16	15	10	11
<i>Tamarack</i>					
Cover type Total Ac	42,009	5,762	1,746	24,616	74,133
EILC Acres	6,790	787	282	2,455	10,314
EILC % of Cover type	16	14	16	10	14
<i>Cedar</i>					
Cover type Total Ac	7,130	5,164	1,222	30,686	44,202
EILC Acres	1,862	1,102	145	3,670	6,779
EILC % of Cover type	26	21	12	12	15
<i>Stagnant spruce</i>					
Cover type Total Ac	38,340	9,371	4,358	90,715	142,784
EILC Acres	6,813	1,394	951	10,107	19,265
EILC % of Cover type	18	15	22	11	13
<i>Stagnant tamarack</i>					
Cover type Total Ac	23,624	1,806	2,118	6,691	34,239
EILC Acres	9,346	377	1,469	1,040	12,232
EILC% of Cover type	40	21	69	16	36
<i>Stagnant cedar</i>					
Cover type Total Ac	4,562	3,792	1,886	21,028	31,268
EILC Acres	938	828	892	6,656	9,314
EILC % of Cover type	21	22	47	32	30
Total Acres					
EILC Acres	142,018	43,399	17,900	302,818	506,135
EILC % of Total	29,318	7,304	4,739	37,011	78,372
EILC % of Total	21	17	26	12	15

h. Follow the MFRC *Voluntary Site-Level Forest Management Guidelines (Site-Level Guidelines)* to retain components of old forest in even-age managed cover types.

Examples of retention of old forest components include retaining leave trees, legacy patches, snags, and coarse woody debris.

i. Use silvicultural treatments that retain old forest components in some stands.

(See Chapter 4, Cover-type Management Recommendations and GDS-3A)

Examples of silvicultural treatments that can retain old forest components include:

- Selective harvest (i.e., group selection and single tree selection)
- Intermediate harvest (i.e., thinning)

³ Acres based on “all_after_exchanges 10/9/02” data (does not include state park acres).

- Shelterwood harvest with reserves
- Seed tree harvest with reserves
- Variable retention harvest
- Variable density thinning

j. Consider the status of old forest within subsections when making decisions to add and offer unplanned wood for harvest.

GDS-1B: Species of Greatest Conservation Need and Key Habitats are maintained or enhanced in these subsections.

Minnesota DNR participates in the State Wildlife Grants Program (SWG), created by the US Congress in 2001. Congress mandated that to participate in the SWG Program, states, in partnership with other conservation agencies and organizations, must develop a Comprehensive Wildlife Conservation Strategy (CWCS) to identify and manage *Species of Greatest Conservation Need* (SGCN) and associated *Key Habitats*.

SGCN are defined as native animals whose populations are rare, declining, or vulnerable to decline and are below levels desirable to ensure their long-term health and stability. Minnesota's SGCN list includes 292 native animal species. Key Habitats are defined as those habitats most important to the greatest number of SGCN in a subsection. Minnesota's CWCS identifies Key Habitats in terms of the DNR's three-volume *Field Guide to Native Plant Communities*. Appendix M in Chapter 7 contains a listing of SGCNs and Key Habitats known to occur in the North 4 subsections. By alerting resource managers and the public to SGCN and Key Habitats, activities can be reviewed and prioritized to complement Minnesota's CWCS.

GDS-1B Strategies

a. Provide current SGCN and Key Habitat data to DNR staff upon request.

DNR staff from all divisions will have access to the most up-to-date SGCN and Key Habitat locations by coordinating with the Division of Ecological Resources.

b. Incorporate new SGCN and Key Habitat locations and data as they are collected in these subsections.

SGCN and Key Habitat data are collected to various degrees by MCBS, Natural Heritage & Nongame Research Program, and various other sources. As these new data are compiled they will be made available to DNR staff and applied to management decisions per the *Interdisciplinary Forest Management Coordination Framework*⁴ (*Coordination Framework*).

c. Select some ERF, OFMC, EILC, and Patch stands based on their association with SGCNs and Key Habitats.

SGCNs and Key Habitats were considered during the selection of stands in ERF, OFMCs, EILC areas, and the designated patches.

⁴ DNR Divisions of Forestry, Fish and Wildlife, and Ecological Resources: *Interdisciplinary Forest Management Coordination Framework*. St. Paul, Minnesota. December 2007.

d. Stand-level management accounts for SGCN and Key Habitats.

Use the *Coordination Framework* to maintain or enhance SGCNs and Key Habitats. Ecological Resources will deliver SGCN and/or Key Habitat management considerations to forest managers for use in making forest management decisions for stands selected for treatment, access routes, and other management or development activities per processes outlined in the *Coordination Framework*.

SGCN and Key Habitat datasets are made available to area staff by Ecological Resources upon request.

GDS-1C: Forest cover-type composition on state lands moves closer to the range of cover-type composition that historically occurred within the ecosystems found in these subsections.

The proposed cover-type change goals reflect the SFRMP team's attempt to increase the acreage of cover types that have declined historically, while maintaining or enhancing important wildlife habitats and plant communities, and providing a sustainable level of forest products. The ecologic, economic, and social considerations used in developing the cover-type change goals for these subsections include:

- Historic forest composition
- Historic disturbance regimes
- Range of natural variation
- Wildlife habitat
- Forest insects and diseases
- Forest productivity (e.g., match the species to the site using NPC Field Guide)
- Increase availability of certain forest products (e.g., sawtimber)
- Recreational values

GDS-1C Strategies

a. Increase the acres of jack pine, red pine, white pine, northern hardwoods, oak, white spruce/balsam fir and white cedar using the following actions:

Use the NPC Field Guide as a tool to guide the on-site evaluation of stands for conversion from one cover type to another or managing for mixed forest conditions (species composition and stand structure).

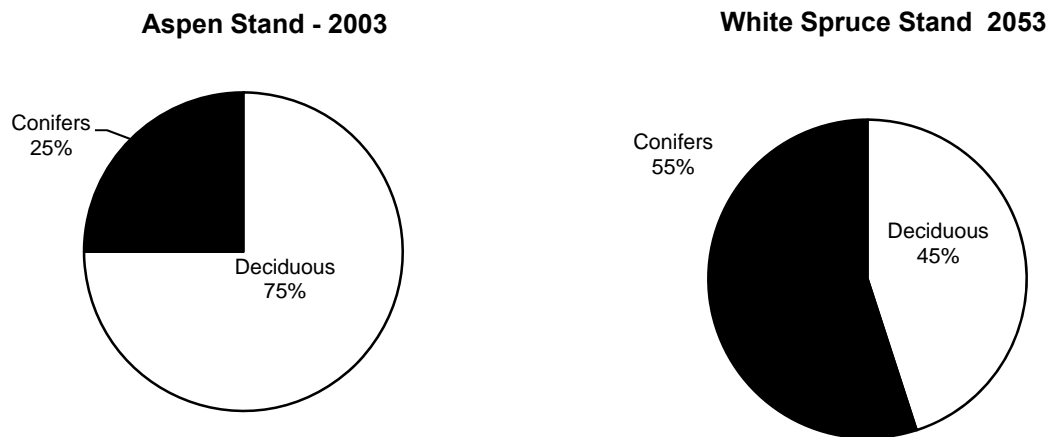
Options available include:

- Allow some stands to convert through natural succession to long-lived conifer cover types without harvest. Emphasize this in stands with adequate advance regeneration of long-lived conifer species.
- Artificially convert some stands through mechanical site preparation, prescribed burning, planting, or seeding.
- Selectively harvest some stands to move toward the desired cover-type and within-stand composition.

Conversions can be immediate, or can take place over the span of a rotation period through thinning, partial cuts, and intermediate treatments.

Figure 3.1d illustrates an example of an aspen stand being converted to a white spruce stand over time. Note that the stand retains a significant component (45 percent) of deciduous species such as aspen. Tree suitability tables (Appendix P) inform appropriate levels of species for a given native plant community.

Figure 3.1d: Example of an Increase in Conifer Cover-Type Acres: Aspen Stand Converts to a White Spruce Stand



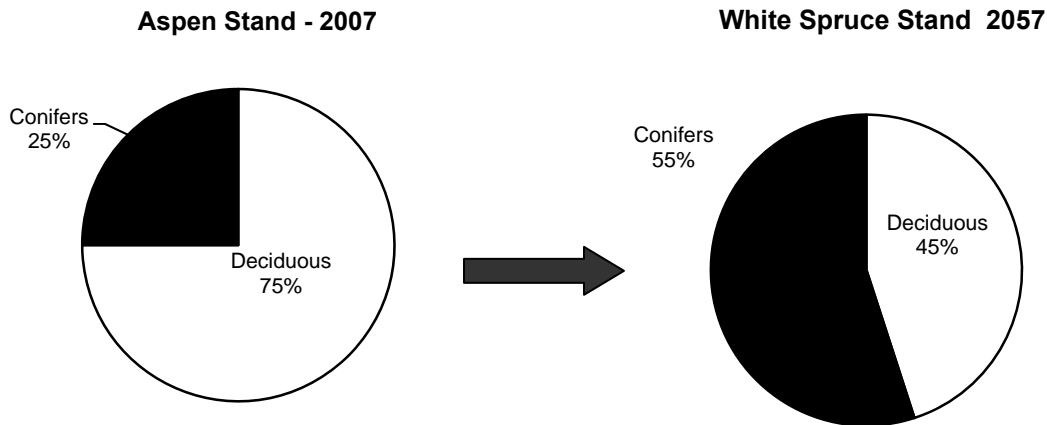
b. Increase mixed-forest conditions in some stands in all cover types.

Implementation of this strategy may range from application of the *Site-Level Guidelines* (e.g., legacy patches and conifer retention) in harvest operations, to other management such as mechanical site preparation, prescribed burning, seeding, and planting (see and strategies for within-stand diversity in GDS-3A).

The strategy to achieve this is to favor species found in native plant communities appropriate to the site, especially tree species that have significantly declined from historic levels such as white pine, red pine, jack pine, white cedar (upland), white spruce, tamarack (upland), and paper birch (*Preliminary Issues and Assessment*, Table 3.4). See Appendix P (tree suitability tables).

Figure 3.1.e. illustrates an example of an increase in mixed forest conditions within an aspen stand. In 2010, the deciduous species are primarily aspen (e.g., 60 percent) with paper birch and other hardwoods present. Conifer species are primarily white spruce, balsam fir, white pine, and red pine. By 2030, there is an increase in conifers within the aspen stand (from 15 percent to 25 percent), but the stand remains primarily comprised of aspen and an aspen cover type. Desired species composition would vary with native plant community.

Figure 3.1e: Generalized Example of an Increase in Mixed-Forest Conditions in an Aspen Stand



c. Forest composition goals and objectives are consistent with the MFRC Landscape plans.

Department personnel have been involved in the MFRC Regional Landscape planning efforts for Minnesota for a number of years. Although the planning processes differ in scope and scale, they share a number of goals and are committed to maintaining close relationships.

Some inherent differences are:

- DNR manages state-administered forest lands by cover type, with goals by 10-year age classes, whereas MFRC Landscape Plan recommendations are based on ecosystem types and growth stages. There is no direct comparison between age-class distributions for cover types and range of natural variation growth stages for ecosystem types. However, the landscape and subsection plans share goals with respect to increasing white pine, red pine, jack pine, white spruce, upland tamarack, yellow birch, and upland white cedar. Older growth stages are being addressed through conversions to long-lived conifers, ERF, and retaining older forest components during thinning and final harvest of some stands.
- MFRC Landscape plans include all ownerships, therefore they do not identify specific acreage goals for recommended changes. When requested, Minnesota DNR will provide MFRC staff with information regarding state land management, to assist them in monitoring accomplishments in the MFRC regional landscapes. Chapter 7 (Appendices) of this plan includes the SFRMP implementation monitoring plan for state lands in these subsections.

GDS-1D: Patch management in these subsections maintains existing large patches and increases the average patch size on state lands over time, with consideration of natural spatial patterns.

There is broad consensus among scientists that managed forest landscapes are more fragmented and contain fewer large patches currently, than landscapes where spatial patterns are determined

primarily by natural disturbance and physical factors. It is estimated that the average overall patch size has declined nearly 50 percent since the 1930s in northeastern and north-central Minnesota (Northern Superior Uplands and Drift and Lakes Plains sections).^{5,6} Stand selection and treatment as part of the SRFMP process can significantly reduce forest habitat fragmentation and maintain and promote larger patches over time. The best available information on natural spatial patterns in these subsections was used as a guide to understanding the distribution of patch sizes, cover-type groupings, and age classes for patch management on state lands.⁷ Although this plan considered management activities on other ownerships, patch management primarily focuses on identifying opportunities that exist on state land.

To guide patch management on state lands, a **patch** is defined as one or more adjoining stands that is relatively homogenous in structure, primarily in height and density, and is similar in vegetation cover and age. A **future patch** is defined as a group of adjoining stands that do not currently meet the patch definition, but that will be managed to enhance patch attributes over time.

Patches are defined by age, size, and general cover-type grouping (Tables 3.1g, h). Patch ages are defined as old, intermediate, and young with an age range by category dependent on cover type. Patch sizes range from small (less than 40 acres) to large (greater than 640 acres). Patches may have smaller areas (e.g., 10-15 percent of the patch area) within them that are not in the same patch category as the main patch, such as inclusions, residual islands, legacy patches, corridors, and buffers.

Using Cooperative Stand Assessment (CSA) forest inventory data, the DNR Division of Forestry conducted an initial patch assessment for state lands in these subsections.³ Patches were created in a GIS data layer by dissolving common stand boundaries between stands of the same cover-type group and age class (Table 3.1g). The initial patch assessment information was used as one of the tools for delineating the *current* patches and desired *future* patches on state lands in these subsections as described in the following paragraphs.

⁵ Manolis, J. December 2003. *Project Summary: Results from the Minnesota Spatial Analysis and Modeling Project*. Minnesota Forest Resources Council and Minnesota DNR.

⁶ MFRC. March 2003. *Recommended Desired Outcomes, Goals, and Strategies: Northeast Landscape Region*. Minnesota Forest Resources Council Landscape Program, Northeast Regional Landscape Committee.

⁷ Minn. DNR. January 2008. Addressing Patch Management in SFRMP, page 38 in *SFRMP Process Guidebook IV*. (Draft).

Table 3.1g: Patch Ages by Cover-type Category, From the Initial Patch Assessment

Cover-type Groupings			Age Class Definition (In years)		
Code	Category	Sub-Category	Young	Inter.	Old
UC	Upland Conifers	jack pine and upland black spruce	0-30	31-60	>60
		balsam fir			
		red pine and white pine	0-60	61-120	>120
LC	Lowland Conifers	white spruce and upland white cedar	0-40	41-80	>80
		tamarack, white cedar, and lowland black spruce	0-20	21-90	>90
UD	Upland Deciduous	aspen, birch, and balm of gilead	0-25	26-50	>50
XD	Upland Hardwoods	northern hardwood and oak	0-45	46-90	>90
LD	Lowland Deciduous	ash, lowland hardwood, and balm of gilead	0-45	46-90	>90

Table 3.1 h: Patch Size Classes for Patch Management in SFRMP

Size Class	Acre Range
Class 1 - Large	Greater than 640 acres
Class 2 - Medium Large	251 - 640 acres
Class 3	101 - 250 acres
Class 4	41 - 100 acres
Class 5 - Small	Less than 40 acres

Table 3.1 i: Patch Type Codes for Patch Management in North 4 SFRMP

Patch Type Code	Description
PYUD	Patch young upland deciduous
PIUD	Patch intermediate upland deciduous
POUD	Patch old upland deciduous
PYXD	Patch young northern hardwoods
PIXD	Patch intermediate northern hardwoods
POXD	Patch old northern hardwoods
PYLD	Patch young lowland deciduous
PILD	Patch intermediate lowland deciduous
POLD	Patch old lowland deciduous
PYUC	Patch young upland conifer
PIUC	Patch intermediate upland conifer
POUC	Patch old upland conifer
PYLC	Patch young lowland conifer
PILC	Patch intermediate lowland conifer
POLC	Patch old lowland conifer

Tables 3.1.j - 3.1.n, following, provide a summary of the initial patch assessment for the North 4 subsections. By size class, the North 4 landscape contains a greater proportion of medium to small patches. By age class, abundance is variable by cover-type grouping; for example, young upland conifer patches are far more common in the North 4 than old upland conifer patches, while lowland conifer patches show a higher abundance in the intermediate and old age classes and lower abundance in the young age class. All North 4 upland cover-type groupings show a lower abundance, in many cases a complete absence, of large patches across all age classes. In particular, large patches of mature or older growth stage upland forest are very rare, and are not easily replaced once they are broken up or moved towards a young growth stage. In contrast, young and intermediate age large upland patches, although currently uncommon on state land included in the North 4 planning area, are more common across all ownerships in the planning area. It is much more feasible to create young and intermediate-age large upland patches where they are desired but not present.

Mature and older growth stage large patches have benefits for some wildlife species (e.g., goshawk, red-shouldered hawks) and provide conditions that favor many native plant species over invasive and weedy plant species. Without attention to the maintenance or creation of large old patches they are likely to be lost through time (as evidenced by the data in tables 3.1.j through 3.1.n) and with them go the plant and animal species that (1) require this type of habitat to survive or (2) benefit from secondary effects of large old patches (e.g., the lower competitive advantage of invasive plant species in large interior forest habitat).

Consideration of the initial patch assessment in stand-level decisions (e.g., grouping stands into harvest blocks based on the initial patch assessment) is an important component of providing for the range of patch conditions on the North 4 landscape. Opportunities to maintain and build large patches, both young and old, are of particular concern for the reasons previously stated. Small and medium sized patches of all age classes, although relatively common on the landscape today, also need attention so that they are retained or created on the landscape where desired and so that diversity of patch sizes is not lost over time in the effort to maintain and create large patches.

Table 3.1.j: North 4 Subsections *Timber Lands* Existing Patch Size Class Summary

Subsection	State Timber Land Acres	Class 1 Acres % of Timberland	Class 2 Acres % of Timberland	Class 3 Acres % of Timberland	Class 4 Acres % of Timberland	Class 5 Acres % of Timberland
St. Louis Moraines	147,881	<u>4,628</u> 3%	<u>5,317</u> 4%	<u>30,395</u> 21%	<u>38,982</u> 26%	<u>68,019</u> 46%
Tamarack Lowlands	163,517	<u>8,753</u> 5%	<u>19,956</u> 12%	<u>39,476</u> 24%	<u>35,174</u> 22%	<u>60,157</u> 37%
Nashwauk Uplands	52,460	0 0%	<u>2,345</u> 4%	<u>9,018</u> 17%	<u>14,301</u> 27%	<u>26,796</u> 51%
Littlefork-Vermilion Uplands	353,834	<u>25,419</u> 7%	<u>25,126</u> 7%	<u>88,376</u> 25%	<u>87,813</u> 25%	<u>129,100</u> 36%
Total	717,692	<u>38,800</u> 5%	<u>52,744</u> 7%	<u>167,805</u> 23%	<u>176,271</u> 25%	<u>284,072</u> 40%

Table 3.1.k: St. Louis Moraines *Timber Lands* Existing Patch Type Summary

PATCH TYPE	Class 1: Large		Class 2: Medium-Large		Class 3: Medium		Class 4: Small-Medium		Class 5: Small		Tally of Patch Code in	Acres of Patch Code in
	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	Subsection	Subsection
PYUD	1	867	8	3,250	71	11,535	189	11,856	1,073	15,417	1,342	42,925
PIUD	0	0	1	344	30	5,112	102	6,205	534	7,889	667	19,550
POUD	0	0	0	0	12	1,633	39	2,478	596	7,076	647	11,187
PYXD	0	0	0	0	1	274	4	199	57	874	62	1,347
PIXD	1	828	1	329	23	3,676	67	3,844	309	4,623	401	13,300
POXD	1	700	2	712	12	1,959	19	1,139	97	1,643	131	6,154
PYLD	0	0	0	0	0	0	0	0	26	250	26	250
PILD	0	0	0	0	2	379	6	324	175	1,990	183	2,692
POLD	1	671	0	0	3	353	42	2,557	307	4,176	353	7,757
PYUC	0	0	1	331	13	1,628	45	2,713	403	5,570	462	10,241
PIUC	0	0	0	0	0	0	17	984	271	3,092	288	4,077
POUC	0	0	0	0	0	0	5	286	97	1,097	102	1,383
PYLC	0	0	0	0	2	269	21	1,233	202	2,559	225	4,061
PILC	1	884	1	351	11	1,856	43	2,670	478	5,676	534	11,436
POLC	1	677	0	0	13	2,262	41	2,493	431	6,087	486	11,520
Total	6	4,628	14	5,317	193	30,935	640	38,982	5,056	68,019	5,909	147,881

Table 3.1.l: Tamarack Lowlands *Timber Lands* Existing Patch Type Summary

PATCH TYPE	Class 1: Large		Class 2: Medium-Large		Class 3: Medium		Class 4: Small-Medium		Class 5: Small		Tally of Patch Code in	Acres of Patch Code in
	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	Subsection	Subsection
PYUD	1	714	4	1,393	56	8,992	149	9,084	1,004	13,625	1,214	33,808
PIUD	0	0	0	0	17	2,346	60	3,559	426	6,240	503	12,145
POUD	0	0	2	934	7	936	37	2,149	494	6,052	540	10,071
PYXD	0	0	0	0	0	0	0	0	11	136	11	136
PIXD	0	0	0	0	6	1,000	25	1,590	130	2,017	161	4,607
POXD	0	0	0	0	1	306	11	687	31	457	43	1,450
PYLD	0	0	0	0	0	0	3	189	68	774	71	963
PILD	0	0	1	336	7	1,090	28	1,696	197	2,870	233	5,992
POLD	0	0	1	351	12	1,666	32	2,026	287	4,503	332	8,545
PYUC	0	0	2	850	6	919	17	910	297	3,352	322	6,032
PIUC	0	0	0	0	2	275	6	397	102	1,155	110	1,827
POUC	0	0	0	0	1	103	4	231	135	1,574	140	1,908
PYLC	0	0	9	3,584	21	3,434	49	3,090	223	3,208	302	13,317
PILC	4	3,943	14	6,634	63	12,347	74	4,666	569	7,985	724	35,574
POLC	4	4,097	13	5,874	34	6,061	75	4,900	444	6,210	570	27,143
Total	9	8,753	46	19,956	233	39,476	570	35,174	4,418	60,157	5,276	163,517

Table 3.1 m: Nashwauk Uplands *Timber Lands* Existing Patch Type Summary

PATCH TYPE	Class 1: Large		Class 2: Medium-Large		Class 3: Medium		Class 4: Small-Medium		Class 5: Small		Tally of Patch Code in	Acres of Patch Code in
	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	Subsection	Subsection
PYUD	0	0	4	1,555	34	4,823	89	5,631	454	6,538	581	18,546
PIUD	0	0	0	0	7	917	24	1,507	173	2,365	204	4,789
POUD	0	0	1	389	3	324	17	1,011	203	2,707	224	4,430
PYXD	0	0	0	0	1	125	0	0	7	96	8	220
PIXD	0	0	0	0	1	118	6	381	35	496	42	995
POXD	0	0	0	0	0	0	2	125	4	89	6	214
PYLD	0	0	0	0	0	0	1	56	15	184	16	240
PILD	0	0	0	0	0	0	0	0	31	310	31	310
POLD	0	0	0	0	0	0	9	526	121	1,691	130	2,218
PYUC	0	0	1	401	8	1,334	33	2,047	307	3,991	349	7,772
PIUC	0	0	0	0	3	398	7	464	135	1,640	145	2,503
POUC	0	0	0	0	0	0	3	201	53	610	56	811
PYLC	0	0	0	0	1	101	6	365	133	1,649	140	2,115
PILC	0	0	0	0	5	651	17	1,112	138	1,949	160	3,713
POLC	0	0	0	0	2	227	14	876	183	2,482	199	3,585
Total	0	0	6	2,345	65	9,018	228	14,301	1,992	26,796	2,291	52,460

Table 3.1.n: Littlefork-Vermilion Uplands *Timber Lands* Existing Patch Type Summary

PATCH TYPE	Class 1: Large		Class 2: Medium-Large		Class 3: Medium		Class 4: Small-Medium		Class 5: Small		Tally of Patch Code in	Acres of Patch Code in
	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	TALLY	ACRES	Subsection	Subsection
PYUD	0	0	3	1,191	110	17,235	291	17,713	1,940	27,474	2,344	63,613
PIUD	0	0	1	422	32	4,730	142	8,727	935	13,032	1,110	26,911
POUD	0	0	1	330	22	3,161	108	6,380	923	11,835	1,054	21,706
PYXD	0	0	0	0	0	0	1	53	6	94	7	147
PIXD	0	0	0	0	1	193	2	98	40	462	43	753
POXD	0	0	0	0	0	0	3	169	22	294	25	462
PYLD	0	0	0	0	1	113	10	575	199	2,604	210	3,292
PILD	0	0	0	0	3	381	25	1,545	290	3,749	318	5,674
POLD	0	0	0	0	19	3,078	95	5,549	733	10,482	847	19,109
PYUC	0	0	0	0	24	3,670	68	4,076	691	8,660	783	16,406
PIUC	0	0	0	0	12	1,839	35	2,051	383	4,632	430	8,522
POUC	0	0	1	343	5	769	29	1,685	386	4,899	421	7,696
PYLC	2	2,004	11	4,293	56	9,188	152	9,837	672	9,897	893	35,219
PILC	11	10,164	23	9,907	118	19,590	226	13,740	1,085	15,342	1,463	68,743
POLC	12	13,250	20	8,640	138	24,429	245	15,616	1,010	15,645	1,425	77,581
Total	25	25,419	60	25,126	541	88,376	1,432	87,813	9,315	129,100	11,373	355,834

“Designated” Patches

Maintaining *and* creating large (Class 1) and medium large (Class 2) old patches of managed upland forest on the landscape is a priority of this plan.

After analyzing the initial patch assessment data in relationship to other pertinent topics (e.g., forest management activities, rare species, forest interior wildlife species, species in greatest conservation need, key habitats, game species), the team, with input and review from field staff, identified 53 patches and future patches for patch management emphasis (Table 7.11 in Appendix N, Chapter 7). All 53 patches have a long-term goal of management to include components of older NPC growth stages. Forty-three of the designated patches direct this effort to size-class 1 and 2 patches, seven focus on size-class 3 patches, and three focus on size-class 4 and 5 patches. Although the case has been made for focusing on large patches, the inclusion of some smaller patch size-classes in the 53 designated patches provides the opportunity to practice old forest silviculture within a patch context at a variety of spatial scales. The intent is to set the stage in the short-term (10 years) for an improved distribution of patch sizes and age classes across the North 4 landscape over the long-term (50 years).

Delineation of the 53 patch boundaries was done by combining the initial patch assessment with documented and/or inferred upland forest NPC *system* boundaries. Each of the 53 designated patches is intended to contain one upland forest native plant community *system* (to be verified and adjusted per initial field assessment as outlined in the Strategies that follow). Each designated patch may contain a variety of cover-type groups (Table 3.1g) because large patches and potential large future patches in these subsections typically include mixed forest of multiple cover types.

Tables 3.1 o – 3.1 r provide a brief summary of the 53 designated patches. A unique code identifies each patch within the North 4 FIM dataset that provides a general idea of the patch direction. An example of a North 4 Designated Patch Code definition is as follows:

FPXXN: **F** = future patch (the group of stands do not currently meet patch definition; management is directed towards a desired future patch condition; if the group of stands do currently meet the patch definition the “F” is dropped from the code).
P = patch
XX = Patch management direction: **XD** = Northern Hardwoods; **UC** = Upland Conifers; **UD** = Upland Deciduous; **LD** = Lowland Deciduous; **WW** = Undefined direction to be determined by field evaluation
N = patch number (used in the master North 4 FIM shapefile to identify individual patches)

Specific locations and the stands included in the 53 North 4 designated patches can be found in the North 4 10-year FIM shapefile. A map showing general locations is provided on pages 7.129 and 7.130, and a table listing the 53 designated patches is provided in Appendix N, Chapter 7.

Table 3.1o: St. Louis Moraines Summary of Designated Patches

Designated Patch Type	Patch Size Class	Tally	Acreage
PXD	1	3	3,267
PXD	2	1	448
PUM	2	2	1,156
PUD	2	2	938
FPXD	1	3	3,039
FPXD	2	1	590
FPXD	3	1	153
FPWW	2	8	3,897
FPWW	3	1	157
FPUD	2	1	267
FPUC	2	4	1,463
FPUC	3	2	306
Total		29	15,681

Table 3.1p: Tamarack Lowlands Summary of Designated Patches

Designated Patch Type	Patch Size Class	Tally	Acreage
PLD	5	1	34
FPXD	1	1	904
FPWW	2	2	957
FPUC	3	2	381
FPUC	4	1	57
FPUC	5	1	26
Total		8	2,359

Table 3.1q: Nashwauk Uplands Summary of Designated Patches

Designated Patch Type	Patch Size Class	Tally	Acreage
PXD	2	1	611
FPXD	1	1	656
FPXD	2	2	1,189
Total		4	2,456

Table 3.1r: Nashwauk Uplands Summary of Designated Patches

Designated Patch Type	Patch Size Class	Tally	Acreage
PUC	2	1	620
FPWW	2	4	2,064
FPWW	3	1	227
FPUC	1	1	732
FPUC	2	5	2,682
Total		12	6,325

GDS-1D Strategies

a. Maintain or increase average harvest block size across the landscape.

During stand selection, the Remsoft model was programmed to group stands across the landscape as a way of increasing average patch size over time.

b. During assignment of fiscal years to 10-year stand exam list, group harvests within patches in close temporal proximity.

c. At the area level, using the *Coordination Framework*, initiate the following process for each of the designated patches within the patch:

- Develop short- and long-term plans for management of designated patches following the direction in this plan to either develop the desired future patch or retain features of an existing patch as the patch is managed.
- Classify the patch to NPC *type*. Collect NPC data sufficient to reliably classify the entire patch to NPC *type*. Develop patch management plans and silvicultural prescriptions that reflect application of NPC data.
- Identify all of the stands within the patch to be treated, and coordinate those treatments over the coming decade so that short-term actions complement the long-term patch goal.

d. For the long term (50 years+), manage designated patches to include characteristics of older NPC growth stages.

These conversions may occur in cover types such as aspen, birch, and balsam fir adjacent to, or within patches. This will occur through both natural succession and conversion through active management. See GDS-1B for forest composition goals. Possible management strategies include:

- Shelterwood harvest and protection of advance regeneration;
- Thinning and underplanting in even-age managed cover types;
- Enter some stands in the 0-10 age class to conduct thinning activities to begin long-term cover-type conversion (see GDS-9A);
- Group selection harvests to promote natural regeneration;
- Variable density and variable retention thinning within even-age managed cover types.

e. In the short term (10 years), apply management strategies that contribute to the long-term goal stated in (d) above.

Based on field evaluation,

- Some patches may warrant management toward a younger growth stage as an interim step to retain or build the integrity of the future old patch. Emphasize retention of older NPC growth stage components within *all* designated patches.
- Some patches may warrant allowing some stands to naturally succeed to the next growth stage as a means to achieve the long-term goal.
- All patches will require an explicit effort to combine cover type and NPC data in the short term in order to achieve the long-term goal.

f. For stands outside of the 53 designated patches, incorporate the initial patch assessment in stand-level decisions.

- Look for opportunities to build or retain patches that are lacking on the landscape as displayed in tables 3.1j through 3.1n above.
- When adding unplanned stands, consider their relationship to the initial patch assessment (i.e., Does the unplanned stand complement or hinder identified patch goals?).

g. When possible, cooperate with other landowners in patch management to maintain existing large patches and increase the average patch size across forest land of multiple ownerships.

- Efforts should be made to work with other landowners to identify other large patches not identified during this process.

GDS-1E: Managers of state lands in MCBS sites of statewide biodiversity significance implement measures to sustain or minimize the loss to the biodiversity significance factors on which these MCBS sites were ranked.

MCBS sites are areas of land, ranging from 10s to 1,000s of acres in size that contain intact native plant communities, populations and/or concentrations of rare species, critical animal habitat, and/or functional landscapes representative of pre-European settlement Minnesota. The MCBS “site” provides a geographic framework for evaluating and communicating statewide and regional biodiversity significance.

In order to provide a relative measure of how Sites of Biodiversity compare to each other, MCBS sites are ranked according to the four levels described below. Important factors influencing MCBS site ranks include:

- Rare species occurrences;
- Native plant community quality, rarity, and size; and
- Landscape context and presence/absence of landscape-level functions.

Sites of biodiversity significance serve as ecological reference areas that help us (1) improve our understanding of ecosystem form and function; (2) improve our understanding of Minnesota’s native biodiversity; and (3) evaluate the effects of management on biodiversity, rare species, native plant communities, and ecosystem form and function.

MCBS site boundaries are initially determined through aerial photo interpretation, a review of existing data, and/or remote sensing. These first drafts of MCBS sites are typically created before MCBS field survey initiation and are termed, “Survey Priority Areas.” Survey Priority Areas provide a framework in which to organize and prioritize field surveys within the survey area. Survey Priority Areas are delineated at a coarse level (i.e., the boundaries are general) and ranked as either having high survey priority or moderate survey priority (see below for more detail).

O - OUTSTANDING. MCBS sites containing the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes present in the state.

H - HIGH. MCBS sites containing the “best of the rest,” such as MCBS sites with very good quality occurrences of the rarest species, high quality examples of the rarest native plant communities, and/or important functional landscapes.

M - MODERATE. MCBS sites containing significant occurrences of rare species and/or moderately disturbed native plant communities, and landscapes that have a strong potential for recovery.

B - BELOW MCBS MINIMUM BIODIVERSITY THRESHOLD (BMT) FOR STATEWIDE SIGNIFICANCE. MCBS sites lacking significant populations of rare species and/or natural features that meet MCBS minimum standards for size and condition. These include areas of conservation value at the local level, such as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, and open space areas.

Hp - Preliminary Survey Priority of HIGH. An area exhibiting high potential for high quality and/or representative native plant communities, rare species occurrences and/or concentrations, and/or functional landscapes.

Mp - Preliminary Survey Priority of MODERATE. An area exhibiting moderate potential for high quality and/or representative native plant communities, rare species occurrences and/or concentrations, and/or functional landscapes.

Upon survey completion, MCBS Survey Priority Areas are revised (i.e., the boundaries are refined) resulting in MCBS sites of biodiversity significance that are ranked according to their statewide biodiversity significance. Sites of biodiversity significance may also be defined outside of Survey Priority Areas based on field survey results and final biodiversity significance interpretations for a survey area. The boundaries of MCBS sites are influenced by land-use history and/or notable differences in landforms, native plant communities, rare species occurrences, and/or Ecosystem Classification System (ECS) units (e.g., subsections).

Minnesota County Biological Survey biodiversity significance guidelines are applied statewide, but not all criteria may be applicable to all regions i.e, portions of the state are highly fragmented and completely lack significant components of functional landscapes whereas other portions of the state contain large, intact landscapes but lack rare species and/or rare native plant communities – yet both areas may share the same biodiversity significance rank based on the statewide significance of the features they each contain. Biodiversity significance rankings for some sites may need to be updated as survey work proceeds across the state to reflect new information and our growing understanding of Minnesota’s native biodiversity.

MCBS is currently at various stages within the North 4 planning area. Aitkin, Carlton, and Crow Wing counties are nearing completion. Itasca County is currently in-progress and portions of St. Louis, Koochiching, and Beltrami counties within the planning area are scheduled for survey initiation within the timeframe of this plan. (See process description in Section 5.5a on page 5.43, *Preliminary Issues and Assessment*).

Based on MCBS survey work completed as of September 2007, Table 3.1s provides a summary of biodiversity significance and survey priority rankings for MCBS sites that include state lands.

Table 3.1s: Summary of Biodiversity-Significance Rankings for MCBS Sites That Contain State-Administered Lands (May 2004)

Subsection	Rank	Number of MCBS Sites	Total MCBS Site Acres ¹	State Forest land ² Acres ¹	Timber Land ³ Acres ¹	Acres ¹ that Meet the 10-Year Stand Selection Criteria
St. Louis Moraines ⁴	O	0	0	0	0	0
	H	18	147,939	65,179	41,513	10,970
	M	38	169,206	43,167	29,059	9,208
	B	3	4,027	122	83	0
	Hp	12	197,372	36,937	25,321	4,246
	Mp	41	91,989	17,106	12,109	2,179
	Total	112	610,533	162,511	108,085	26,603
Tamarack Lowlands ⁵	O	0	0	0	0	0
	H	7	121,673	109,314	50,492	7,224
	M	20	74,244	67,651	29,617	7,173
	B	1	978	122	27	0
	Hp	10	59,072	9,274	5,655	310
	Mp	1	2,105	544	245	0
	Total	39	258,072	186,905	86,036	14,707
Nashwauk Uplands ⁶	Hp	0	0	0	0	0
	Mp	12	34,545	11,069	6,122	1,371
	Total	12	34,545	11,069	6,122	1,371
Littlefork Vermilion Uplands ⁶	Hp	0	0	0	0	0
	Mp	11	42,419	24,520	17,826	2,632
	Total	11	42,419	24,520	17,826	2,632

¹Acres are based on the intersection of shapefiles from DNR North 4 SFRMP forest inventory, MCBS sites, and SFRMP adjusted subsection boundaries. Minor acreage differences will occur when newer versions of these shapefiles (and MCBS sites) are used because of updates and/or adjustments to stand and MCBS site boundaries.

²Forest land acres include all cover types on lands administered by the Division of Forestry and the Division of Fish and Wildlife that are available for management. It does not include lands in a reserve status (e.g., old-growth stands and SNAs) or state park lands.

³Timber land acres include only the cover types that produce merchantable timber on lands administered by the Division of Forestry and the Division of Fish and Wildlife. It does not include stagnant cover types (e.g., stagnant spruce), lowland brush, etc.

⁴Subsection summary includes MCBS sites within Cass, Aitkin, Crow Wing, Carlton, and Itasca counties. MCBS sites have not yet been delineated within the St. Louis County portion of the subsection.

⁵Subsection summary includes MCBS sites within Aitkin, Crow Wing, and Itasca counties. MCBS sites have not yet been delineated within the St. Louis County portion of the subsection.

⁶Subsection summary includes MCBS sites within Itasca County only. MCBS sites have not yet been delineated within the remaining portions of the subsection.

Forest management activities such as timber harvesting, site preparation, access route construction and maintenance, and tree planting will occur on Forestry- and Wildlife-administered lands within MCBS sites following the guidance and directions contained in Chapter 3 – General Directions Statements and Chapter 4 – Cover-type Management

Recommendations. Forest management activities carried out in those MCBS sites determined to be of greatest concern or importance for SFRMP will emphasize the following strategies to help minimize the loss of the factors on which the MCBS sites were ranked.

GDS-1E Strategies

a. Determine which MCBS sites are of greatest concern or importance for SFRMP over the 10-year planning period.

MCBS sites of greatest concern or importance for SFRMP were determined to be those MCBS sites with state lands that have a biodiversity significance rank of Outstanding or High, or in survey priority areas with a rank of High. These MCBS sites represent the best occurrences of existing biodiversity significance, so they provide the greatest opportunity to sustain or minimize the loss to native biodiversity.

b. Consider the broader context and significance of the MCBS site as a whole when assigning management objectives and designing silvicultural prescriptions.

Management decisions should be made considering the broader context and factors that contribute to the significance of the MCBS site as a whole. Silvicultural prescriptions incorporate connections between stand-level actions and their effect on a site's biodiversity significance. Final management objectives will be carried out consistent with the *Coordination Framework*.

c. Determine location and composition of stand conversions based on NPCs. (GDS-3B)

Foresters will determine the NPC Class for stands planned for site preparation and tree planting forest development activities using the *Field Guide to the Native Plant Communities of Minnesota: the Laurentian Mixed Forest Province*. Additional information to help determine in which NPC class a stand is located will become available as MCBS completes NPC mapping for MCBS sites of outstanding and high statewide biodiversity significance, and as various other efforts continue to expand the collection and application of NPC data in Minnesota.

The NPC Field Guide and associated ECS Silvicultural Interpretations⁸, and information in Appendix P: Suitability of Tree Species by Native Plant Community, will help foresters determine appropriate management direction for the identified NPC.

Whenever possible and practical, manage stand cover-type conversions with less intensive site preparation or plantations with less intensive timber stand improvement (TSI).

d. Allow some stands to succeed to the next native plant community growth stage, with or without harvest. (GDS-1A, Strategy e.)

Most likely candidates for succession would be stands that contain adequate regeneration stocking levels and structural characteristics for the site to convert to a later growth stage. Other candidates would include stands whose location, condition, or rare species occurrences are critical factors to a site's biodiversity significance.

⁸ http://www.dnr.state.mn.us/forestry/ecs_silv/interpretations.html

e. Emulate the within-stand composition, structure, and function of NPC growth stages when managing stands in MCBS sites.

Determine which species to harvest and retain and the spatial and temporal arrangement of them based on NPC tree succession and disturbance ecology. DNR Forestry's ECS Silvicultural Interpretations will be used to make the link between stand-level considerations and NPC ecology.

Examples include:

- Coarse woody debris and snags – species, size class distribution, spatial distribution, availability through time;
- Leave trees and legacy patch selection and design are influenced by how the NPC would have been disturbed under natural conditions;
- Include super canopy trees as leave trees and in legacy patches;
- Diameter classes in uneven-age managed stands reflect the range and abundance expected for the NPC;
- Retain or create a legacy of species and structural features that are found in older growth stages, so that maintenance or movement of the stand towards other growth stages is an option. Natural disturbances rarely destroy all biological and physical features of the NPC, so older growth stage species and structures often persist in young stands regenerating from catastrophic disturbances;
- Use silvicultural techniques during forest management activities to recruit desired species through natural regeneration – leave trees that are likely to produce seeds, leave and remove trees that help create/maintain microclimate conditions favorable to seedling establishment and growth;
- Use gap management with varying gap sizes to encourage recruitment of desired species (e.g., yellow birch, white cedar, and white spruce) in northern hardwood stands;
- Use silvicultural techniques that take advantage of opportunities to increase recruitment of desired species from adjacent stands of the same and adjacent native plant communities; and
- Manage stands based on NPC boundaries recognizing that a change in cover type may or may not relate to a change in NPC.

f. Apply variable density thinning during harvest or reforestation.

Variable density techniques may be prescribed during the planning of timber sales and/or forest development activities. Using this approach, harvest (clearcut or thinning) and planting (or seeding) would be accomplished in a pattern (clumped or dispersed) that more closely replicates patterns created after natural disturbance. For example, retain legacy patches versus scattered reserves in clearcuts to retain islands of residual vegetation that include tree species present at older growth stages.

g. Apply variable retention harvest techniques during harvest.

The main objectives of variable retention are to retain the natural range of stand structure and forest functions. With retention systems, forest areas to be retained are determined before deciding which areas will be cut. Standing trees are left in a dispersed or aggregate form to meet

objectives such as retaining NPC form and function, old-growth structure, habitat protection, and visual qualities. Variable retention retains structural features (e.g., snags, large woody debris, and live trees of varying sizes and canopy levels) as habitat for a host of forest organisms.

- See legacy patches recommendations in *MRFC Voluntary Site-level Forest Management Guidelines, Wildlife Habitat Section, pages 43-47*.
- During harvest, retain tree species and diameters present at older growth stages, in clumps or dispersed, to more closely replicate pattern after natural disturbance. Include retention of large, downed logs. For example: Leave legacy patches throughout the stand; islands of residual vegetation that include tree species present at older growth stages.

h. Designate some stands as ERF to provide old forest conditions.

ERF designated stands will help maintain old forest conditions within MCBS sites and will retain older growth stages on the landscape for longer periods of time than stands managed as normal rotation forests. When ERF stands are harvested within MCBS Sites make efforts to retain the older forest components that are present in the stand or retain features that allow older forest components to continue developing.

i. Increase the use of prescribed fire as a silvicultural technique in managing fire-dependent NPCs.

j. Locate roads to minimize fragmentation of a MCBS site. (GDS-1D and 10)

Roads contribute to a decrease in interior forest conditions and an increase in terrestrial invasive species abundance. All efforts should be taken to minimize new road construction and enlarging existing roads/trails in MCBS sites.

k. Emulate natural disturbance conditions in large patch management. (GDS-1C)

In this plan, patches are considered to be “large” if they are 250 or more in size. Large patches include both even-age and uneven-age patches. Managing for and maintaining large patches on the landscape will minimize habitat fragmentation as well as provide valuable wildlife habitat for some species. Thirty of the 53 designated patches identified in this plan fall within MCBS sites of biodiversity significance or survey priority areas.

- Consider retaining more than the recommended number of leave trees in larger harvest sites (greater than 100 acres) because this would better mimic natural disturbances, such as fire and windstorm. (*MFRC Site-level Forest Management Guidelines, Timber Harvesting, Page 39.*)

l. Apply special management recommendations for known rare features, Species of Greatest Conservation Concern, and Key Habitats. (GDS-1G)

Rare features include rare plants, rare animals, and their habitats. Additional rare feature locations are likely to be discovered in these subsections. Management activities will be carried out in a manner that protects, maintains, or enhances rare features according to DNR policy and state statute.

Species of Greatest Conservation Need (SGCN) and Key Habitats are identified as part of Minnesota's Comprehensive Wildlife Conservation Strategy (CWCS). SGCN are defined as animals whose populations are rare, declining, or vulnerable to decline and are below levels desirable to ensure their long-term health and stability. Key Habitats are defined as those habitats most important to the greatest number of SGCN in a subsection. Minnesota DNR participates in the State Wildlife Grants Program (SWG), created by the US Congress in 2001. Congress mandated that to participate in the SWG Program, states, in partnership with other conservation agencies and organizations, must develop a Comprehensive Wildlife Conservation Strategy (CWCS) to identify and manage their SGCN. Management activities will be carried out in a manner that complements Minnesota's CWCS. See Appendix M on page 7.67 for more details.

m. Defer management of some stands that have been identified as having high conservation value for further assessment (e.g., EILC and nominated natural areas, and rare or representative ecosystems).

- Designated EILC stands will be reserved from treatment during this 10-year planning period or until old-growth guidelines or other EILC guidelines are in place. See Appendix D for more detailed information on EILC acre goals and rationale. *Note: EILC acres will be included in cover-type treatment acres calculations for this 10-year plan. Therefore, EILC designations will not cause a reduction in the treatment level in the black spruce, tamarack, and cedar cover types.*
- Other reasons that may lead to a recommendation to defer a stand from treatment include nominated old-growth, rare native plant communities, rare species habitat, or significant negative impacts to a site's biodiversity significance.

n. Consider timber productivity, trust responsibilities, and other forest management priorities when managing stands in these MCBS sites. (GDS-6)

- Land status and timber productivity will be considered while implementing the other strategies on stands identified for management.
- Areas will follow DNR policy regarding replacing stands that are deferred from treatment.
- Consistent with the *Coordination Framework*, other divisions will have an opportunity to review proposed preliminary MCBS sites.

o. Forestry, Wildlife, and Ecological Resources personnel will communicate with other landowners, as opportunities arise, to inform them of the significance of these MCBS sites and management options that could be implemented to address the biodiversity objectives of these MCBS sites.

For example:

- DNR resource management staffs will seek to implement stand-level management activities that achieve landscape-level biodiversity goals and objectives across ownerships.
- When assisting private landowners with woodland stewardship plans, provide information on the biodiversity significance of these MCBS sites.

- MCBS personnel will communicate and deliver information about priority MCBS sites of biodiversity significance to other landowners within these MCBS sites.

The intent of this strategy is to provide information on the MCBS sites and cooperate in forest land management across ownerships in the landscape when possible and agreed upon by the landowners affected. It is not meant to imply or mandate how other landowners should manage their lands.

GDS-1F: Rare plants and animals and their habitats are protected, maintained, or enhanced in these subsections.

Minnesota's List of Endangered, Threatened, and Special Concern Species (ETS List) was created in 1984 and was last revised in 1996. Created under Minnesota's Endangered and Threatened Species Statute, the ETS List draws attention to species that are at greatest risk of extinction within the state with special regulations applied to those species listed as endangered or threatened. By alerting resource managers and the public to species in jeopardy, activities can be reviewed and prioritized to help preserve the diversity and abundance of Minnesota's native flora and fauna. Because of the importance of the ETS List in influencing resource use and management activities in Minnesota, it is critical that it reflect the most current information regarding the distribution, abundance, and security of species within the state. Consequently, Minnesota law requires the ETS List to be periodically revised. Proposed changes to the ETS List are currently being reviewed. The latest ETS list revision is currently in-progress with rule-making estimated to be completed within the early years of this plan.

The DNR takes a leadership role in protecting and providing habitat for rare plants and animals in Minnesota by managing the listing of rare species in the state. Protecting rare plants and animals and their habitat is a key component of ensuring the continuance/long-term viability of Minnesota's species, community, and landscape-level biodiversity. Implementation of the strategies below will assist the DNR's ability to protect rare species and their habitats in these subsections.

GDS-1F Strategies

- e. Provide current rare features database (Natural Heritage Information System) to DNR staff through the DNR Quick Themes in ArcView.**

DNR staff from all divisions will have access to the most up-to-date rare features locations.

- f. Incorporate new rare features inventory information as the Minnesota County Biological Survey is completed in these subsections.**

- g. Select some ERF, OFMC, and EILC stands based on their association with rare features.**

When extended rotation forests (ERF), old forest management complexes (OFMCs), and ecologically important lowland conifers (EILC) stands were selected in these subsections, locations of rare species populations and conditions for rare species and their habitats were considered in the stand selections.

h. During the development of the 10-year stand examination list and annual stand examination lists, land managers check the rare features database and flag those stands proposed for treatment that include a rare feature for follow-up consultation.

If rare feature locations occur in stands proposed for treatment, land managers confer with the appropriate Wildlife or Ecological Services staff to determine if adjustments to proposed treatments are needed to protect the rare plant or animal, its habitat, or other rare features.

- The rare features database is regularly updated and available to area offices.
- Area staff persons are trained in the use of the Natural Heritage Information System and regularly consult the rare features database as management or development activities are planned and implemented.
- Stand selections or treatments are adjusted or stand prescriptions include mitigation measures to protect the rare plants or animals and their habitat within the stand. Often adjustments are to be deferred until the field visit (see next strategy).

i. Harvest prescriptions, access plans, and other management proposals identify and implement measures that protect rare features.

Prescriptions for stands selected for treatment, access routes, and other management or development activities include mitigation measures that protect the rare feature(s) within the stand. Mitigation includes measures that reduce the likelihood of the introduction or spread of exotic species (and the impacts of the control measures for exotic species, e.g., effects on rare species and/or habitat from use of herbicides to eradicate exotic species).

GDS-1G: Rare native plant communities are protected, maintained, or enhanced in these subsections.

Minnesota’s native plant communities (NPCs) have been evaluated and assigned an S-Rank based on the Heritage Conservation Status Rank (S-Rank) system developed by NatureServe⁹. The resulting S-Rank is a value (S1 to S5) assigned to a NPC type (or subtype) that best characterizes the relative rarity or endangerment of the NPC statewide (Table 3.1v).

Table 3.1t: Statewide Heritage Conservation Ranks (S-Ranks) for Native Plant Community Types

NPC Type S-Rank	Definition
S1	Critically imperiled.
S2	Imperiled.
S3	Rare or uncommon.
S4	Widespread, abundant, and apparently secure, but with cause for long-term concern.
S5	Demonstrably widespread, abundant, and secure.

⁹ NatureServe - In cooperation with the Network of Natural Heritage Programs and Conservation Data Centers. 2002. Element Occurrence Data Standard. Arlington, VA.

Appendix L provides a list of Native Plant Community (NPC) Types and Subtypes and associated Conservation Status Ranks for Minnesota² known or likely to occur in the North 4 subsections. *Note: As MCBS and native plant community interpretations progress across the North 4 subsections S-ranks will be revisited and refined as justified.* A complete list of the Statewide S-Ranks for NPC types in Minnesota is available from the DNR Natural Heritage and Nongame Research Program.¹⁰

Locations of the rare native plant community types or subtypes listed in Appendix L will be documented and may be assigned a relative rank for the quality of the NPC occurrence. Specifications for ranking the quality of NPCs are currently being revised by the MN DNR Division of Ecological Resources to complement the MN DNR's three-volume *Field Guide to the Native Plant Communities of Minnesota* (version 2.0). Generally, NPCs are ranked for quality based on factors associated with size, condition, and landscape context. The relative quality of the NPC is assigned on a continuum from "A" through "D", with an "A" rank indicating an excellent quality NPC, and a "D" rank indicating a poor quality NPC. The Conservation Status Ranks for Minnesota do not address relative quality although it is generally true that A quality examples are rarer than lower quality examples for any given NPC type or subtype.

Because MCBS is a primary source for NPC data and MCBS prioritizes survey efforts within MCBS sites, most documented locations of rare NPCs are within MCBS sites. However, there may also be locations of rare NPCs documented in areas outside MCBS sites. This will become more common as NPC data collection is being completed by other DNR Divisions and a growing number of cooperators within the North 4 subsections.

GDS-1G Strategies

- a. Complete the Minnesota County Biological Survey (MCBS) and document known locations of NPCs with a statewide rank of critically imperiled (S1) or imperiled (S2), and those NPCs with S-Ranks of S3 to S5 that are rare or otherwise unique in these subsections.**
- b. Manage known locations of critically imperiled (S1) or imperiled (S2) NPCs and those NPCs that are rare statewide or with limited occurrences in these subsections to maintain their ecological integrity.**

Where rare NPCs occur associated with a timberland cover type, vegetation management within and adjacent to these NPCs will protect, maintain, or enhance the ecological integrity of NPCs. Some locations of NPCs of concern are best managed by avoidance, while other sites can either be maintained or enhanced by using the appropriate harvesting or other forest management activities (e.g. application of ECS silvicultural interpretations).

DNR personnel have been trained in the use of the *Field Guide to the Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province* for identification of NPCs. Additional

¹⁰ Minn. DNR 2008. Conservation Status Ranks for Minnesota Native Plant Communities (October 2008). Minnesota Department of Natural Resources – Division of Ecological Resources. St. Paul, MN 55155.

ECS products, such as silvicultural interpretations for management of NPCs, have been developed for use by field staff for implementing ECS-based management on state lands.

c. Ecological Resources staff identified stands that are high quality examples of rare native plant communities. Those stands were removed from consideration for placement on the 10-year stand exam list.

Subsequent coordination between divisions of Forestry, Fish and Wildlife, and Ecological Resources staff will determine if adjustments to proposed treatments are needed to protect, maintain, or enhance the ecological integrity of the rare NPCs.

For a discussion of key habitats and species in greatest conservation need, go to GDS-1B, page 3.13.

3.2 Age-Class Distribution

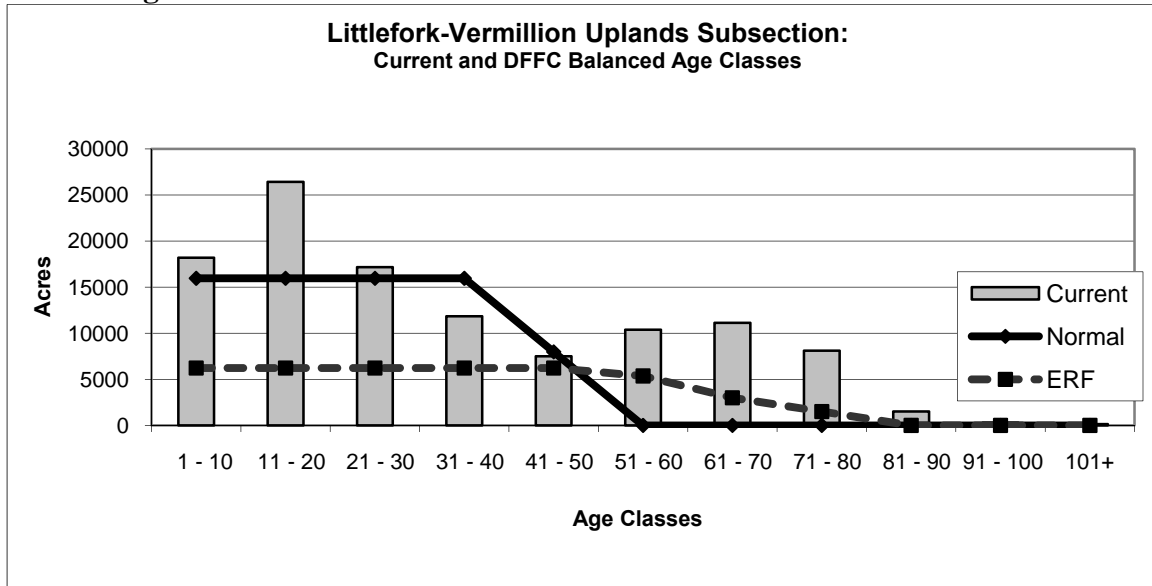
GDS- 2A: Even-age managed cover types will be managed to move toward a balanced age-class structure.

A balanced age-class structure has relatively equal acres in each 10-year age class out to the normal rotation age. A goal is to provide an even flow of wildlife habitat and timber harvest. A steady supply of these resources over time is important to wildlife, recreation, the forest products industry, and the local economies that depend on them.

The current age-class distributions of the aspen, balm of gilead, birch, balsam fir, black spruce, and tamarack cover types indicate an impending decrease in harvest age acres to varying degrees in the near future (10-20 years). This current imbalance of age classes is due to harvest and subsequent fires in the early 1900s, coupled with subsequent lack of markets and low harvest rates. As the second growth forest moves beyond normal rotation age, increased timber demand in recent years has provided an opportunity to create more forest in younger age classes and move these cover types toward a more balanced age over time. A goal is to minimize large fluctuations in harvest level to the extent possible.

Figure 3.2.a., for example, shows the current age-class distribution of the aspen/balm of gilead cover type and the desired future forest composition (DFFC) or goal of an even age-class distribution. The graph includes current conditions and goals for both cover-type acres managed under normal rotation ages and extended rotation ages (ERF).

Figure 3.2a: Comparison of Current Aspen/Balm of Gilead Age-Class Distribution to the Desired Age-Class Structure



The following strategy will be implemented to move even-age managed cover types toward a balanced age-class distribution.

GDS-2A Strategies

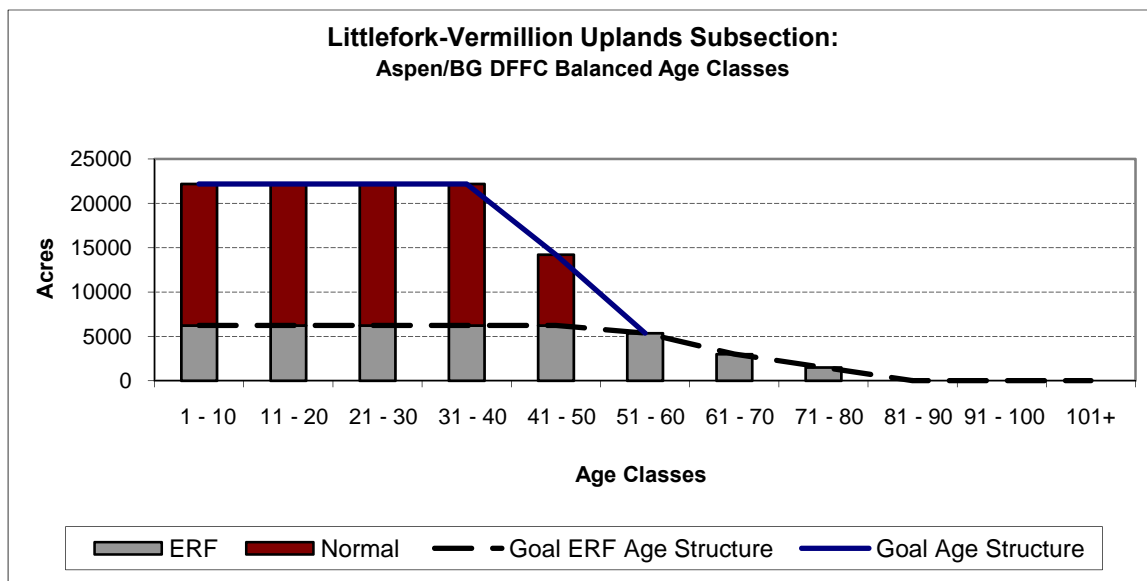
a. Target the selection of stand treatment acres to the appropriate age classes.

The Remsoft model was parameterized to attempt to balance age classes by selecting stands from specific age classes based on criteria developed during the planning process, including normal rotation age, maximum rotation age, and ERF percentage. Achieving a balanced age-class distribution for balsam fir and birch cover types was not possible due to the extent of the current age-class imbalance (see Chapter 4 for specific cover-type information). While it may not be possible to attain this balanced structure within 50 years, it can be accomplished more quickly by adjusting short-term harvest levels. This will also help minimize the effects of the impending decrease in harvestable acres.

GDS-2B: ERF stands in even-age managed cover types will be managed to achieve a declining age-class structure from the normal rotation age to the maximum rotation age.

DNR guidance to SFRMP teams requires the development of a declining age-class structure from normal rotation age to the determined maximum rotation age for each even-age managed cover type. Figure 3.2b shows an example for the aspen/balm of gilead cover-type DFFC for the Littlefork-Vermilion Uplands Subsection.

Figure 3.2b: Desired Age-Class Structure for the Aspen/Balm of Gilead Cover Type



The ERF goal for this cover type is to have 11.5 percent of the acres over normal rotation age (effective ERF) with a declining age-class distribution from normal rotation (45 years) out to the maximum age (80 years). Figure 3.2b illustrates the tapering off of the age-class distribution after age 40 because of the actual normal rotation age being 45 i.e., the mid-point of a ten-year age-class. Achieving the desired declining age-class structure requires harvest to occur between the normal rotation ages and the maximum rotation age.

ERF stands, when they are beyond the normal rotation age (11.5 percent of the cover-type acreage in this example), will provide old forest habitat, recreational opportunities of older forests, and opportunities for large-diameter timber product management.

The following strategies will be used to achieve the desired declining age-class structure in even-age managed cover types:

GDS-2B Strategies

- a. Prescribe ERF stands within even-age managed cover types so that each age class will be represented to produce a sustainable amount of old forest over time.**

The Remsoft model identified a list of ERF stands based on criteria provided by the team and reviewed by field staff (see GDS-1A, strategy b, on page 3.10: Model Criteria for Selecting ERF Stands). Old forest conditions in even-age managed cover types will be achieved by designating some stands in each of these cover types for ERF management. In addition to evenly distributing the designation of ERF stands among age classes, spatial considerations (e.g., patch management) will be used to develop and maintain desired old forest conditions. See GDS-1A.

- b. Target ERF treatment acres to the appropriate age classes to move toward the declining age-class structure after normal rotation age.**

The Remsoft model provided for the achievement of old forest conditions by harvesting appropriate acreages from each age class of ERF over normal rotation age. The remaining un-

harvested acres will contribute to old forest conditions until they reach the maximum rotation age.

GDS-2C: State lands will include representation of each of the Native Plant Community growth stages that historically occurred in these subsections.

Growth stages incorporate both horizontal and vertical developmental stages (stand structure changes over time) and successional stages (species composition changes over time) that occur after a disturbance. For example, in the Northern Wet-mesic Boreal Hardwood-conifer Forest (MHn44) NPC, there are three growth stages separated by one transition period.¹¹ In the past, growth stages developed through natural disturbances such as wind and fire. Now, growth stages additionally are emulated through forest management activities such as timber harvest, prescribed burns, and forest development activities.

These growth stages are very important to the wildlife species that inhabit these plant communities. Wildlife habitat and the species occurrence can vary with growth stage, for example, white-tailed deer may use the early growth stage of MHn44 for feeding but use the old forest and mature growth stage for winter thermal cover. Northern goshawks will not use the early growth stage of MHn44 but will use the old forest and mature growth stage for nesting and hunting. Songbird populations will change in MHn44 as the community matures, and will become more diverse as the structure becomes more complex with time.

The plan will not establish acreage goals for growth stages by ecosystem type or native plant community. The strategies in the plan will provide representation of all NPC growth stages. Young and intermediate growth stages are adequately represented on the landscape. Older growth stages are more of a concern; management strategies can provide some components of older growth stages in much younger stands by leaving coarse woody debris, snags, super canopy trees, and legacy patches. Stands can also be managed to maintain the existing growth stage or assist in moving the stand to the next older growth stage. Strategies below, the *Field Guide to Native Plant Communities*, and the *Silvicultural Interpretations* can provide options for accomplishing these goals.

GDS-2C Strategies

a. Determine growth stages stands selected for treatment in these Subsections.

Stands in this plan will be classified to NPC per DNR policy. Encourage the use of growth-stage information in developing stand management prescriptions.

b. Strive to emulate the within-stand composition, structure, and function of NPC growth stages when managing stands.

Focus on characteristics of older growth stages due to their relative rarity.

¹¹ Minn. DNR, 2003, *Field Guide to Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province*. Ecological Land Classification Program, Minnesota County Biological Survey, Natural Heritage and Nongame Research Program. Minnesota Department of Natural Resources St. Paul, MN 55155.

- c. **Consider the contribution of non-timber land cover types (e.g., stagnant conifer types), inoperable stands, and reserved areas (e.g., old growth, SNAs, state parks) in providing representations of growth stages.**
- d. **Designated representative ecosystems and High Conservation Value Forests per forthcoming DNR direction.**
- e. **Apply ECS Silvicultural Interpretations to management decisions.**

GDS-2D: Young, early-successional forest is distributed across the landscape over time.

The 0-30 age group of aspen, balsam poplar, birch, and jack pine cover types represents young, early successional forest in the context of this GDS. The desired long-term cover-type acres and balanced age-class distribution for these cover types will determine the amount of young forest planned to be sustained over time.

- Currently, these four cover types comprise 40 percent (see table 4.1 on page 4.5) of the managed acres in these subsections. Because of the goal to increase the acreage of conifers in these subsections, the long-term result of applying the plan strategies will be that these early successional cover types will comprise 35 percent of managed acres.
- Currently, the 0-30 age group of aspen, balsam poplar, birch, and jack pine cover types comprise 66 percent of the total acres in these four cover types. When a balanced age class is achieved, and conversions to conifers have been accomplished, the 0-30 age group will comprise 63 percent of the total acres in these four cover types. See tables 3.2k-o, following.

Table 3.2a: Littlefork-Vermilion Uplands Early-Successional Forest Cover Types – Acres by Decade

Early-Successional Forest Cover-type Acres Littlefork-Vermilion Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	110886	108692	99704	98964	97348	95593
Birch*	1434	1422	1219	1219	1219	1219
Jack Pine	7694	8165	10003	10151	10475	10826
Total	120014	118279	110926	110334	109042	107638

Table 3.2b: Nashwauk Uplands Early-Successional Forest Cover Types – Acres by Decade

Early-Successional Forest Cover-type Acres Nashwauk Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	23994	23249	20691	20691	20691	20691
Birch*	2686	2686	2686	2686	2686	2686
Jack Pine	2552	2643	3129	3129	3129	3129
Total	29232	28578	26506	26506	26506	26506

Table 3.2c: St. Louis Moraines Early-Successional Forest Cover Types – Acres by Decade

Early-Successional Forest Cover-type Acres St. Louis Moraines						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	64930	61594	58428	58428	58428	58428
Birch*	4050	3738	3486	3486	3486	3486
Jack Pine	2488	2620	2860	2860	2860	2860
Total	71468	67952	64774	64774	64774	64774

Table 3.2d: Tamarack Lowlands Early-Successional Forest Cover Types – Acres by Decade

Early-Successional Forest Cover-type Acres Tamarack Lowlands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	55034	53888	48290	48044	48044	47153
Birch*	1800	1744	1530	1530	1530	1530
Jack Pine	1845	1906	2313	2330	2330	2393
Total	58679	57538	52133	51904	51904	51076

Table 3.2e: North 4 Early-Successional Forest Cover Types – Acres by Decade

Early-Successional Forest Cover-type Acres North 4 Totals						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	254844	247422	227113	226127	224511	221865
Birch*	9969	9589	8921	8921	8921	8921
Jack Pine	14579	15335	18305	18470	18794	19207
Total	279392	272346	254339	253518	252226	249993

Table 3.2f: St. Louis Moraines Acres of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Acres of Cover Type Under 30 Years Old Littlefork-Vermilion Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	70568	69224	55577	53178	54031	60465
Birch*	525	1019	972	873	431	431
Jack Pine	4741	4463	5789	4435	5918	7104
Total	75834	74706	62338	58486	60380	68000

Table 3.2g: Nashwauk Uplands Acres of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Acres of Cover Type Under 30 Years Old Nashwauk Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	18657	17238	11627	10211	11049	11639
Birch*	871	2113	2620	1852	623	489
Jack Pine	1696	1540	1678	1240	1751	2080
Total	21224	20891	15925	13303	13423	14208

Table 3.2h: St. Louis Moraines Acres of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Acres of Cover Type Under 30 Years Old St. Louis Moraines						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	45131	44111	38472	37872	38096	38803
Birch*	2198	2684	2974	1563	1145	1644
Jack Pine	1739	1608	1602	1252	1399	1678
Total	49068	48403	43048	40687	40640	42125

Table 3.2i: Tamarack Lowlands Acres of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Acres of Cover Type Under 30 Years Old Tamarack Lowlands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	37048	38532	32656	31570	31617	31683
Birch*	886	1261	1279	688	555	574
Jack Pine	1159	808	1380	955	1437	1547
Total	39093	40601	35315	33213	33609	33804

Table 3.2j: North 4 Acres of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Acres of Cover Type Under 30 Years Old North 4 Totals						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	171404	169104	138332	132830	134794	142590
Birch*	4480	7077	7845	4976	2754	3138
Jack Pine	9335	8419	10449	7882	10505	12409
Total	185219	184600	156626	145688	148053	158137

Table 3.2k: Littlefork-Vermilion Percent of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Percentage of Cover Type Under 30 Years Old Littlefork-Vermilion Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	64	64	56	54	56	63
Birch*	37	72	80	72	35	35
Jack Pine	62	55	58	44	56	66
Total	63	63	56	53	55	63

Table 3.2l: Nashwauk Uplands Percent of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Percentage of Cover Type Under 30 Years Old Nashwauk Uplands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	78	74	56	49	53	56
Birch*	32	79	98	69	23	18
Jack Pine	66	58	54	40	56	66
Total	73	73	60	50	51	54

Table 3.2m: St. Louis Moraines Percent of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Percentage of Cover Type Under 30 Years Old St. Louis Moraines						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	70	72	66	65	65	66
Birch*	54	72	85	45	33	47
Jack Pine	70	61	56	44	49	59
Total	69	71	66	63	63	65

Table 3.2n: Tamarack Lowlands Percent of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Percentage of Cover Type Under 30 Years Old Tamarack Lowlands						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	67	72	68	66	66	67
Birch*	49	72	84	45	36	38
Jack Pine	63	42	60	41	62	65
Total	67	71	68	64	65	66

Table 3.2o: North 4 Percent of Young Forest in Early-Successional Cover Types by Decade

Young Forest – Percentage of Cover Type Under 30 Years Old North 4 Totals						
Cover type	Current	1st Decade	2nd Decade	3rd Decade	4th Decade	5th Decade
Aspen/BG	67	68	61	59	60	64
Birch*	45	74	88	56	31	35
Jack Pine	64	55	57	43	56	65
Total	66	68	62	57	59	63

Regulated harvest of aspen, balsam poplar, birch, and jack pine cover types will ensure that young, early-successional forest will be adequately represented over time. Stands retained in these cover types will be managed to move towards a more balanced age-class structure than currently exists, which will provide a more consistent amount of young forest over time. Most of the harvest in these cover types will occur through clearcut methods. Harvest prescriptions will attempt to mimic the intense wildfires and wind events that occurred naturally to initiate fully stocked, early successional forest. Maintenance of existing large patches and creation of additional large patches in the future will be accomplished by grouping of harvest activities and using a variety of harvest sizes. For aspen, balsam poplar, and jack pine, the emphasis will be on maintaining an adequate amount of young age classes on the landscape through a regulated harvest level. For paper birch, the focus will be on increasing regeneration of birch stands back to birch, especially during the current 10-year planning period.

Young, early successional tree species will also be present in other cover types. Many of the aspen and birch stands that are converted to other cover types will still have a significant component of aspen and birch within the stands (see GDS-1B, Strategy a. and Figure 3.1d). Many of these cover type conversions will occur in aspen and birch stands that are already in decline due to old age, insect or disease problems, or other damage agents.

GDS-2D Strategies

- a. Move aspen, balm of gilead, paper birch, and jack pine cover types toward a balanced age-class structure. (GDS-2A)**
- b. Increase the treatment level for the paper birch cover type. (GDS-9A)**
- c. Regenerate most paper birch harvest sites to well-stocked, young paper birch stands.**
See paper birch cover-type management recommendations in Chapter 4. In the birch cover type, there are currently very few acres (approximately 140 acres, or 0.4 percent of the cover-type acres) in the 0-30 age group.
- d. Maintain young, early successional forest in a variety of patch sizes to provide habitat for the associated species.**
A variety of harvest sizes will be used while maintaining existing large patches and creating opportunities for large patches in the future by grouping of harvest activities. (GDS-1C)

3.3 Within-Stand Composition and Structure

GDS-3A: Species, age, and structural diversity within some stands will be maintained or increased.

Diverse forest stands are more resilient to perturbations than less diverse forest stands. A forest stand with a mix of tree species and ages provides habitat for a wider variety of associated species while providing a diversity of forest products. The net economic, social, and ecological values and functions of most forest stands are related to the composition of trees, shrubs, ground flora, and structural characteristics. Structural characteristics include the sizes (diameter and height), abundance and distribution of overstory trees understory vegetation, and their arrangement (scattered or clumped) within the stand. Structural characteristics also include the presence or absence of snags and coarse woody debris and how these features are distributed through space. Retaining large-diameter structures provide micro-sites for seed germination, cavities for nesting and den sites, and important escape and nesting cover within stands.

GDS-3A Strategies

- a. Use selective harvesting to encourage diversity of species, ages, and stand structures.**

See the cover-type management recommendations in Chapter 4.

- b. Implement the *Site-Level Guidelines* designed to maintain a diversity of tree species within a stand.**

The MFRC guidelines provide direction on retaining leave trees and snags, conifer retention and regeneration, and timber stand improvement (TSI) activities, among others.

c. Use the NPC Field Guide,¹² site index, soils data, and ECS Silvicultural Interpretations to aid in determining the species composition and structure most appropriate for the site.

d. Retain tree species, stand structure, and ground layer diversity within stands when prescribing timber stand improvement and thinning activities.

- Rather than managing for one tree species when thinning or performing TSI, manage for the variety of species found in the stand.
- Based on current stand composition and other considerations (e.g., insect and disease concerns or wildlife habitat), take advantage of opportunities to diversify stands when prescribing thinning. Thinning intensities in stands may vary depending on current stand condition, such as trees per acre, tree size, and species composition, or the future desired within-stand composition.

e. Reserve seed trees in harvest areas and site preparation areas, where possible.

Resistance to windthrow, insect and disease risks, and the quality, number, and distribution of seed trees must all be considered when selecting seed trees.

- Timber harvesting techniques and site preparation methods that expose mineral soil may be used on some sites to facilitate natural seeding.
- Select seed trees that have the potential to survive to produce seeds.

f. Use the least intensive site preparation methods possible to ensure success.

Site preparation can create conditions favorable to invasive species and alter structural diversity in the ground layer. Striving to minimize site preparation intensity will minimize these threats.

g. Use harvest systems or methods that protect advance regeneration. Retain conditions that favor regeneration and understory initiation.

When it is desirable to protect the existing seedlings and saplings in a stand, timber sale regulations will specify outcomes to protect these regenerating trees. In some cases, portions of the stand will be delineated to protect regeneration by restricting harvest activity in those areas. To enhance seedling recruitment of some species, a partial canopy may be retained to meet needed moisture and light requirements of the seedlings.

h. Identify some stands where succession is allowed to occur to encourage development of within-stand diversity. Movement to the next successional stage may be achieved with or without harvest.

Use field evaluation of stands to determine if a stand should be allowed to succeed to the understory species. This strategy will meet some of the forest composition change goals. Consult *NPC Field Guide* and ECS Silvicultural Interpretations for help in reaching these decisions.

¹² Minn. DNR, 2003, *Field Guide to Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province*. Ecological Land Classification Program, Minnesota County Biological Survey, Natural Heritage and Nongame Research Program. Minnesota Department of Natural Resources St. Paul, MN 55155.

i. Increase and/or maintain by reserving from harvest, target species including white pine, jack pine, white spruce, upland cedar, oak, yellow birch, and upland tamarack as a component within appropriate cover types. Silvicultural practices that may add or increase the presence of these target species will include planting, interplanting, and artificial or natural seeding.

These target species historically were more abundant than at present, both in terms of number and distribution. These target species are important to wildlife and biodiversity, as well as providing a variety of forest products over time. The *NPC Field Guide*, site index, soils data, and ECS Silvicultural Interpretations, and observations that the species is now naturally occurring and doing well on the site, can aid in determining the appropriate species for the site.

j. Manage planted and seeded stands to represent the array of plant diversity.

Planted and seeded stands will be managed to meet aesthetic and biodiversity goals. This may be accomplished by:

- Accepting lower stocking levels of planted species in younger plantations if other desirable species are present.
- Planting or seeding mixed species appropriate to the site.
- Using intermediate harvests to enhance age, species, and structural diversity.
- Use the least intensive site preparation necessary to successfully regenerate the site, while favoring retention of the existing ground-layer plant species.

Some plant communities can naturally exhibit low species diversity. Low species diversity can be natural and has occurred historically in peatlands and in association with large-scale disturbances, particularly fire.

k. Use ERF in some even-age managed stands to encourage greater structural diversity.
(GDS-1A)

l. Encourage fruit and mast-producing species.

Follow the *Site-Level Guidelines* for retaining and enhancing hard and soft mast (fruit) production.

GDS-3B: Some stands on state lands will be managed to reflect the composition, structure, and function of native plant communities.

A *native plant community* (NPC) is a group of native plants that interact with each other and the surrounding environment in ways not greatly altered by humans or by introduced plant or animal species. These groups of native plants form recognizable communities (e.g., northern mesic mixed forest, northern mesic hardwood forest, northern basin-rich spruce swamp NPC classes) that tend to repeat across the landscape and over time. The goal is to retain NPC characteristics in some managed stands.

This GDS differs from GDS-3A in that it emphasizes managing for the suite of species, growth stages, and disturbance regimes appropriate to the NPC class or type identified using the NPC Field Guide. Whereas GDS-3A emphasizes species, age, and structural diversity in and of itself

without direct connection to the native plant community. In managed stands, defining tree species diversity and relative abundance, age-class distribution, and structural diversity within a native plant community paradigm lends support to the development and/or maintenance of NPC composition, structure, and function through time. Forest management that incorporates native plant community form and function is more likely to accommodate a greater proportion of Minnesota's native biodiversity than forest management focused on a single or select group of species.

GDS-3B Strategies

- a. Continue to use the *Field Guide to the Native Plant Communities in Minnesota: the Laurentian Mixed Forest Province* and associated ECS Silvicultural Interpretations to classify stands to NPC and inform silvicultural prescriptions.**
- b. Follow strategies in GDS-2C relating to retaining components of various growth stages in stands.**

3.4 Wildlife Habitat

GDS-4A: Adequate habitat and habitat components exist, simultaneously at multiple scales, to provide for nongame species found in these subsections.

*Nongame*¹³ species are an important indicator of the biological health of the forest and are important to society for their inherent values. Legal statutes, public expectations and desires of interest groups, and Department of Natural Resources (DNR) internal policies require the consideration of nongame species in the management of state-administered lands. The DNR strategic plan *Directions 2000* (Minnesota DNR 2000) calls for an objective of “healthy self-sustaining populations of all native and desirable introduced plant, fish, and wildlife species, especially those species listed as threatened or endangered.”

These subsections are important to the tourism industry in Minnesota^{14, 15}. Many tourists appreciate and seek out opportunities to observe nongame species during their trips to this area, where they have a chance to see a number of species that are rare elsewhere, such as the timber wolf, great grey owl, gray jay, black-backed woodpecker, snowy owl, and common loon.

There are 214 nongame species known or predicted to occur within these subsections¹⁶. Each species has different habitat requirements, some of which conflict. Individual consideration of management needs for each species is therefore impossible to accomplish with a single approach across the planning area¹⁷.

¹³ In this plan, *nongame species* include amphibians, reptiles, and those mammal and bird species that are not hunted or trapped.

¹⁴ U.S. Fish and Wildlife Service. 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. *National Overview*. Issued May 2007.

¹⁵ U.S. Fish and Wildlife Service. *Wildlife Watching in the U.S.: The Economic Impacts on National and State Economies in 2006*.

Addendum to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation Report.2006-1.

¹⁶ Minnesota DNR. 2007. *North-4 Subsections Preliminary Issues and Assessment*. Pp 7.2-7.33.

¹⁷ Minnesota Department of Natural Resources, 2006. *Tomorrow's Habitat for the Wild and Rare*:

Several management techniques will be considered to ensure that the subsections are managed to maintain and enhance the habitat of nongame species. The two primary approaches are:

A *coarse filter* approach (Hunter, 1990¹⁸) emphasizes management of forests from a local to landscape scale to: maintain the integrity of ecosystem processes, maintain components of the range of historic habitats and age classes, and retain/enhance structural attributes within habitats. In using a coarse filter approach, it assumes that a broad range of habitats encompassing the needs of most species will be met, and their populations will remain viable on the landscape. Habitat analysis and management emphasis in this plan were primarily done at this level.

A *fine filter* approach considers the specific habitat needs of selected individual species that may not be met by the broader coarse filter approach. Providing habitat at this level will be guided primarily by department policies and guidelines that provide recommendations for habitat management at this finer level for a number of species, such as state or federal listed species (e.g., bald eagle).

A *meso filter* focuses on conservation of critical ecosystem elements such as structures (logs, snags, pools, springs, streams, reefs, and hedgerows) and processes (fire, flooding) that would be missed by a coarse or fine filter. An example of how these three scales work would be that a meso filter would focus on coarse woody debris (CWD), the processes that created the CWD, and the features it provides to associated biodiversity; a coarse filter would focus on the ecosystem in which the CWD exists, while a fine filter would focus on a species that may use the CWD.¹⁹

GDS-4A Strategies

a. Provide old forest distributed across the landscape.

Old forest includes stands that are beyond the normal rotation age established for the cover type. There are 126 nongame species within the subsections that are associated with old forest and old forest conditions such as large-diameter trees and/or uneven-age successional stages. Examples of species are osprey, great gray owl, northern goshawk, hairy woodpecker, and northern flying squirrel. Designation and maintenance of areas to be managed for old forest conditions across the landscape over time (GDS-1A and 2B) will ensure available habitat for many of these species. Extended rotation forests (ERF) and designated old-growth forest are examples.

An Action Plan for Minnesota Wildlife, Comprehensive Wildlife Conservation Strategy. Division of Ecological Services, Minnesota Department of Natural Resources.

¹⁸ Hunter, M.L. 1990. *Wildlife, Forests, and Forestry: Principles of Managing Forests for Biodiversity*. Prentice-Hall Inc., Englewood Cliffs, N.J.

¹⁹ Hunter, Malcolm L. Jr. A Mesofilter Conservation Strategy to Complement Fine and Coarse Filters. *Cons. Bio.* Vol.19, No. 4. August 2005.

b. Provide young forest distributed across the landscape.

Young forest in this plan refers to stands that are 0-30 years old. There are 59 nongame species within the subsections that are associated with young forest or young forest condition such as seedling and/or sapling successional stages. Examples of species are chestnut-sided warbler, red-tailed hawk, mourning warbler, and gray wolf. Areas managed for young forest conditions (GDS-2A and 2D) will provide young forest habitat across the subsections.

c. Provide a variety of patch sizes across the landscape that better reflect patterns produced by natural disturbances, and attempt to maintain existing large patches.

Providing a variety of patch sizes that better reflect the patterns created by natural disturbance factors (GDS-1C) and efforts to reduce the effects of habitat fragmentation (GDS-1D) will help provide habitat for nongame species with different patch size requirements. See also GDS-1C: Patches.

d. Manage to retain the integrity of riparian areas and provide protection for seasonal and permanent wetlands.

Many nongame species are associated with forested wetlands or the riparian forest interface. These areas also serve as movement corridors for additional species. Consideration for the health and integrity of riparian areas (GDS-5A) and protection or mitigation of other wetlands (GDS-5B) will serve to provide such needs.

- Apply the *Site-Level Guidelines* relating to riparian areas and seasonal and permanent wetlands.

e. Provide for the needs of species that depend on perches, cavity trees, bark foraging sites, and downed-woody debris.

A number of species rely on tree perches, existing tree cavities or available trees that can be excavated to provide a cavity, insect foraging sites on dead or dying trees, or downed trees or slash for roosting, nesting, or cover. Historically, natural processes provided these habitat needs. Today, the frequency and size of these processes have declined.

- Use the *Site-Level Guidelines* relating to leave trees, snags, and coarse woody debris to provide these important habitat features.

f. Provide for the needs of species associated with conifer stands and mixed conifer/hardwood stands.

A number of nongame species found within the subsections have some association or dependence on coniferous trees, whether within conifer-dominated stands or in various mixes of conifer/hardwood stands²⁰ (see Appendix L: Wildlife Habitat Relationships). Several conifer species (white pine, white spruce, jack pine, and tamarack) have declined significantly from historic levels in these subsections.²¹ The following strategies will be used to meet coniferous habitat needs:

²⁰ Green, J.C. 1995. *Birds and Forests: A Management and Conservation Guide*. Minnesota Department of Natural Resources.

²¹ Minnesota DNR. 2007. *North 4 Subsections SFRMP Preliminary Issues and Assessment*, Table 3.4.

- Increase acres of long-lived conifer cover types through active management in appropriate NPCs to naturally succeed to conifer types, or by increasing mixed forest conditions in some stands (GDS-1B).
- Increase the presence of some conifers as a component of other cover types (GDS-3A).
- Follow the conifer retention guidelines found in the *Site-Level Guidelines*.
- Apply the Cover-type Management Recommendations (Chapter 4).

g. Provide for creation and maintenance of within-stand diversity.

Managing for a mix of tree species and ages along with a diversity of structural characteristics (e.g., tree diameter, tree height, and scattered or clumped distribution) in some stands will provide conditions for species that require within-stand diversity (GDS-3A).

h. Manage to favor native plant communities and retain elements of biodiversity significance.

Habitat for nongame species associated with highly diverse native plant communities will be provided by the following strategies:

- Identify and manage high-quality and/or rare native plant communities so they are maintained or enhanced (GDS-1F).
- Use the NPC Field Guide and associated Silvicultural Interpretations to manage some stands to reflect the composition, structure, and function of native plant communities (GDS-3B).
- Maintain or increase biodiversity, where ecologically appropriate, within areas of statewide biodiversity significance (GDS-1E).

The long-term goal of moving forest composition toward the range of natural variation (GDS-1B) will also produce habitat for species associated with natural disturbance processes and native plant communities.

i. Consider Natural Heritage Program data and other rare species information during development of both the 10-year and annual stand examination lists.

Natural Heritage Program data will be available and considered during the 10-year and annual stand examination selection process. Before groundwork begins, field staff will check the database for known locations of rare nongame species in stands planned for treatment (GDS-1G) and, if present, will seek advice from appropriate staff or refer to established guidelines or considerations on avoiding negative impacts to these species.

j. Apply the DNR management recommendations for habitats of nongame species (e.g., gray wolves, bald eagles, wood turtles, northern goshawk, 4-toed salamander) as described in DNR guidelines and policies.²² Follow recommendations in the *Forestry Wildlife Habitat Management Guidelines*²³ manual, apply considerations provided in Ecological Resources Rare Species Fact Sheets.

k. Provide a range of habitats for short-distance and long-distance (neo-tropical) migratory birds.

²² Minnesota DNR. 2007. *North 4 Subsections SFRMP Preliminary Issues and Assessment*, Figure 1, p. xv.

²³ Minnesota DNR. 1985. *Forestry-Wildlife Guidelines to Habitat Management*.

According to breeding bird monitoring work in northern Minnesota (e.g., NRRI Technical Report: NRRI/TR-2005/04²⁴; USFWS Breeding Bird Survey; Audubon Christmas Bird Counts; DNR's State Wildlife Action Plan), there have been significant declines in populations for some neo-tropical birds. Widespread declines have been reported for ground nesting birds and species found mainly in mature forest habitats. Birds with lowland coniferous, deciduous, mixed forest, and early-successional vegetation-type preferences also showed widespread declines in these subsections. Strategies have been developed throughout this plan that address the need to maintain or enhance habitat for both short-distance and long-distance (neo-tropical) migratory birds, especially those with declining trends in these subsections. For example, see GDS-1A, Old Forest; GDS-1C, Patch Management; GDS-1E, MCBS Sites; GDS-3A, Within-stand Diversity; and strategies in this GDS-4A, Habitat for Non-game species. Using a coarse filter approach, patch management, ERF, providing a range of age-classes from young to old, within-stand diversity, etc., provide a range a habitats for a variety of species, including neo-tropical songbirds. At a finer scale, some stands have been identified where management recommendations and objectives for forest birds (e.g., scarlet tanager) should be considered.

GDS-4B: Adequate habitat and habitat elements exist, simultaneously at multiple scales, to provide for game species found in these subsections.

Game²⁵ species are an important indicator of the biological health of the forest and are important to society for their recreational, economic, and inherent values. Legal statutes, public expectations, the desires of interest groups, and DNR internal policies require the consideration of game species in the management of state-administered forest lands. The DNR strategic plan, *Directions 2000*, states that an “objective is healthy, self-sustaining populations of all native and desirable introduced plant, fish, and wildlife species,” and for “populations of fish, wildlife and plant species to sustain recreational opportunities.”²⁶

The abundance of public forest land in the subsections draws many hunters and trappers to the area each fall. Ruffed grouse, woodcock, black bear, and white-tailed deer hunting traditions are long-standing and important to local economies. Trappers come from across the state to target thriving populations of fisher, beaver, bobcat and marten.

The North 4 team utilized available information and review by field staff to identify and approve the following open landscape priority LTAs within the planning area: Koochiching Peatlands, Cook Till Plain, Rausch Till Plain, Effie Till Plain, Little-Big Fork Till Plain, and Ericsbug Till Plain within the Littlefork Vermilion Uplands subsection; Warba Lake Plain, Floodwood Peatlands, Esquagama Sand Plain, Aurora Till Plain, Moose-Willow Peatlands, and Palisade Lake Plain in the Tamarack Lowlands subsection; and Wright Till Plain, Rice Lake Moraine, and Automba Drumlin Plain within the St. Louis Moraines subsection.

These subsections are important to the tourism industry in Minnesota. Many tourists appreciate and seek out opportunities to observe game species during their trips to this area, where they

²⁴ Lind, J., Danz, N., Hanowski, J, and Niemi, G. *Breeding Bird Monitoring in Great Lakes National Forests 1991-2004; 2004 Annual Update Report*. NRRI/TR-2005/04. Natural Resources Research Institute, Duluth, MN. 27p. PDF document at: www.nrri.umn.edu/mnbirds/

²⁵ In this plan, *game* species include those terrestrial species that are hunted and trapped.

²⁶ Minnesota DNR. 2000. *Directions 2000: The Strategic Plan*. St. Paul, MN.

have a chance to see species such as the black bear, white-tailed deer, spring waterfowl, and spruce grouse.²⁷

Ecologically, there have been historic and more recent changes to these subsections that have affected game species and their habitat:

- Changes in the abundance of tree species, age structure of the forest, and structural and species diversity;
- Loss of larger patches and connections between such patches;
- Increased habitat fragmentation from roads, trails, and development; and
- Alteration of natural fire disturbance events.

Both natural events and forest vegetation management through stand treatments, and the locations of these, have the potential to positively or negatively affect game species.

There are 42 game species known or predicted to occur within the four subsections. Each species has different habitat requirements, some of which conflict. Individual consideration of management needs for each species is therefore impossible to accomplish with a single approach across the planning area. To ensure that the subsections are managed to maintain and enhance the habitat of game species, a number of management techniques will be considered using both a coarse filter approach and a fine filter approach (GDS-4A).

GDS-4B Strategies

a. Provide young forest distributed across the landscape.

Young forest in this plan refers to stands that are 0-30 years old. There are 13 game species within these subsections that are associated with young forest or young forest conditions such as seedling and/or sapling successional stages (see Appendix L: Wildlife Habitat Relationships). Some examples of these species are white-tailed deer, black bear, snowshoe hare, ruffed grouse, and woodcock. Areas managed for young forest conditions (GDS-2A and 2D) will provide a distribution of young forest habitat across the subsections.

b. Provide old forest distributed across the landscape.

Old forest includes stands that are beyond the normal rotation age established for the cover type. There are 24 game species within these subsections that are associated with old forest and old forest conditions, such as large-diameter trees and uneven-age successional stages (see Appendix L: Wildlife Habitat Relationships). Some examples of these species are fisher, marten, spruce grouse, hooded merganser, and white-tailed deer. Designation and maintenance of areas to be managed for old forest conditions across the landscape over time (GDS-1A and 2B) will ensure available habitat for many of these species. Designated old-growth forest and ERF stands are examples of strategies that provide old forest values across the landscape.

c. Provide a balanced age-class structure in cover types managed with even-age silvicultural systems.

²⁷ U.S. Fish and Wildlife Service. Wildlife Watching in the U.S.: The Economic Impacts on National and State Economies in 2006.

A balanced age-class structure leads to relatively equal acreages in each age class out to the normal rotation age. To provide an even flow of early successional forest habitat, it is necessary to avoid large fluctuations in harvest levels within the aspen, balsam of gilead, birch, jack pine, and balsam fir cover types. By beginning now, to address current age-class imbalances to move toward a future balanced age-class structure (GDS-2A, 2D, and 9A and aspen, balsam of gilead, birch, and balsam fir cover-type recommendations), future sustainability of game species habitat will be enhanced.

d. Increase the productivity and maintain the health of even-age managed cover-type stands.

There are 13 game species that rely on dense young seedling and/or sapling stage successional stages within even-age managed cover types for food or cover. Managing to improve stocking levels in these stages and maintain health and vigor (GDS-2D and GDS-6) will help to ensure that density of young trees and shrubs will be suitable for game species. Managing prescribed ERF aspen, balsam of gilead, birch, and balsam fir stands with a declining age-class structure from the normal to maximum rotation ages (GDS-2B and aspen, balsam of gilead, birch, and balsam fir cover-type recommendations) will ensure that stands are harvested before they become too old to be regenerated back to the same cover type.

e. Provide for the needs of species associated with conifer stands and mixed conifer/ hardwood stands.

A number of game species found within the subsections have some association or dependence on coniferous trees for food and/or cover needs, whether within conifer-dominated stands or in various mixes of conifer/hardwood stands (see Appendix L: Wildlife Habitat Relationships). Several conifer species (white pine, white spruce, jack pine, and tamarack) have declined significantly from historic levels in these subsections. The following strategies will be used to increase conifers:

- Increase acres of long-lived conifer cover types through active management, allow some stands to naturally succeed to conifer types, or increase mixed forest conditions in some stands (GDS-1B).
- Increase the presence of some conifers as a component of other cover types (GDS-3A).
- Follow the conifer retention guidelines found in the *Site-Level Guidelines*.
- Apply the Cover-type Management Recommendations (Chapter 4).
- Patch management in some cases will emphasize conifer NPCs.

f. Provide for creation and maintenance of within-stand diversity.

Managing for a mix of tree species, ages, and structural characteristics (such as tree diameter and height, and scattered or clumped distribution) in some stands will provide conditions for species that require such diversity (see GDS-3A).

- Apply the *Site-Level Guidelines* for leave trees, snags, coarse woody debris, riparian management zones, conifer and mast species retention and regeneration, and road maintenance or closure.

g. Continue to manage special management areas for the benefit of game species.

Most management benefiting game species in the subsections will occur as a result of decisions designed to meet multiple objectives, the application of which will move across the landscape over time (coarse filter). In some cases, areas have been and will continue to be selected with the intent of maintaining the areas over time to provide specific game species benefits (fine filter). Following are examples of areas selected for specific game species management:

- Manage ruffed grouse management areas to: Maximize diversity of age classes in the upland deciduous cover types.
 - Maximize the age difference between adjacent stands.
 - Clump rather than scatter reserved conifers and snags while following *Site-Level Guidelines*.
 - Harvest stands near normal rotation ages and in 10 - 30 acre blocks.
- Maintain upland shrub communities.
 - Consider management of shrub species and aspen clones within riparian management areas.
 - Create or maintain wildlife openings for woodcock and hunter use.
- Manage deer yard management areas to:
 - Maintain and/or increase the white cedar cover type or white cedar component within other cover types.
 - Maintain or increase the conifer component in aspen, balm of gilead, and birch cover types.
 - Emphasize browse production within or near conifer winter cover.
- Manage priority open landscape areas (OLAs) for the benefit of wildlife species (e.g., sharp-tailed grouse, yellow rail, sandhill crane, bobolink):
 - Utilize available information and review by field staff to identify and approve open landscape projects within designated OLAs in the planning area;
 - Apply Remsoft model input criteria that discourages placement of ERF in OLAs;
 - Apply Remsoft model input criteria that allow selection of younger-aged hardwood stands for even-age management during stand selection modeling;
 - Coordinate across divisions on management prescriptions for selected stands within OLAs in a manner that enhances open landscape habitat conditions (e.g., create larger blocks of even-age cover types managed with a clearcut prescription, minimize snag and leave tree presence in the interior of harvest blocks, discourage conifer planting);
 - Coordinate across divisions on management projects designed to enhance open landscape conditions in OLAs (e.g., prescribed burns, shearing, or mowing of brush).

3.5 Riparian and Aquatic Areas

GDS-5A: Riparian areas are managed to provide critical²⁸ habitat for fish, wildlife, and plant species.

Riparian areas encompass the transition zone between the terrestrial and aquatic habitats that occurs along lakes, streams, and open-water wetlands. A *riparian management zone* (RMZ) is that portion of the riparian area where site conditions and landowner objectives are used to

²⁸ *Critical habitat*: habitat or habitat elements that must be present and properly functioning to assure the continued existence of the species in question.

determine management activities that address riparian resource needs. Riparian areas are among the richest habitats in these subsections. The management of riparian areas can influence water quality, water temperature, erosion rates, and deposition of woody debris in lakes and streams and the overall diversity of wildlife and plant species found in the watershed. Riparian areas provide corridors and connecting links of habitat for plant and wildlife species. Well-managed riparian areas are critical to protect, maintain, or enhance aquatic and wildlife habitats, aesthetics, recreation, water quality, and forest products.

The emphasis for riparian areas along all trout streams in these subsections will be to manage for longer-lived, uneven-age, mixed-species stands to better maintain cold-water temperatures in these streams. For other riparian areas, manage for the appropriate species for the site, which may include a range of age classes and forest types within and adjacent to these riparian areas.

GDS-5A Strategies

a. Apply the *Site-Level Guidelines* relating to riparian areas.

Some examples from the guidelines are:

- Manage for longer-lived, uneven-aged, mixed-species stands within the RMZ to provide:
 - Shade and moderated microclimate
 - Coarse woody debris
 - Microhabitat diversity
 - Resiliency to natural catastrophes
 - Bank stability
 - Nutrient cycling and carbon and nutrient input
- Manage for long-lived conifers as an option where beaver are to be discouraged near water bodies.
- Avoid creating large cleared areas within the RMZ.
- Maintain a filter strip between the water body and harvest area.
- Approach water crossings at or near right angles to the stream direction, and use measures to minimize streambank disturbances.

DNR forestry personnel check the application of riparian guidelines as a part of timber sales supervision and inspections. Also, MFRC site-level monitoring will periodically sample sites in these subsections as part of the monitoring program at the statewide level. The objective of this statewide monitoring program is to evaluate the implementation of the *Voluntary Site-Level Forest Management Guidelines* through field visits to randomly selected, recently harvested sites distributed across the various forest land ownerships (state, county, national forest, tribal, forest industry, non-industrial private lands, etc.) in the state.

b. Manage to maintain or increase old forest in riparian areas.

The Remsoft model was programmed to identify ERF in riparian areas prior to stand selection. Old forests provide the best source of woody debris in aquatic systems and habitat for a wide variety of wildlife species. Longer rotation age reduces the frequency of future harvest activities and may provide opportunities for a wider variety of forest products. Old forest management complexes and EILC stands in riparian areas will be managed to maintain or increase old forest conditions.

c. Using the NPC Field Guide and associated ECS Silvicultural Interpretations, manage for a species appropriate for the site. Emphasize conifers where appropriate and discourage aspen and birch in the RMZ.

Shorter-lived species such as aspen and birch should not be encouraged next to trout streams. Beaver use these species for food and building dams, which can affect both aquatic and terrestrial habitat. In some riparian areas, it may be appropriate to manage for aspen, birch, and brush cover types. Retaining some deciduous species in RMZs is important for organic matter and nutrient inputs from leaf fall (allochthonous inputs).

d. Follow the recommendations in the St. Louis Cloquet Whiteface Corridor Management Plan.

The *St. Louis Cloquet Whiteface Corridor Management Plan (1994)* includes recommendations for forest management zones adjacent to the St. Louis, Cloquet, and Whiteface rivers. The Tier One Zone extends 200 feet outward from the top of the riverbank. The Tier Two Zone extends out as far as ½ mile from the Tier One Zone. Most of the management recommendations and objectives are similar to those recommended in this SFRMP.

e. Follow recommendations in Tomorrow's Habitat for the Wild and Rare.

This document identifies Species in Greatest Conservation Need and associated Key Habitats.

GDS-5B: Forest management on state lands adequately protects wetlands and seasonal ponds.

Wetland areas include lowland forested areas (such as black ash, black spruce, tamarack, and white cedar cover types), lowland brush and lowland grass cover types, and seasonal ponds. These areas are protected using different site-level forest management guidelines than those required for riparian areas adjacent to lakes, streams, and rivers or permanent open water ponds.

GDS-5B Strategies

a. Apply the *Site-Level Guidelines*.

Some examples of recommendations from the guidelines are:

- Maintain filter strips.
- Avoid disturbances such as ruts, soil compaction, excessive disturbance to litter layer, and addition of fill.
- Use timber sale planning and administration to ensure that skidding and other equipment operations in upland stands take place outside of small non-open water wetlands and seasonal ponds. Meet with permittee/operator on site before the start of the permit activities to review details of the wetlands and protection measures within the sale area, and periodically visit the site during the harvest operation.
- Leave-tree guidelines recommend selecting leave trees in clumps, islands, or strips centered around or that coincide with small non-open water wetlands and seasonal ponds.

DNR forestry personnel will check the application of wetlands and seasonal pond guidelines as a part of their timber sales supervision and inspections.

b. Areas will consider landforms in their work areas (e.g., end moraines) that have seasonal ponds and small open-water wetlands, and address those features in site-specific prescriptions that are developed during the stand examination field visit.

End moraines have a high concentration of seasonal ponds that are easily missed if field evaluations occur outside of spring and early summer seasons. Identification of landforms important for vernal pools, or seasonal wetlands, will help in their identification year-round.

For a discussion of key habitats and species in greatest conservation need, go to GDS-1B, page 3.13.

3.6 Timber Productivity

GDS-6: Timber productivity and quality on state timber lands is increased.

Increasing the timber productivity of state forest lands is a way to continue to provide the current (or greater) harvest volume and improve timber quality, while managing some lands with less emphasis on timber productivity. Increases in timber productivity can be achieved during this 10-year plan by accelerating the rate at which we address the age-class imbalance over current levels, increasing intermediate stand treatments, converting to site-appropriate species, and continuing to protect soil productivity by applying the site-level guidelines.

GDS-6 Strategies

a. Move toward harvesting even-age managed non-ERF stands at their normal rotation age (see GDS-2A and 9A).

b. Examine all stands over maximum rotation age in even-age managed cover types.

Some past SFRMPs have addressed this through identification of high risk low volume stands (HRLV).

c. Thin or selectively harvest in some aspen, balm of gilead, birch, white pine, red pine, balsam fir, white spruce, northern hardwoods, lowland hardwoods, ash, and oak stands to capture mortality and/or increase growth rates.

These treatments may be prescribed for both normal rotation stands and ERF stands. This plan has developed a pool of stands that will be evaluated for thinning or selective harvest (see Chapter 4, Cover-type Management Recommendations). Thinning in jack pine types is not standard procedure in the North 4 Subsections, but may be considered on appropriate NPCs, with coordination per the *Coordination Framework* to explore innovative techniques, and with the intention of meeting specific SFRMP management objectives. The amount of thinning will depend on whether stands meets merchantability criteria based on a field examination, and whether there are markets for the timber.

d. Include silvicultural treatments such as site preparation, interplanting, release from competition (e.g., herbicide application or hand release), and timely thinning in plantation management, to increase productivity.

See GDS-3A, Strategy i, for strategies to maintain plant diversity within plantations.

The use of pesticides (herbicides, insecticides, etc.) will be minimized. When they must be used to control competing vegetation or forest insects and diseases on state lands, the following operational standards will be followed:

- DNR Operational Order No. 59 - Pesticides and Pest Control
- Division of Forestry - Pesticide Use Guidelines
- Pesticide Labels
- Material Safety and Data Sheets for each pesticide and adjuvant being used or recommended
- *MFRC Site-Level Guidelines* relating to pesticide use

e. Apply and supervise the implementation of the *Site-Level Guidelines* on treatment sites.

f. Continue to implement, supervise, and enforce current DNR timber sale regulations to protect and minimize damages to sites or residual trees from treatment activities.

For example, avoid damage to residual trees during harvest or thinning operations.

g. Manage some ERF stands for large diameter, high-quality sawtimber products by retaining adequate stocking and basal area.

h. Respond to insect and disease problems, as appropriate. (GDS-7A)

3.7 Forest Pests, Pathogens and Exotic Species

GDS-7A: Limit damage to forests from insects, disease, and exotic species to acceptable levels where feasible.

Forest insects and disease organisms influence forest ecosystem dynamics. At acceptable levels, they promote diversity of tree species and generate important elements of forest structure that are important as habitat and in nutrient cycling, such as snags and coarse (large) woody debris. However, epidemic populations of insect pests can cause high levels of tree mortality, and can have significant ecological and economic consequences. Native and introduced diseases can cause significant species-specific losses in volume and mortality. Forest management will not attempt to eliminate native insects and diseases or their processes from the landscape, but rather to limit their impact on individual sites to a level that allows goals for timber production, water quality, aesthetics, recreation, wildlife, and biodiversity to be realized.

Natural resource managers are concerned about the introduction and establishment of exotic insect, disease, and plant species on public land. Invasion of forest ecosystems by exotic species can cause significant economic losses and expenditures for control because they destroy or displace native plants and animals, degrade native species habitat, reduce productivity, pollute native gene pools, and disrupt forest ecosystem processes (e.g., hydrological patterns, soil

chemistry, moisture-holding capability, susceptibility to erosion, and fire regimes). Examples of exotics with known adverse effects on Minnesota forest resources include: white pine blister rust, gypsy moth, and European buckthorn. There is potential for significant adverse impacts from other species present in these subsections, such as: tansy, spotted knapweed, purple loosestrife, and leafy spurge. Management will seek to minimize impacts from these species, limit the introduction of new exotic species, and minimize the impact of control measures on vulnerable native species.

Local introductions and spread of harmful exotic plants can happen through several activities. Forest management activities have significant potential as an avenue for unintentional introductions of exotic plants, especially in less developed portions of the subsections. Global warming effects and a variety of insect and disease concerns (e.g. oak wilt (*Ceratocystis fagacearum*), two-lined chestnut borer (*Agrilus bilineatus*), gypsy moth (*Lymantria dispar*), and armillaria root rot (*Armillaria spp.*) may impact oak management on some sites. Establishing and promoting practices that minimize these introductions will slow the spread of harmful exotics and reduce the associated losses.

GDS-7A Strategies

a. Identify and monitor insect, disease, and harmful exotic species populations as part of the Forest Health Monitoring Program and document their occurrence on state-managed lands.

Early identification and risk assessment of new exotic species introductions improve potential to develop and implement appropriate responses. Monitoring known insect and disease pests, conditions conducive to outbreaks, and populations of harmful exotic plants can provide useful information for predicting potential outbreaks and documenting and predicting range expansion. Involve private landowners and local units of government in gathering and disseminating information. This information helps determine when and where preventive measures to limit impacts or control action must be taken.

Mutually established protocols for data collection and information sharing among federal (U.S. Environmental Protection Agency, U.S. Department of Agriculture) and state agencies improve capacity to respond to the spread of established exotic species into new areas, new species introductions, and outbreaks of established pests and diseases.

b. Follow Minnesota DNR Operational Order 113 (Invasive Species) to minimize the spread of invasive exotic species during forest management activities.

c. Adhere to the Minnesota DNR 2010 Invasive Species Program Directive

http://files-intranet.dnr.state.mn.us/forestry/manuals/roadManual/invasiveSpecies/rdman_invasivespeciesprogramdirective091201.pdf

d. Manage existing forest insect and disease problems, as appropriate.

Information gathered and provided by the agencies mentioned above is used as a basis for decisions regarding where and when insect and disease problems require action involving vegetation management.

Prepare collaboratively developed intervention plans *before* pest outbreaks (e.g., the strategic plan for the cooperative management of gypsy moth in Minnesota involving Minnesota DNR, Minnesota Department of Agriculture, USDA-APHIS, and USDA-FS). These plans detail appropriate integrated pest management strategies, circumstances under which strategies can be appropriately and effectively used, responsibilities, and cost-sharing arrangements. Containment and eradication measures will seek to minimize impacts from these species, while minimizing the impact of control measures on vulnerable native species.

If pesticides are needed to control forest insects and diseases on state forest lands, the following operational standards will be used:

- DNR Operational Order No. 59 - Pesticides and Pest Control
- Divisions of Forestry and Fish and Wildlife - Pesticide Use Guidelines
- Pesticide Labels

Refer to Material Safety and Data Sheets for each pesticide and adjuvant being used or recommended.

- *MFRC Site-Level Guidelines* relating to pesticide use.

e. Manage stands to reduce the potential impact of insects and diseases.

- Develop management plans and stand treatment prescriptions using the DNR Forest Development Manual and other recognized insect and disease management sources, while considering ecological processes and functions and impacts to native species and habitats.
- Provide information and training via logger education programs to equipment operators and tree fellers regarding techniques that minimize damage to retained trees (e.g., leave trees or crop trees).
- Emphasize the use of fire in management for prevention of insect and disease outbreaks (e.g., regeneration, residual stem, and slash management in black spruce stands to reduce the spread of eastern dwarf mistletoe disease).

f. In ERF stands, a higher level of impact from native insect and disease infestations may be accepted as long as it does not jeopardize the ability to regenerate the stand to the desired forest cover type or the management goals of the surrounding stands.

This will enhance old forest conditions within these subsections. Retaining the potential to regenerate the stand will be the primary objective, except in stands where a conversion is planned to another type not at risk from a damaging agent.

GDS-7B: Reduce the negative impacts caused by wildlife species on forest vegetation on state forest lands.

Wildlife species such as deer, hare, porcupine, beaver, and other rodents impact forests and plant regeneration through browsing, stem damage, and girdling. Solutions require an understanding of the dynamics of herbivory, seasonal wildlife movements, population structure, population control tools and their effectiveness, and proven repellents or exclusion methods. Keys to success include coordination between department staff, adequate funding, and sharing information regarding successful exclusion or abatement methods. The management strategies below attempt to minimize adverse impacts.

GDS-7B Strategies

a. Improve field staff knowledge about the complexity of factors that affect solutions to preventing or reducing damage caused by wildlife. Do this through training and/or field level coordination on sites where problems exist.

- Conduct training sessions addressing the factors that affect damage, potential solutions, and prevention based on research and experience.
- Coordinate field visits at problem sites with area wildlife staff and the appropriate land manager.
- Collect information from damaged sites for database entry and analysis of wildlife damage.
- Use the expertise of the DNR – Section of Wildlife’s Depredation Program and research units when regeneration plans call for use of repellents or exclusion techniques.

b. Consider the potential for wildlife impacts to planted or natural regenerating trees before damage occurs. Coordinate on preventative strategies before planting or timber sales begin.

- Work with area wildlife staff to identify sites where significant damage may occur before forest management activities occur. Where necessary, incorporate plans for post-sale damage mitigation into forest regeneration and development plans.
- In riparian areas, favor tree species less palatable to beavers.

c. Focus forest regeneration efforts in areas less likely to be negatively impacted by wildlife species.

- Avoid unprotected plantings of susceptible species (i.e., those known to be a preferred food source such as white cedar and white pine) near known seasonal deer concentration areas.
- Avoid planting susceptible species in locations surrounded by habitat attractive to ungulates without some plan for protection from browsing.
- In mixed species plantations, scatter susceptible species amongst less susceptible ones.
- In larger mixed species plantations, plant susceptible species in the middle of the site.

d. On sites where damage from wildlife species is anticipated, use mitigation techniques to reduce damage when planting susceptible tree species.

- Favor planting on sites where edge (irregular boundaries) is minimized.
- Plant larger sites.
- Plant susceptible species away from the edge of the site.

- Use protective measures such as fenced exclosures, bud capping, repellents, tree shelters, etc.
- To more efficiently implement protection control measures, clump plantings and/or locate them to be easily accessible.

e. When deciding what to plant, consider species or stock sources (if available) that are less palatable to wildlife.

- Consider the potential for seedling damage and/or growth reduction from wildlife damage in selection of susceptible species planting stock.

GDS-7C: Forest management on state lands attempts to mitigate global climate change effects on forest lands. Management is based on our current knowledge and will be adjusted based on future research findings.

Minnesota DNR recognizes that climate change, also known as global warming, is occurring at a rate that exceeds historical levels, and that the rate is likely to continue to increase. A growing body of evidence overwhelmingly supports the conclusion that climate change is real and will have serious implications for people and the natural world upon which we depend.

In an important step forward for Minnesota's environment, Governor Tim Pawlenty appointed a Minnesota Climate Change Advisory Group in 2007. The new group is part of the Governor's Next Generation Energy Initiative and will develop a comprehensive plan for reducing the state's greenhouse gas emissions. "Our global climate is warming, at least in part due to the energy sources we use," Governor Pawlenty said. "We cannot solve it by ourselves, but we need to lead and do our part. We also need to push for an effective national and international effort."

Minnesota DNR is supporting the Governor's climate change initiative with the following programs:

Minnesota Forests for the Future (Forest Land Easements) Forest easements are a cost-effective tool for retaining forest lands in private ownership and maintaining important recreational opportunities, wood products production, fish and wildlife habitat, and climate change mitigation by capturing and storing carbon dioxide from the atmosphere. State funding will provide for easement acquisition or acquisition of interests in lands by fee title, gift, or donation. These efforts will prevent development and conversion of forest land, provide forest values in perpetuity, and allow landowners to continue to manage forests sustainably for timber and other products while retaining land in private ownership.

Several climate models (e.g., atmospheric-ocean general circulation models²⁹) in use around the world predict global climate change. The Intergovernmental Panel on Climate Change refers to climate change as any change in climate over time, whether due to natural variability or as a result of human activity. The models agree that average temperatures are increasing and predict

²⁹ IPCC. 2001. Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). [Houghton, J.T., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 881pp.

more variable changes in precipitation. This global warming will affect forests and wildlife in Minnesota.^{30,31}

Scientists believe the predicted climate change will affect the size, frequency, and intensity of disturbances such as fires, windstorms, and insect outbreaks. It will affect the survivorship of existing plant and animal species and the distributions of plants and animals. Even at modest levels, independent studies are finding mounting evidence that the current climate change influences plant and animal ranges and behavior.³² Some plant and animal species may not be able to adapt to the rate of change. Increases in the reproductive capability and survivorship of exotic species, insect pests, and pathogens will impact forests and wildlife. Certain tree species, such as black spruce, balsam fir, birch, and jack pine will respond negatively to increased soil warming and decreased soil moisture in. Carbon sequestration by forests and wetlands may be affected because of accelerated decomposition rates.

Most tree species in Minnesota reach the limit of their geographic range somewhere within the boundaries of the forested portion of the state. Predictions have been made on the potential future distributions of trees.³³ There is a need to facilitate species adaptation to change in response to possible rapid climatic changes.

Although there are uncertainties about the effects of climate change on forest vegetation at the subsection scale, the following strategies will be used to help monitor and mitigate the predicted effects of climate change on vulnerable species and native plant communities.

GDS-7C Strategies

a. Maintain or increase species diversity across the subsections.

The forest composition and within-stand diversity goals of this plan will provide a more diverse forest across the four subsections. By maintaining a variety of species at the stand and landscape levels across these subsections, the forest will be more resilient, more genetically diverse, and will utilize a broader range of site conditions (i.e., niches). This variety will assist the forest to survive as well as serve as a reproductive source for forest plant and animal migration in the face of accelerated climate change. Maintaining species diversity at multiple scales will minimize the risk of widespread, stand-replacing insect and disease outbreaks that could result from accelerated climatic change.

b. Maintain or increase structural diversity across the subsections.

Structural characteristics include the size (diameter and height), abundance and distribution of overstory trees, understory vegetation, and their arrangement (scattered or clumped) within the stand. Structural characteristics also include the presence or absence of snags and coarse woody

³⁰ Weflen, K., *The Crossroads of Climate Change*. Minnesota Conservation Volunteer, January-February 2001, Minnesota Department of Natural Resources, St. Paul, MN.

³¹ Pastor, John, personal communication at March 13, 2003 North Shore SFRMP meeting. Natural Resources Research Institute, University of Minnesota-Duluth.

³² Root, T. et al., *Fingerprints of Global Warming on Wild Animals and Plants*, Stanford University, Nature- January 2, 2003; and Parmesan, Camille, *A Globally Coherent Fingerprint of Climate Change Impacts Across Natural Systems*, University of Texas.

³³ Iverson, L, et al. 1999. *An Atlas of Current and Potential Future Distributions of Common Trees of the Eastern United States*. Gen. Tech. Rep. NE-265. Radnor, PA. USDA Forest Service. Northeastern Research Station. 245 p.

debris and the way these features are distributed in space. Appropriate structural types, amounts, and arrangements vary by native plant community and growth stage. By maintaining or increasing structural diversity across these subsections, the forest will provide habitat to a greater number of species than a forest with uniform structural diversity. For example, large-diameter structures, both standing and lying on the ground, provide micro-sites for seed germination, cavities for nesting and den sites, and important escape and nesting cover within stands. This variety will assist the forest to survive as well as serve as a reproductive source for forest plant and animal migration in the face of accelerated climate change.

c. Maintain connectivity that permits the migration of plants and animals as climate changes the landscape.

Maintaining NPC spatial patterns where patches of vegetation are connected will allow the flow of plants, animals, and processes (e.g., seed dispersal) between suitable habitats. The ability of species to move to a new more hospitable site is a critical survival tactic. The following are some of the techniques that have been used during the planning phase to address this strategy:

- Stands selected for patch management were located to increase their effective patch size or to increase connectivity between patches and adjacent NPCs.
- ERF stands were grouped on the landscape and placed around old-growth stands and along riparian corridors.
- Remsoft was programmed to group selected stands to maintain and/or create larger patches and minimize fragmentation.

The following are some methods for addressing this strategy during plan implementation:

- Where available, MCBS sites of biodiversity significance are used as a means to identify, quantify, compare, and monitor NPC spatial patterns as they relate to North 4 SFRMP direction.
- Classification of stands to NPC and application of *ECS Silvicultural Interpretations* provide a means to maintain NPC spatial patterns on managed lands.
- Plan harvests to minimize road construction and landings.
- Stand management incorporates actions that minimize the potential for invasive species establishment.

d. Evaluate site conditions with respect to climate change when selecting tree species for regeneration.

- Use the NPC Field Guide, associated silvicultural references, existing tree distributions, and modeled future tree distributions when selecting the species most appropriate for the site.

e. Use the concept of carbon sequestration to remove carbon dioxide (the most significant anthropogenic greenhouse gas) from the atmosphere.

Climate models (e.g., *Hadley Centre for Climate Prediction and Research-UK, carbon cycle models*) predict that, as future atmospheric carbon dioxide concentrations increase, global temperatures will increase. Forests have the ability to remove carbon dioxide through photosynthesis and to store the carbon as woody material. Carbon is stored in all parts of the forest including living plants, dead plants, fallen leaves, and soil. The storage of carbon is called

carbon sequestration. Carbon also remains stored in wood that is harvested and processed into wood products.³⁴ The carbon remains stored in wood until it is gradually released through slow decay or is released rapidly when it is burned.

Forest management activities, such as ensuring existing stands are adequately stocked and ensuring regeneration is adequate after harvest, sequester carbon. Basically, any activity that provides healthy and productive forests will increase carbon sequestration. In this plan, stands in a wide range of age-classes will be evaluated for treatment. Increasing the stocking and growth rate of timber will help in sequestering carbon. Stands will be field examined to determine if there is sufficient advance regeneration. If the site lacks adequate regeneration, silvicultural techniques will be used that result in a more fully stocked stand. Stands that contain a variety of tree species are more likely to fully occupy a site, increasing the overall wood volume grown on the site. Increasing the woody biomass over what is currently on these under-stocked sites will help sequester carbon. The following are some examples of forest management strategies in this plan that will help in carbon sequestration:

- Examine stands for treatment from a wide range of age-classes.
- Balance the age-class distribution in even-age managed cover types.
- Emphasize longer-lived species.
- Designate forest stands to be managed as extended rotation forest (ERF).
- Reserve and maintain old-growth forests.
- Increase timber productivity in managed stands.
- Retain leave trees, legacy patches, snags, and coarse woody debris on harvested sites.
- Minimize roads and landings.
- Minimize slash burning.
- Utilize biomass for alternative energy supplies.
- Manage for quality timber with lower defect levels that will be available for a wider range of uses and require less processing.

f. Maintain or increase conifers adjacent to coldwater streams to moderate the microclimate that provides a cooling effect in warm weather and retains a snowpack longer, slowing discharge in the spring.

- Follow the *Site-Level Guidelines* for riparian corridors.
- See Riparian GDS-5A.

g. Apply the *Site-Level Guidelines* for tree species at the edge of their range (*Rationale for Guidelines Section, Wildlife Habitat, pages 26-35*).

3.8 Visual Quality

GDS-3.8: Minimize forest management impacts on visual quality in sensitive areas.

³⁴ Heath, L. 2000. *Carbon Sequestration: Yet Another Benefit of Forests*. Forest Legacy Program. USDA Forest Service, Durham, NH.

Scenic beauty is a primary reason people choose to spend their recreation and vacation time in or near forested areas. Where forests are near recreational trails, lakes, waterways, public roads, and highways, consider impacts of forest management activities to the visual quality of the site during and after management activities.

GDS-8 Strategies

a. Apply the *Site-Level Guidelines* on visual quality on all vegetative management activities.

The MFRC guidelines contain many recommended forest management techniques that will minimize the impacts of vegetative management activities on visual quality. *Directions 2000 (Objective 3.3)*³⁵ states that the “DNR will apply the appropriate guidelines so that visual quality is not adversely impacted during forest management activities.” Several examples of the recommended techniques included in the guidelines are listed below:

- Minimize visibility of harvest areas by limiting the apparent size of the harvest area.
- Avoid management operations during periods of peak recreational use whenever possible.
- Locate roads and trails to minimize visibility from nearby vantage points, such as scenic overlooks, streams, and lakes.
- Encourage long-lived species and other visually important species (e.g., paper birch) along high visual quality identified roadways. This will minimize the frequency of management activities. It will also provide larger-crowned, larger-diameter trees that improve forest aesthetics.
- Reduce visual penetration with appropriate curves in the road alignment.

DNR forestry staff checks the application of visual quality guidelines as a part of timber sales supervision and inspections. Roads have been classified based on visual quality ratings.

Classifications can be viewed on the DNR Web site at:

http://www.dnr.state.mn.us/forestry/visual_sensitivity/index.html

3.9 Harvest Levels

GDS-9A: The SFRMP treatment level for each cover type moves toward the desired age-class structure of even-age managed cover types (both normal and extended rotation forest), and improves the age-structure and timber quality of uneven-age managed cover types.

SFRMP treatment levels reflect the number of acres that will be divided into annual stand examination lists and field visited over the 10-year period. After field visits, treatments may include timber harvest, inventory alteration (i.e., correcting or updating forest inventory data), forest development without harvest, or deferring treatment (treat in a future planning period).

Treatment levels were developed for this plan by considering the other General Direction Statements (GDSs), and specifically the following factors:

- Age-class imbalances for even-age managed cover types

³⁵ Minnesota Department of Natural Resources, *Directions 2000: The Strategic Plan*, Objective 3.3, p22.

- Acres over rotation age
- Representation of young and old forest
- Planned increases or decreases in cover-type acreages through conversion
- Supply of timber
- Criteria for uneven-age management and thinning

Table 3.9a: Rotation Ages for Even-Age Managed Forest Cover Types by Subsection

Abbreviations: SI = site index; MA = merchantable age; NRA = normal rotation age; MRA = maximum rotation age

Subsection	Aspen				Balm of Gilead				Birch				Oak ¹			
	SI	MA	NRA	MRA	SI	MA	NRA	MRA	SI	MA	NRA	MRA	SI	MA	NRA	MRA
Littlefork-Vermilion Uplands	All	30	45	80	All	30	45	80	All	35	50	70			NA	
Nashwauk Uplands	All	30	50	80	All	30	50	80	All	35	50	70			NA	
St. Louis Moraines	All	30	40	85	All	30	40	85	All	35	50	90			Partial	
															Harvest	
Tamarack Lowlands	All	30	40	65	All	30	40	65	All	35	50	90			NA	

Subsection	Red Pine				Jack Pine				White Spruce ²				Balsam Fir ³			
	SI	MA	NRA	MRA	SI	MA	NRA	MRA	SI	MA	NRA	MRA	SI	MA	NRA	MRA
Littlefork-Vermilion Uplands	All	25	100	180	All	30	50	65	Planted	30	70	90	All	30	50	50
Nashwauk Uplands	All	25	100	220	All	25	50	70	Planted	30	60	90	All	30	50	50
St. Louis Moraines	All	25	100	220	All	25	50	70	Planted	30	50	70	All	30	50	50
Tamarack Lowlands	All	25	100	160	All	30	50	65	Planted	30	50	70	All	30	50	50

St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands Subsections SFRMP

Subsection	Lowland Black Spruce ⁴				Tamarack				Upland Black Spruce			
	SI	MA	NRA	MRA	SI	MA	NRA	MRA	SI	MA	NRA	MRA
Littlefork-	23-29	70	120	180	23-39	50	90	150	All	30	50	65
Vermilion Uplands	29-39	60	100	140	40+	30	60	120				
	40+	40	70	100								
Nashwauk Uplands	23-29	70	120	180	23-39	50	90	150	All	30	50	70
	29-39	60	100	140	40+	30	60	120				
	40+	40	70	100								
St. Louis Moraines	23-29	70	120	180	23-39	50	80	140	All	30	50	70
	29-39	60	100	140	40+	30	60	100				
	40+	40	70	100								
Tamarack Lowlands	23-29	70	120	180	23-39	50	90	150	All	30	50	65
	29-39	60	100	140	40+	30	60	120				
	40+	40	70	100								

Notes:

1. *Oak*: Because of the relatively small oak cover-type acreage in the subsections and that currently most oak stands in the subsections are managed through selective or shelterwood harvest methods, no even-age rotation ages were developed for the 10-year planning period.
2. *White Spruce*: Even-age management is recommended for most planted stands except where stands have become mixed species stands (e.g., WS, BF, aspen, and/or birch mix). Typically, uneven-age management is recommended for natural-origin stands. Some natural-origin stands may need to be managed under even-age methods due to current stand conditions.
3. *Balsam Fir*: No ERF is recommended for even-age managed balsam fir. Recommend that a portion of the BF cover type (e.g., mixed stands of BF, WS, aspen, and/or birch) be managed as uneven-age managed, mixed species stands where older BF may be retained. Also, older BF will be a component in other cover types. Some BF stands should be treated before the 50-year NRA to move a stand toward another cover type (e.g., long-lived conifers). Most BF stands that are clearcut initially regenerate to other cover types.
4. *Lowland Black Spruce*: Because of the gradient from high site index to lower site index stands in adjacent black spruce stands, some lower site index stands may need to be treated prior to the recommended rotation ages to treat the area during one entry for patch management, access, or other reasons.

Table 3.9b: Managed Cover-type Treatment Pool Summary – summarizes total acres of even-age and uneven-age managed cover types in the stand exam pool selected by DNR Forestry administrative areas for treatment during the 10-year plan implementation period.

Cover type	Rotation Class	Planned Rotation Age (LtfkV/NU/StLM/TL)	Management Pool Acres**	Total Plan Treatment Pool Acres***
Ash/Lowland Hardwoods	Uneven-Age	N/A	52,343	3,207
Aspen/Balm of Gilead	Normal	45/50/40/40	174,412	54,448
	ERF Max	80/80/85/65	86,596	
Birch	Normal	50	5,822	3,197
	ERF Max	70/70/90/90	4,242	
Northern Hardwoods/Oak	Uneven-Age	N/A	27,781	13,265
Jack Pine / Upland Black Spruce	Normal	50	7,395	2,120
	ERF Max	65/70/70/65	7,611	
White Spruce (Planted)	Normal	70/60/50/50	4,351	6,825
	ERF Max	90/90/70/70	5,174	
White Spruce (Natural)	Uneven-Age	N/A	1,169	455
Balsam Fir	Normal	50	16,033	7,718
Tamarack - High SI	Normal	60	11,769	2,784
	ERF Max	120/120/100/120	12,787	
Tamarack - Low SI	Normal	90/90/80/90	27,620	3,070
	ERF Max	150/150/140/150	21,832	
Black Spruce Lowland - High SI	Normal	70	16,019	4,699
	ERF Max	100	12,989	
Black Spruce Lowland - Med SI	Normal	100	47,972	7,496
	ERF Max	140	46,706	
Black Spruce Lowland - Low SI	Normal	120	28,929	8,530
	ERF Max	180	26,859	
Red Pine	Normal	N/A		15,351
	ERF Max	180/220/220/160	20,992	
White Pine	Normal	N/A		635
	ERF Max	N/A	1,541	
White Cedar	Normal	N/A	43,510	0****
	ERF Max	N/A		
Totals			712,454	133,800

* Stands were given a preliminary prescription of uneven-age as a bookkeeping measure for tracking conversions.

** Management pool acres [data source: All_results1_dec_2008_addedfields.dbf] using man_acres field and adjusted cover types

*** Total plan Treatment Pool acres [data source: lfv/nsh/slm/tam_ready_4_final_model.dbf (10/29/2008)] using t_acres field and adjusted cover types; amended by remodeling in Dec. 2010 to add red pine and bsl acres.

**** White Cedar was not selected for treatment during stand selection: a small annual pool (approximately 80 acres) will be selected for treatment consideration by Littlefork Area staff

GDS-9A Strategies

Following are descriptions and/or examples of how the above factors were considered.

Even-age Cover Types

a. Age-Class Imbalances

The long-term goal (DFFC) is to move toward a balanced age-class distribution with a declining distribution for the ERF designated stands. This goal was compared to the current age-class distribution for all even-age managed cover types. A Remsoft harvest-scheduling model was used to schedule harvest over the next 50 years for forest cover types managed under even-age silvicultural systems. Treatment levels were developed to move the current age distributions closer to goals by the end of the 50-year planning period. At that time, most even-age managed cover types will be closer to a balanced age-class structure. Due to existing imbalances and the other considerations below, a balance will not always be achieved in 50 years (see Figures 3.9a and 3.9b).

Figure 3.9a: Current Age-Class Distribution of the Aspen/Balm of Gilead Cover Type in the Tamarack Lowlands Subsection

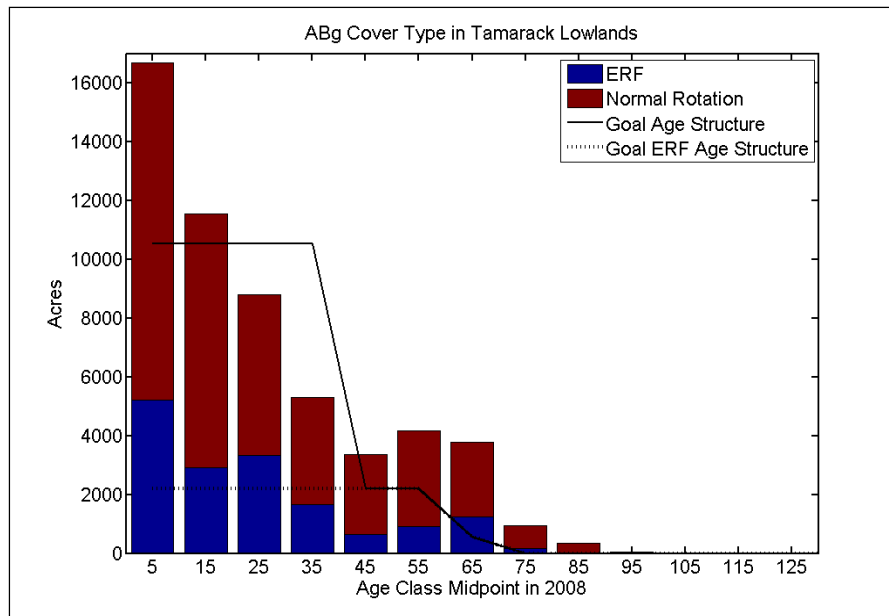
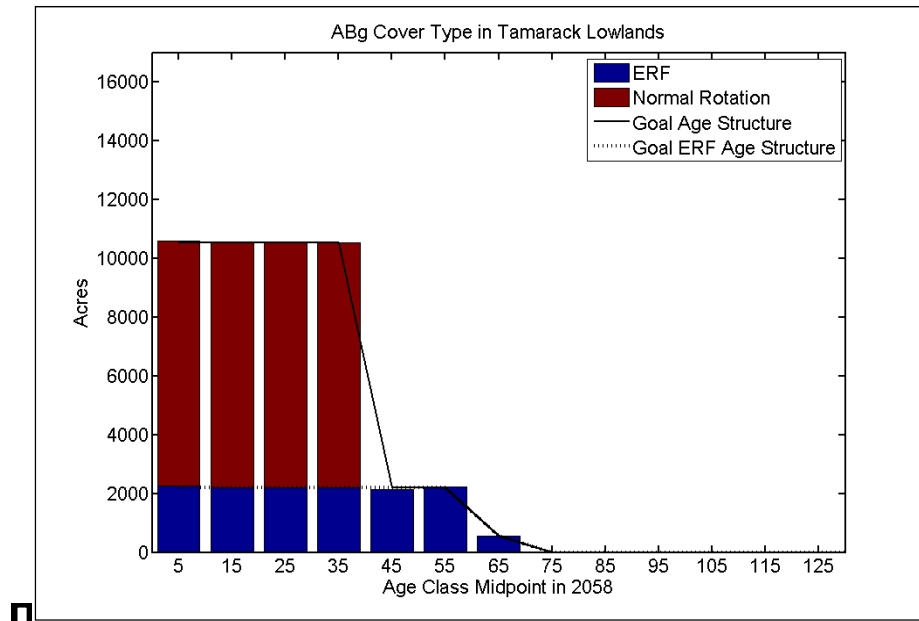


Figure 3.9b: Estimated Aspen/Balm of Gilead Cover Type Age-Class Distribution in 2058



b. High-risk, low-volume stands

For SFRMP purposes, the *maximum rotation age* is the estimated maximum age at which a cover type will retain its biological ability to regenerate to the same cover type and remain commercially viable as a marketable timber sale. The Remsoft model was programmed to select all stands that will reach or exceed maximum rotation age during 10-year planning period. Table 3.9b focuses on acres of timber land over rotation age in these subsections.

c. Treating Stands Older than Normal Rotation Age

There is currently a surplus of acres beyond the normal and ERF rotation ages established by this plan, in most even-age managed cover types. Several different ERF rotation ages were used for each cover type, as a way of achieving the desired declining age-class distribution beyond the normal rotation age. Treatment levels were developed to address many of these acres in the next 10 years. This will effectively bring the average treatment age closer to the normal rotation age for the even-age cover types. For many cover types, the resulting acreages are so large that treating them all in the next decade would exacerbate the current age-class imbalance. For these cover types, some over-rotation age stands will be carried through this 10-year period and into the following decade to facilitate balancing the age classes. After the first decade, there is no plan to carry stands in even-age cover types beyond the established maximum rotation ages. For some cover types in succeeding decades, the average treatment age increases as a result of holding stands longer to better balance the age-class distribution over time. See Tables 3.9c and 3.9d, following.

Table 3.9c: Acres Over Rotation Age by Cover type and Subsection

Cover type	Rotation Class	Planned Rotation Ages				Acres** Over Planned Rotation Age			
		Ltfk-V	Nash-Upld	St.L	Mor Tam Lwds	Ltfk-V	Nash-Upld	St.L	Mor Tam Lwds
Aspen/balm of gilead	Normal	40	50	40	40	19,059	1,918	10,464	9,994
	ERF Max*	80	80	85	65	257	165	114	328
Birch	Normal	50	50	50	50	404	819	1,348	723
	ERF Max	70	70	90	90	190	971	66	0
Jack Pine / BSU	Normal	50	50	50	50	674	278	274	267
	ERF Max	65	70	70	65	495	147	150	94
White Spruce (Planted)	Normal	70	60	50	50	0	11	19	67
	ERF Max	90	90	70	70	0	0	0	0
Balsam Fir	Normal	50	50	50	50	4,272	221	882	1,507
	ERF Max	60	60	60	60	2,328	185	771	2,357
Tamarack - High SI	Normal	90	90	80	90	2,201	317	896	4,951
	ERF Max	150	150	140	150	51	0	27	121
Black Spruce Lowland - High SI	Normal	70	70	70	70	4,469	473	614	596
	ERF Max	100	100	100	100	1,558	0	15	255
Black Spruce Lowland - Med SI	Normal	100	100	100	100	8,115	235	636	933
	ERF Max	140	140	140	140	690	0	60	67
Black Spruce Lowland - Low SI	Normal	120	120	120	120	5,220	174	780	1,596
	ERF Max	180	180	180	180	452	0	0	0
Red Pine	Normal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	ERF Max	180	220	220	160	9	0	0	0

*The oldest age that even-age managed ERF stands can be held. There are actually several ERF rotation ages per cover type.

** This table does not include acres currently under timber sale contract.

[Source data: “Table 3.9a Rotation Ages”, and “FINAL_ HARVEST_ AGE_ SUMMARY.xls”]

Table 3.9d: Rotation Age and Modeled Average Stand Treatment Age for Even-Age Managed Cover Types

		Average Treatment Ages																							
		Ltfk-V					Nash-Upld					St.L Mor					Tam Lwds								
Cover type	Rotation Class	Planned Rotation Ages				Period					Period					Period					Period				
		Nash-Ltfk-V	St.L Upld	Mor	Tam Lwds	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Aspen/balm of Gilead	Normal	40	50	40	40	66	50	49	51	47	57	44	40	49	50	50	49	41	41	42	59	48	44	42	40
	ERF Max*	80	80	85	65	65	64	56	57	58	70	66	56	55	62	52	62	45	55	58	68	57	51	56	51
Birch	Normal	50	50	50	50	80	74	52	45	45	82	92	48	45	45	75	93	66	45	48	75	81	83	47	48
	ERF Max	70	70	90	90	86	76	64	0	55	89	103	0	0	0	69	97	90	0	55	0	55	60	70	0
Jack Pine	Normal	50	50	50	50	74	68	52	47	53	84	68	52	46	52	74	49	51	48	52	79	67	51	45	50
	ERF Max	65	70	70	65	75	70	63	60	59	68	81	63	56	60	83	72	64	55	64	74	68	55	61	63
White Spruce (Planted)	Normal	70	60	50	50	60	86	75	76	77	78	60	58	57	0	0	64	59	58	65	0	61	70	63	62
	ERF Max	90	90	70	70	0	85	75	75	79	0	0	67	65	65	0	58	57	57	66	0	65	68	70	65
Balsam Fir	Normal	50	50	50	50	64	58	48	41	43	56	63	47	40	48	57	58	48	40	47	67	59	50	42	47
Tamarack - High SI	Normal	60	60	60	60	109	114	109	109	78	109	101	112	116	118	108	101	99	87	79	112	94	69	115	105
	ERF Max	120	120	100	120	106	112	111	114	96	105	104	115	115	120	111	103	100	93	85	100	125	119	118	115
Tamarack - Low SI	Normal	90	90	80	90	127	126	113	100	83	112	115	125	121	113	128	128	127	102	90	135	103	118	78	92
	ERF Max	150	150	140	150	140	146	125	117	118	10	89	103	80	131	80	138	114	94	106	118	153	88	141	150
Black Spruce Lowland - High SI	Normal	70	70	70	70	99	104	96	84	64	101	100	100	76	50	88	99	97	85	51	96	100	100	93	82
	ERF Max	100	100	100	100	106	107	92	93	79	88	102	100	93	0	85	101	98	97	0	107	101	99	80	82
Black Spruce Lowland - Med SI	Normal	100	100	100	100	121	136	119	127	93	125	117	131	126	124	103	124	117	118	110	101	110	119	137	123
	ERF Max	140	140	140	140	135	144	139	138	139	85	114	128	127	129	126	129	135	136	137	135	124	134	140	135
Black Spruce Lowland - Low SI	Normal	120	120	120	120	150	153	152	153	144	136	131	134	114	148	137	153	158	143	143	146	139	158	144	119
	ERF Max	180	180	180	180	174	174	167	163	168	155	135	149	161	170	130	166	172	177	0	131	149	140	170	0

*The oldest age that even-age managed ERF stands can be held. There are actually several ERF rotation ages per cover type.

d. Maintaining Old Forest

In some even-age cover types, there are currently more acres of old forest than the amounts of effective ERF established in this plan (see GDS-1A). However, due to the age-class imbalance, planning for desired amounts in the future was a part of treatment level considerations. In some cover types, the amount of prescribed ERF that is over normal rotation age (effective ERF) will not meet the established effective ERF goals (DFFC) in some future decades (see Table 3.9e). In these cases, holding non-ERF stands past the established normal rotation age ensures higher levels of old forest on the landscape, as well as helping to balance the age classes. Because stands will not be held past their established maximum rotation age, in some cover types a temporary drop below desired levels may occur for several decades. Some cover types exceed the old forest DFFC in the later decades because of the need to hold some stands past normal rotation age to move more quickly toward meeting the goal of balancing the age classes.

Table 3.9e: Percent Old Forest Per Decade by Type by Subsection for Even-age Systems.

St. Louis Moraines Subsection		Percentage per Period (10 yrs)				
Type	0	1	2	3	4	5
Aspen Old Forest Area	19.1	9.9	8.4	12.4	14.2	11.9
Birch Old Forest Area	45.3	27.7	12.2	0.0	1.6	20.4
Red Pine Old Forest Area	13.6	16.2	16.8	18.5	22.7	25.4
Jack Pine Old Forest Area	16.7	14.5	7.4	10.8	18.8	13.8
White Spruce (planted) Old Forest Area	2.8	11.5	4.2	28.7	28.3	9.0
Balsam Fir Old Forest Area	38.8	22.7	1.7	0.0	0.0	0.0
BSL (SI 40+) Old Forest Area	36.0	31.5	21.5	16.5	9.0	11.0
BSL (SI 30-39) Old Forest Area	18.0	26.8	24.6	21.0	17.5	13.0
BSL (SI <= 29) Old Forest Area	23.8	27.9	22.1	19.1	18.6	14.5
Tamarack (SI 40+) Old Forest Area	47.5	39.2	39.3	31.2	20.1	18.0
Tamarack (SI < 40) Old Forest Area	27.4	29.2	19.9	9.4	12.9	15.1

Tamarack Lowlands Subsection		Percentage per Period (10 yrs)				
Type	0	1	2	3	4	5
Aspen Old Forest Area	23.2	13.4	10.6	10.1	12.4	10.5
Birch Old Forest Area	40.2	16.8	14.0	4.2	0.8	27.4
Red Pine Old Forest Area	3.6	6.4	5.9	6.3	9.2	13.0
Jack Pine Old Forest Area	26.9	21.3	5.3	15.9	10.2	9.9
White Spruce (planted) Old Forest Area	1.9	4.4	7.0	3.9	6.0	0.7
Balsam Fir Old Forest Area	54.3	29.1	4.1	1.7	0.0	0.0
BSL (SI 40+) Old Forest Area	48.1	38.4	22.4	17.7	10.9	10.8
BSL (SI 30-39) Old Forest Area	18.0	25.1	27.9	27.4	21.6	13.0
BSL (SI <= 29) Old Forest Area	19.7	21.0	20.3	16.5	16.2	17.5
Tamarack (SI 40+) Old Forest Area	16.5	14.7	12.8	11.7	8.4	4.7
Tamarack (SI < 40) Old Forest Area	5.4	7.4	7.4	6.4	3.5	1.8

Nashwauk Uplands Subsection Type	Percentage per Period (10 yrs)					
	0	1	2	3	4	5
Aspen Old Forest Area	9.7	3.0	4.5	9.0	11.7	12.0
Birch Old Forest Area	66.1	20.2	0.0	0.0	0.4	19.9
Red Pine Old Forest Area	6.2	9.8	14.2	21.3	25.3	25.8
Jack Pine Old Forest Area	19.0	17.7	8.6	7.7	12.2	9.8
White Spruce (planted) Old Forest Area	0.6	0.0	6.1	0.9	15.2	23.0
Balsam Fir Old Forest Area	26.8	11.0	12.6	0.0	0.0	0.0
BSL (SI 40+) Old Forest Area	50.6	47.4	18.4	6.4	4.5	4.5
BSL (SI 30-39) Old Forest Area	12.1	24.2	27.9	25.6	20.9	12.9
BSL (SI <= 29) Old Forest Area	17.8	24.2	24.6	24.8	20.5	15.1
Tamarack (SI 40+) Old Forest Area	35.9	29.9	20.4	16.6	9.8	5.3
Tamarack (SI < 40) Old Forest Area	5.1	22.7	19.6	13.6	6.8	0.1

Littlefork-Vermilion Uplands Subsection Type	Percentage per Period (10 yrs)					
	0	1	2	3	4	5
Aspen Old Forest Area	22.5	13.5	12.7	14.7	14.8	8.3
Birch Old Forest Area	47.9	18.4	15.4	0.0	2.5	12.0
Red Pine Old Forest Area	9.2	12.9	15.4	19.5	26.3	27.5
Jack Pine Old Forest Area	20.0	13.7	9.5	12.8	9.0	8.7
White Spruce (planted) Old Forest Area	0.2	1.0	1.8	18.9	15.7	43.7
Balsam Fir Old Forest Area	49.7	19.4	2.3	0.0	0.0	0.0
BSL (SI 40+) Old Forest Area	36.8	31.1	21.6	12.4	8.3	11.0
BSL (SI 30-39) Old Forest Area	23.4	24.9	21.0	18.0	13.6	13.0
BSL (SI <= 29) Old Forest Area	32.3	32.5	32.3	30.3	23.6	15.5
Tamarack (SI 40+) Old Forest Area	45.7	40.3	34.9	25.8	20.6	12.8
Tamarack (SI < 40) Old Forest Area	18.2	31.6	20.5	8.6	2.6	3.1

e. Maintaining young forest

The plan specifically targeted some conversion to take place in young and middle-aged stands to enhance the likelihood of achieving a successful type conversion.

Moving toward and eventually maintaining a balanced age-class distribution will ensure that young forest (0-30 years old) exists on the landscape over time (see GDS-2D for specific discussion about young, *early successional* forest). In some cover types, higher levels of young forest will occur in the initial decades due to the accelerated treatment of the acres currently over rotation age.

f. Planned Increases/Decreases in Cover-type Acres

The long-term (50-year) desired future forest condition calls for decreases in the aspen/balm of gilead, and paper birch cover types. Conversions will result in changes to cover-type acreages based on NPC site classification. If there are increases, they will likely be in the white pine, white spruce, red pine, jack pine, white cedar, northern hardwoods, and oak cover types. These

cover-type changes are not planned to occur proportionately throughout the 50-year period, because of considerations for the acres beyond rotation age and balancing the age-class distribution.

Table 3.9f: Cover-type Conversion Goals for the First Decade by Subsection

		Subsection Totals				
		L-VU	SLM	NU	TL	Total
Available	Aspen/BG	112,462	68,739	24,343	55,448	260,992
Acres	Birch	1,434	4,102	2,728	1,800	10,064
Conversion	Aspen/BG	-3179	-3591	-1666	-1608	-9044
Acres	Birch	-27	-402	-925	-132	-1486
Treatment	Aspen/BG	20613.3	18291.2	3803.4	11740.9	54448.8
Acres	Birch	529	927.6	1315.5	424.1	3196.2

Conversions were allocated to forestry administrative areas based on available aspen, balm of gilead, and birch acres in patches, percentage of those species in a specific LTA, and LTA conversion goals. For details see Appendix E: Cover-type Conversion Goals, on page 7.15.

g. Supply of Timber

A Remsoft harvest-scheduling model was used to achieve a sustainable treatment level, taking into consideration any planned increases or decreases in each cover type over the next 50 years (see Table 3.9e). While 10-year treatment levels will vary above or below the sustainable level until the age classes are balanced, adjustments were made in some decades to reduce these variations. The long-term goal is to narrow the peaks and valleys in harvest levels to provide a relatively stable supply of timber from state lands. Tables 3.9g-h, following, summarize treatment levels in acres by decade, applying all North 4 planning factors.

2. Uneven-age Management and Thinning

All uneven-age and some even-age managed cover types will be managed using selective harvest treatments (see Tables 3.9g-h). The uneven-age managed cover types include ash, lowland hardwoods, northern hardwoods, white pine over age 90, some balsam fir, and the ERF portion of the white spruce cover type. Thinning in jack pine types is not standard procedure in the North 4 Subsections, but may be considered on appropriate NPCs, with coordination per the *Coordination Framework* to explore innovative techniques, and with the intention of meeting specific SFRMP management objectives. Cover types that will be thinned include balsam fir, jack pine, white spruce, red pine, white pine, and aspen and/or birch (for long-term conversion goals, see Appendix E, page 7.15). All stands that meet the criteria will be field- visited for possible selective treatment. Some of the ash, lowland hardwoods, and northern hardwoods may be initially treated through even-age methods to improve long-term stand age-structure and timber quality. See Chapter 4 for specific stand treatment recommendations. Additional acreage may be selectively harvested or thinned if field evaluation shows that the stand meets the stand selection criteria for the cover type. These additional stands will be available for review during the annual harvest plan or annual plan addition review process.

Table 3.9g: Treatment Levels for Even-Age Managed Cover Types by Decade for North 4 SFRMP Area (All Subsections Combined)

Cover Type	Previous Decade*	10-year Treatment Acres by Decade				
		2010 - 2019	2020 - 2029	2030 - 2039	2040 - 2049	2050 - 2059
Aspen/BG	53,220	54,448	44,358	44,627	45,808	52,154
Balsam Fir ¹	8,970	5,423	3,636	1,132	2,979	2,885
Birch	8,640	3,197	1,647	821	286	2032
BSL ²	25,350	20,725	18,577	16,837	16,481	16,934
Jack Pine/BSU	3,650	2,120	2,426	2,817	4,498	4,207
Red pine ³	0	319	~150	~150	~150	~150
Tamarack	11,060	5,854	9,338	9,351	8,223	8,656
White Sp. ⁴	0	0	667	700	1,854	1,909

¹Balsam fir will be treated with two primary prescriptions—as even-age on productive upland sites; and as uneven-age on less productive, more mesic sites. Final prescriptions based on field evaluation may change acres from one prescription type to another.

²7,183 acres added in the first decade in response to public review process; actual stands still being identified by field visit.

³Red pine final harvest was added in response to public and internal review processes; actual stands still being identified.

⁴White spruce treatments will vary depending on stand origin. Plantations will normally be managed with thinning. No stands will reach an age requiring final harvest within the 10 years covered by the plan.

* Previous harvest levels are an approximation from DNR Forestry administrative area annual stand examination lists from FY2001 to FY2008, based on legal descriptions roughly corresponding to subsection boundaries.

Table 3.9h: Treatment Levels for Uneven-Age Managed Cover Types for North 4 SFRMP Area (All Subsections Combined)

Cover Type	Previous Decade*	2010-2019
	Treatment Acres	Treatment Acres
Ash/Lowland Hardwoods	9,460	3,207
Balsam Fir ¹	0	2,295
Northern Hardwoods/Oak	18,450	13,265
White Pine ²	0	150
White Spruce ³	0	455

¹Balsam fir will be treated with two primary prescriptions – even-age on productive upland sites; and uneven-age on less productive, more mesic sites. Final prescriptions based on field evaluation may change acres from one prescription type to another.

²White pine initial prescriptions include both uneven-age and thinning. Final prescriptions based on field evaluation may change acres from one prescription type to another.

³White spruce treatment will vary depending on stand origin. Natural-origin stands will normally be managed with uneven-age prescriptions.

* = Previous harvest levels are an approximation from DNR Forestry administrative area annual stand examination lists from FY2001 to FY2008, based on legal descriptions roughly corresponding to subsection boundaries.

Table 3.9i: Thinning Treatment Levels for North 4 SFRMP Area (All Subsections Combined)

Cover Type	Previous Decade*	2010-2019
	Treatment Acres	Treatment Acres
Red Pine	7,800	14,351
White Pine ¹	350	485
White Spruce ²	2,920	6,825

¹ White pine initial prescriptions include both uneven-age and thinning. Final prescriptions based on field evaluation may change acres from one prescription type to another.

² White spruce treatment will vary depending on stand origin. Plantations will normally be managed with a thinning prescription.

* = Previous harvest levels are an approximation from DNR Forestry administrative area annual stand examination lists from FY2001 to FY2008, based on legal descriptions roughly corresponding to subsection boundaries.

3. Biomass Harvesting

Although there is no target or DFFC for biomass harvest at this time, the North 4 SFRMP team estimates that roughly 400,000 - 600,000 tons of biomass would be available as tops and limbs from roundwood harvests proposed in this plan. This is an emerging market in response to demand for alternative energy production. Minnesota DNR policy is changing in response to this changing market.

- Biomass as tops and limbs will be available for purchase on most timber sale sites where roundwood is harvested. Sites not available for biomass harvest are defined in the MFRC Biomass Harvesting Guidelines³⁶.
- In addition some non-commercial forest sites are available for biomass harvest consistent with biomass harvesting guidelines as markets demand. The wildlife section has identified some areas with potential for biomass harvest from brushlands.

4. Stands Reserved or Deferred for Further Evaluation

A total of 165 stands was identified by the North 4 SFRMP team to be reserved or deferred during the 10-year planning period. *Timber land* acres to be deferred total 2,986 acres; the *forest land* acreage to be deferred is 3,423. These stands will become available for active management after evaluations are completed if they are released from the reserved or deferred status. Evaluation procedures for EILC stands are being developed in a separate process as this plan goes to print (2009). Because these deferred acres were included in the cover-type treatment level calculations, the proposed treatment levels recommended in this plan were not affected by the deferrals.

³⁶ http://www.frc.state.mn.us/FMqldline/Final_Draft_for_MFRC_Approval_Forest_BiomassHarvest_Guidelines.pdf

Table 3.9j: Summary of North 4 Deferred Stands *Timber Land* acres by Subsection

Subsection	Acres
Littlefork-Vermilion Uplands	561
Nashwauk Uplands	865
St.Louis Moraines	203
Tamarack Lowlands	1,357
Total	2,986

Table 3.9k: Summary of North 4 Deferred Stands *Timber Land* acres by Cover Type

Cover Type	Acres
Ash	376
Lowland hardwoods	190
Aspen	517
Birch	456.0
Balm of gilead	18.1
Northern hardwoods	670
Oak	132
White pine	17
Red pine	160
Jack pine	53
White spruce	9
Balsam fir	185
Lowland black spruce	30
Tamarack	26
Cedar	147
Total:	2,986

Table 3.9l: Summary of North 4 Deferred Stands *Timber Land* acres by Reason for Deferment

Reason for Deferment	Acres
Land status restrictions ¹	234
Old-growth nomination ²	956
SNA nomination ³	426
Stand adjacent to USFS cRNA ⁴	758
Stand is inoperable ⁵	575
Stand is private land ⁶	38
Total	2,986

¹FHA tax-forfeit lands transferred to DNR-Wildlife with a “no timber harvest” covenant attached to the deed.

²Stands nominated for DNR old-growth evaluation offered by all three Divisions.

³Stands nominated for SNA evaluation and/or additions to existing SNAs by the Divisions of Ecological Resources and/or the Division of Fish & Wildlife.

⁴Stands deferred from management per DNR-FRIT direction to defer stands from management that are adjacent to Superior National Forest cRNAs. These stands are to be evaluated for conservation consideration by the Division of Ecological Resources.

⁵Stands suggested for removal from the stand selection pool by the Cloquet Area due to inoperability. Stands are either thin, narrow stands along rivers or small stands surrounded by DNR designated old-growth.

⁶One stand in the Littlefork Area that is in FIM but is actually private land.

5. Acres Comparison between the Past Plan and the Recommended SFRMP Treatment Levels

Past forest resource management plans were based on Division of Forestry area administrative boundaries while this SFRMP is based on ECS subsection boundaries. The proportion of each of the forestry area’s cover-type acres in these subsections was used to calculate the estimated portion of past area plans treatment acres by cover type in these subsections. These estimates were used for comparing the past cover-type acres treatment levels to those recommended in this SFRMP. Table 3.9g (above) provides a total acres treatment level by cover-type comparison between the past plan and those recommended in this SFRMP.

6. Volume Comparison between the Past Plan and the Recommended SFRMP Treatment Levels

Minnesota DNR develops annual planned treatment levels on a cover-type acreage basis rather than a volume basis. This SFRMP Estimate (2010-2019) provided in Figure 3.9m for harvest volume is an estimate produced by the Remsoft harvest-scheduling model, based on treatment acres, yield equations,³⁷ treatment method,³⁸ and cords per acre based on forest inventory data and preliminary prescriptions. It is a rough estimate because not all treatment acres are suitable, or result in timber sales; the treatment method (prescription) may change after the field

³⁷ Walters, David K. and Alan R. Ek. Whole Stand Yield and Density Equations for Fourteen Forest Types in Minnesota; Department of Forest Resources, University of Minnesota, 1530 North Cleveland Avenue, St. Paul, MN 55108.

³⁸ For all thinnable types, volume yield was assumed to be 10 cd/acre, and all uneven-age systems used 33% of nominal Walters and Ek volumes.

examination of the stand; and the forest inventory volume data (cords per acre) is typically not as accurate as the more intensive appraisals that are completed for timber sales. The previous decade volume given for comparison (1997-2006) is based on actual average volume sold per year.

Table 3.9m: Remsoft Model Estimate of Volume¹ (cords) to be Offered for Sale in First Plan Decade by Treatment Type and Species

Species Group	LVU	NU	SLM	TL	North 4 Totals
Aspen species group	362,928	61,247	256,780	199,296	880,250
Balsam fir	52,215	7,805	25,268	20,557	105,845
Black spruce ²	173,847	38,604	26,894	49,153	288,498
Jack pine	15,149	4,249	6,648	3,590	29,635
Northern white cedar	11,479	1,421	4,288	4,735	21,923
Red pine ³	34,272	32,217	47,427	22,258	136,174
Paper birch	30,559	15,890	30,771	19,621	96,842
Tamarack	37,085	2,013	7,430	31,417	77,945
White pine	4,397	1,990	3,423	3,064	12,873
White spruce	37,387	9,849	14,342	12,904	74,482
Other species	53,601	16,488	99,172	56,534	225,795
Treatment group					
Total Volume From Even-age Harvest	693,411	131,641	318,870	331,963	1,475,885
Total Volume From Thinning	72,112	46,432	64,228	35,948	218,720
Total Volume From Group Selection	14,865	7,407	82,582	42,377	147,231
Total Volume From Conversion	32,530	6,293	56,764	12,839	108,426
Total Harvest Volume Estimate from Woodstock-Stanley model:					
Estimated range of Anticipated	772,272	182,184	496,322	401,971	1,852,749
Volume to be Offered (+/-5%)	853,564	201,362	548,566	444,283	2,047,775
1997-2006 10-y Actual Volume Sold⁴	879,860	212,800	441,350	381,540	1,915,550

Data source: "FINAL_YIELD_SUMMARY.xls"

¹ Walters and Ek yield equations/tables were used in the W-S model (Walters, David K. and Alan R. Ek. Whole Stand Yield and Density Equations for Fourteen Forest Types in Minnesota; Department of Forest Resources, University of Minnesota, 1530 North Cleveland Avenue, St. Paul, MN 55108). However, for all thinnable types, volume yield was assumed to be 10 cd/acre, and all uneven-age systems used 33percent of nominal Walters and Ek volumes.

² Approximately 103,000 cords additional volume added following public review and development of alternative modeling scenarios (December 2010).

³ Volumes not available by subsection, but approximately 35,000 cords of red pine final harvest volume is being added following public and internal review (December 2010).

⁴ Approximation based on legal descriptions roughly corresponding to subsection boundaries.

GDS-9B: The harvest of nontimber forest products is managed to provide a sustainable supply for humans while providing for wildlife habitat and biodiversity.

Nontimber forest products, also known as special forest products, can be categorized into five general areas: decorative materials, foods, herbs, medicinal materials, and specialty items. Nontimber forest products include, but are not limited to: boughs, decorative trees (e.g., Christmas trees), spruce tops, birch tops, *Lycopodium spp.* (also referred to as princess pine or

ground pine), diamond willow, bark, burls, conks, mushrooms, berries, ginseng, Labrador tea, rose hips and blossoms, seedlings, cones, nuts, native plant seed, aromatic oils, and extractives.

The social importance, ecological role, and function of special forest products resources are only beginning to be understood. Improving our species-specific knowledge, as well as broadening forest inventories and developing appraisal methods for most types of nontimber forest products, will make determining sustainable harvest levels possible in the future. Currently, special product permits or informal timber sales are issued for some nontimber forest products (e.g., balsam boughs and decorative trees) to ensure that harvest operations do not damage the site's potential for future production. Harvest of nontimber forest products may be restricted on some state-administered forest lands such as WMAs, aquatic management areas (AMAs), and SNAs.

The following strategies will be used to protect the long-term availability of these forest resources.

GDS-9B Strategies

- a. Consider known traditional gathering areas when managing other forest resources.** For example, consider forest management effects on known areas such as those traditionally used for gathering maple syrup (sugarbush areas) or gathering wild rice (ricing camps) when planning forest management activities.
- b. Supervise and enforce special product permit regulations to ensure that the site's capacity for future production is not jeopardized.** Consider managing or using some forest stands for nontimber forest products, such as balsam boughs, berry patches, or decorative tops.
- c. Implement Minnesota DNR regional targets for sustainable decorative tree top (black spruce) harvest.** See Chapter 4, Section 4.16, stagnant spruce cover-type management recommendations.
- d. Consider the known locations of important wildlife habitats, rare native plant communities or species, and the possible impacts of nontimber forest products harvest practices before issuing special product permits.**
- e. Forest managers should proceed judiciously when issuing special products permits for species where limited knowledge and understanding constrains our ability to know if we are managing these groups of species sustainably (e.g., commercial harvest of mushrooms, *Lycopodium spp*, and native plant seed).**

3.10 Access to State Land

GDS-10: Forest access routes are well planned and there is a high level of collaboration with federal, private, and local units of government to share access and minimize new construction.

Access routes (provided by a network of federal, state, county, and private forest access roads) are needed to effectively manage forest stands identified for treatment during this 10-year plan. The overall density of roads in specific geographic areas can be minimized through cooperation with other landowners in the subsections. The access routes that are selected must be developed in a way that protects or minimizes the negative effects on other forest resources.

GDS-10 Strategies

- a. Continue to seek cooperation with other forest landowners to retain existing access to state land and to coordinate new road access development and maintenance across mixed ownerships.** Cooperative road planning that involves all affected landowners will be done whenever possible to maximize the efficiency of the transportation system. Use the DNR GIS-based road and trail inventory. The goal is to serve as many acres of forest land with as few miles of road as possible.
- b. Follow Minnesota statutes and guidelines and DNR policies for state forest roads.**
- Follow the *Site-Level Guidelines* for road design, construction, maintenance, reconstruction, and closure.
 - Follow the guidelines and policies relating to roads and trails in the *DNR Forestry Road Manual* and the *Forestry-Wildlife Habitat Management Guidelines* (page 50).
 - Use the *DNR Site-Level Design and Development Guidelines for Recreational Trails* for guidance on post-sale treatment.
- c. Apply the department direction regarding access roads across EILC and other areas that have been reserved (or deferred) from treatment during the 10-year plan.**
- Evaluate on a case-by-case basis (DNR Forestry administrative area review by Forestry, Fisheries and Wildlife, and Ecological Services staff) as access is needed in these areas, applying the following principles (in order):
 - 1) Avoid access routes across EILC areas, if possible. For example:
 - Use other reasonable access routes that don't involve EILC stands if they are available. For example, go around the EILC area if it is small.
 - 2) If the only reasonable access to stands to be treated is across EILC areas, then strive to minimize impacts. For example:
 - Use seasonal/temporary access versus a permanent road. (Since EILC are in lowland areas, this road access would typically be seasonal winter roads.)
 - Use narrow corridors.
 - Use routes causing the least disturbance.
 - Use only during frozen ground conditions that support the equipment using it.
- d. Follow strategies identified under other General Direction Statements that apply to roads throughout the planning, development, and disposition of forest roads.**
- GDS-1E, Strategy b: Minimize the fragmenting of habitat with roads and forest access trails.
 - GDS-1E, Strategy j: Locate roads to minimize fragmentation of a MCBS site.
 - GDS-1G, Strategy f: Harvest prescriptions, access plans, and other management proposals identify and implement measures that protect rare features.
 - GDS-4B, Strategy f: Apply the *Site-Level Guidelines* . . . road maintenance or closure.

- GDS-8, Strategy a: Apply the *Site-Level Guidelines* on visual quality on all vegetative management activities.

Refer to the identified GDSs and strategies for more details on the listed strategies.

e. Complete a timber access plan.

After the 10-year stand exam list was compiled, field personnel completed a timber access plan. The purpose of the timber access plan is to identify any new road and any temporary access needed to access stands identified in SFRMP for field visit and/or treatment. The new access plan will help in assessing road access/fragmentation/density concerns. It will also provide post-sale treatment intentions on the estimated new access/temporary access locations. Existing roads or previously used corridors of disturbance will be followed whenever feasible. The timber access plan will identify where USDA Forest Service road permits are required. For new roads and temporary access, the road classification (whether it is winter or summer access), miles of new road, and proposed post-sale treatment will be documented.

Table 7.17 on page 7.381 in Chapter 7 *Ten-Year Stand Examination List and New Access Needs* displays miles, season of use, and type of access for stands identified as needing new access during the planning period.

The proposed post-sale treatment information on new roads and trails can be used for planning the maintenance, closure (e.g., gate, sign, slash, or berm), abandonment, or reclamation (e.g., with natural or planted vegetation) of the access route. Limiting unplanned secondary usage should also be considered in post-sale road planning. The timber sale appraiser will refine the proposed road access and post-sale treatment plan as part of the design of the timber sale. Final adjustments may be made at the pre-sale meeting between the timber sale administrator and the permittee.

Most temporary roads will not be maintained after harvest is completed. These access routes should be used again for future forest management activities instead of disturbing new areas.

3.11 Cultural Resources

GDS-11: Cultural Resources will be protected on state-administered lands.

A cultural resource is an archaeological site, cemetery, historic structure, historic area, or traditional use area that is of cultural or scientific value. Cultural resources are remaining evidence of past human activities. To be considered important, a cultural resource generally has to be at least 50 years old. A cultural resource may be the archaeological remains of a 2,000 year-old Indian village, an abandoned logging camp, a portage trail, a cemetery, food gathering sites such as ricing camps and sugarbushes, or a pioneer homestead. They often possess spiritual, traditional, scientific, and educational values. In addition to federal and state laws that protect certain types of cultural resources, the *Voluntary Site-Level Forest Management Guidelines* provide information and recommendations to assist private and public land managers in taking responsible actions when cultural resources are encountered.

GDS-11 Strategies

- a. **Annual Stand Exam lists are reviewed by DNR archeologists; recommendations for mitigation are implemented as part of sale design.**

3.12 Natural Disturbance Events

GDS-12: Natural disturbance events that occur on state land within these subsections are promptly evaluated to determine the appropriate forest management needed to their impacts.

By promptly evaluating known disturbance events (e.g., fire, wind, or insects and disease), land managers will be able to quickly recommend what, if any, forest management activities are necessary to mitigate the impacts of the event. Depending on the scale of the event and potential positive or negative impacts, management recommendations will range from no action to salvage harvesting and/or prescribed burning. Where quick action is needed to salvage harvest timber from damaged stands, the annual plan addition process for public review will be used.

GDS-12 Strategies

- a. **The subsection planning team will evaluate large-scale (100's to 1000's of acres) disturbance events to determine appropriate action.** If large-scale disturbance events occur during the 10-year plan, the core team will assess the extent and significance of the event on the structure and condition of forest lands in the subsections. The team will propose forest management actions to be implemented within the area impacted by the event and determine whether adjustments to the short-term harvest levels are needed.

When large-scale disturbance events involve multiple ownerships, the DNR will cooperate in assessment and implementation of management actions with other agencies and landowners, when possible. To better inform the public of planned large-scale salvage harvest, a press release will be completed that includes information on the disturbance and the planned management actions.

- b. **Local land managers will evaluate and determine appropriate actions for small-scale (10s of acres) disturbance events.** After small-scale disturbances, local forest and wildlife managers will do a timely evaluation of the disturbance area and take the appropriate action needed to address the situation.

Chapter 4: Cover Type Management Recommendations

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Introduction

The purpose of this chapter is to provide data and management information by cover type. These management recommendations will also provide direction to field staff for on-the-ground management activities for stands in the various cover types.

Tables in Chapters 3 and 7 of this plan of this plan show the treatment level (acres), recommended conversion acreages, old forest percent, effective Extended Rotation Forest (ERF) percentage, and average treatment ages. Some information from the general direction statements (GDS) and strategies is incorporated into this chapter, but staff should be familiar with the full contents of the GDSs and strategies found in Chapter 3.

Information provided by cover type includes:

- Current Condition
- Future Direction
- Harvest Methods and Regeneration
- Cover Type Conversion Management (as applicable)
- Stand Selection Criteria
- Stand Treatment Summary

For species of minor acreage, such as yellow birch and upland tamarack, within-stand composition strategies for cover types will be used to increase their presence.

Acreage figures in this chapter include state forest lands administered by the divisions of Forestry, Fish & Wildlife (Section of Wildlife), and Trails & Waterways that are available for forest management activities. State lands in state parks, designated old-growth stands, and scientific and natural areas (SNAs) are not included as managed acres in this plan.

In addition to the cover type recommendations and other information in this plan, following is a list of some other publications to which field personnel should refer when managing state forest lands:

- Minnesota Forest Resources Council (MFRC) *Voluntary Site-Level Forest Management Guidelines*. <http://www.frc.state.mn.us/FMgdline/Guidebook.html>
- *Field Guide to Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province*. MN DNR. 2003.
- ECS Silvicultural Interpretations. MN DNR. http://www.dnr.state.mn.us/forestry/ecs_silv/interpretations.html
- North 4 SFRMP *Preliminary Issues and Assessment*. MN DNR. 2007. For example, Chapter 6, Forest Insects and Disease.
- *Forest Development Manual*. MN DNR. 1994.
- *Forestry-Wildlife Habitat Management Guidelines*. MN DNR. 1985.
- Manager's Handbooks for Cover Types. North Central Forest Experiment Station. General Technical Reports. Various dates for the individual publications for cover types common in the north central states.
- *DNR Divisions of Forestry, Fish & Wildlife, Ecological Resources Interdisciplinary Forest Management Coordination Framework* http://files-intranet.dnr.state.mn.us/user_files/2535/forestcoodinationframework12_14_07.pdf

Cover type determination is based on the stand composition at the time the stand was inventoried. The composition of a stand typically changes to some degree over time, sometimes resulting in a cover type change if the change is significant. Appendix B, Tree Species in the North 4 Subsections, lists the tree species and cover types found in these subsections. Stand composition may range from a single species to several species. In general, a species or species group needs to comprise 40 percent of the stand composition for the cover type to have its name. For more details, see Appendix C, Key for Main Cover Type Determination. Table 4.1 on page 4.4 of this chapter, shows the main cover types by acreage and age class.

A desired future forest composition (DFFC) goal is to decrease the cover type acreage of some cover types (aspen, balsam poplar, and birch). These cover type decreases will result in conversions through artificial (e.g., site preparation and planting), natural (e.g., natural succession), and intermediate (e.g., thinning) treatment methods to cover types such as white pine, red pine, northern hardwoods, and WS. Stands may not be fully converted to the desired cover type for many years because of a gradual increase in the desired species over time. The composition of stands during conversion to cover types such as white pine or WS may include significant portions of other species, such as aspen or birch. On some aspen, balsam poplar, and birch stands where cover type conversion is desired, partial harvest, less intensive site preparation techniques, and/or successive prescribed fires, may be appropriate for the conversion to long-lived conifers such as white pine, red pine, or WS.

Minnesota DNR has moved over time toward the use of Native Plant Communities (NPCs) and associated Silvicultural Interpretations as tools to help determine the most appropriate management

for forest stands. Appendix P in Chapter 7 of the North 4 SFRMP is a tree suitability table that can be used to determine in which NPC a particular tree species is likely to thrive, and be able to compete successfully with other plant species. Specific cover type management recommendations in this chapter will refer to this table.

For most even-age managed cover types, recommendations assume that balancing the distribution of the 10-year age classes is a long-term goal, even though it may take more than one rotation to achieve for most cover types. In some cover types (e.g., birch and balsam fir), this will be very difficult to achieve, due to species characteristics and changing disturbance regimes.

Treatment acreages determined in this plan comprise a stand examination list or pool that will be field visited over the 10-year planning period. This SFRMP is the first to use Remsoft Spatial Planning System (RSPS, Fredericton, NB, Canada), a forest estate and harvest schedule model based on linear programming, to generate a draft stand examination list. More detailed information about Remsoft and the model used here can be found in Appendix I to this plan.

Stands on the list will be field visited based on the annual treatment acres recommended for each of the cover types. Forestry areas have direction to minimize acreage deviation from year to year; the 10-year average should equal the annual treatment acres. Management recommendations, preliminary objectives, and other issues that were assigned to a stand during the SFRMP process should be considered in the management of a stand. This information will be provided to appraisers after each annual harvest plan is assigned from the 10-year plan. Stands that are suitable for harvest will be appraised for a timber sale. As each new 10-year plan is developed, the treatment levels by decade and modeling will be re-evaluated.

For stands found not suitable for final harvest or intermediate treatment, inventory data will be updated (i.e., altered).

Table 4.1: North-4 Subsections Commercial Forest Cover Types by Acres and Age Class*

COVER TYPE	AGE CLASS													TOTAL	% OF GRAND TOTAL
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	120+		
<i>Ash/Lowland Hardwoods</i>															
Total	154	714	1328	1089	526	700	2190	4376	6221	6891	7324	6596	14215	52319	7.4%
Littlefork-Vermilion Uplands	86	458	929	837	379	413	1019	1439	2390	2586	2889	3307	8998	25729	
Nashwauk Uplands	7	101	49	43	6	12	23	25	245	360	345	480	844	2537	
St. Louis Moraines	0	47	84	81	25	97	477	903	1247	1712	1992	1629	2317	10611	
Tamarack Lowlands	61	108	266	128	116	178	671	2009	2339	2233	2098	1180	2056	13442	
<i>Aspen/Balm of gilead</i>															
Total	39719	61540	47099	30706	16291	19826	23115	16767	4977	685	182	20	68	260992	38.0%
Littlefork-Vermilion Uplands	17594	25676	18730	12788	7486	9625	10380	8032	1805	223	107	11	6	112462	
Nashwauk Uplands	3974	7606	4609	2609	620	1077	1204	1719	737	128	45	0	16	24343	
St. Louis Moraines	9584	16567	14880	9170	4416	3807	5206	3580	1390	108	10	9	13	68739	
Tamarack Lowlands	8567	11691	8880	6139	3769	5317	6325	3436	1045	226	20	0	33	55448	
<i>Balsam Fir</i>															
Total	702	607	782	2327	2228	1533	2579	2634	1530	779	228	54	52	16033	2.3%
Littlefork-Vermilion Uplands	391	270	487	1334	1713	952	1558	1385	819	591	130	14	47	9691	
Nashwauk Uplands	19	68	97	251	104	48	102	152	95	17	11	0	0	962	
St. Louis Moraines	182	165	101	355	334	299	423	405	235	40	44	0	5	2588	
Tamarack Lowlands	110	104	97	387	77	234	496	692	381	131	43	40	0	2792	
<i>Birch</i>															
Total	779	217	54	352	115	898	1504	2509	2102	1135	251	63	87	10064	1.4%
Littlefork-Vermilion Uplands	82	65	0	141	81	124	212	252	152	83	141	32	69	1434	
Nashwauk Uplands	180	36	30	6	3	54	364	659	825	509	46	0	18	2728	
St. Louis Moraines	400	80	24	14	31	389	629	1225	860	401	42	6	0	4102	
Tamarack Lowlands	117	36	0	191	0	331	299	373	265	142	22	25	0	1800	

*Data Source: [North 4 Subsections FIM2a] April 2008

COVER TYPE	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	120+	TOTAL	% OF GRAND TOTAL
<i>Black Spruce, Upland</i>															
Total	376	139	278	86	117	197	60	89	47	65	3	11	37	1499	0.2%
Littlefork-Vermilion Uplands	97	70	186	4	53	179	55	9	9	57	0	11	37	762	
Nashwauk Uplands	138	33	10	58	21	0	0	51	12	0	0	0	0	323	
St. Louis Moraines	78	36	22	0	43	5	5	0	18	0	3	0	0	210	
Tamarack Lowlands	63	0	60	24	0	13	0	29	8	8	0	0	0	204	
<i>Black Spruce, Lowland</i>															
Total	15527	14362	10352	16266	11462	7159	8694	12028	13620	14408	14228	12943	28431	179474	25.2%
Littlefork-Vermilion Uplands	12185	12091	8563	11402	6256	5270	6286	8299	8296	9856	10188	9002	21376	129067	
Nashwauk Uplands	754	509	120	278	641	77	315	606	754	990	440	408	680	6570	
St. Louis Moraines	1511	976	799	1559	1445	591	921	1379	1874	1491	1064	1529	2365	17504	
Tamarack Lowlands	1077	786	870	3027	3120	1221	1172	1744	2696	2071	2536	2004	4010	26333	
<i>Tamarack</i>															
Total	3453	1790	3216	7565	8154	4156	3713	4780	9375	7334	5878	3763	10833	74008	10.4%
Littlefork-Vermilion Uplands	1436	1130	2391	1847	3169	1143	567	1051	4175	2265	2127	967	2349	24616	
Nashwauk Uplands	119	44	30	63	155	130	10	247	410	305	85	107	41	1746	
St. Louis Moraines	415	145	119	761	666	122	344	547	769	268	354	374	763	5646	
Tamarack Lowlands	1483	471	676	4894	4164	2761	2792	2935	4021	4496	3312	2315	7680	42000	
<i>Jack Pine</i>															
Total	2816	2601	3337	1214	974	584	776	779	283	119	12	7	2	13506	1.9%
Littlefork-Vermilion Uplands	1563	1198	1762	798	566	257	467	327	185	0	0	0	0	7123	
Nashwauk Uplands	411	569	465	166	183	59	51	139	61	119	7	0	0	2229	
St. Louis Moraines	510	650	500	141	172	61	81	246	19	0	5	7	2	2396	
Tamarack Lowlands	332	184	610	109	53	207	177	67	18	0	0	0	0	1758	

COVER TYPE	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	120+	TOTAL	% OF GRAND TOTAL
<i>Northern Hardwoods</i>															
Total	480	159	387	207	522	1023	3220	6464	4413	2476	1186	1127	1038	22706	3.2%
Littlefork-Vermilion Uplands	49	9	0	0	37	30	114	296	274	32	122	28	152	1146	
Nashwauk Uplands	41	9	5	28	138	47	266	289	187	102	9	14	0	1135	
St. Louis Moraines	384	89	369	167	200	432	2232	3850	2834	1657	812	1071	527	14624	
Tamarack Lowlands	6	52	13	12	147	514	608	2029	1118	685	243	14	359	5801	
<i>Red Pine</i>															
Total	2447	2297	4599	1558	3600	574	1239	892	761	1083	1140	604	200	20992	2.9%
Littlefork-Vermilion Uplands	999	502	1084	384	644	101	444	260	213	239	330	51	113	5363	
Nashwauk Uplands	1016	992	621	441	320	26	245	436	340	223	137	145	25	4966	
St. Louis Moraines	382	682	2090	621	1213	279	434	176	184	519	634	356	43	7612	
Tamarack Lowlands	50	121	804	112	1423	168	116	20	24	102	39	52	19	3051	
<i>Oak</i>															
Total	108	83	81	73	24	171	451	1499	1668	402	191	110	215	5074	0.7%
Littlefork-Vermilion Uplands	27	38	0	0	0	0	0	0	24	0	0	0	0	89	
Nashwauk Uplands	11	0	0	0	0	0	0	22	83	68	0	0	0	184	
St. Louis Moraines	66	45	81	34	0	163	366	1302	1251	320	4	110	124	3865	
Tamarack Lowlands	4	0	0	39	24	8	85	175	310	14	187	0	91	936	
<i>White Cedar</i>															
Total	41	267	225	554	303	235	316	847	1170	2608	4788	5697	26463	43509	6.1%
Littlefork-Vermilion Uplands	32	267	187	540	275	107	312	625	726	1187	2683	2997	20330	30267	
Nashwauk Uplands	0	0	0	14	0	0	0	0	28	96	54	181	819	1192	
St. Louis Moraines	0	0	21	0	3	12	0	154	128	440	613	749	2857	4975	
Tamarack Lowlands	9	0	17	0	25	116	4	68	288	885	1438	1770	2457	7075	

COVER TYPE	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	120+	TOTAL	% OF GRAND TOTAL
<i>White Pine</i>															
Total	518	305	33	8	42	38	71	15	35	34	143	167	133	1541	0.2%
Littlefork-Vermilion Uplands	230	107	0	8	0	0	23	0	0	6	37	16	57	484	
Nashwauk Uplands	67	76	8	0	10	0	24	10	6	0	18	0	17	235	
St. Louis Moraines	124	81	5	0	0	11	21	5	17	16	32	43	50	403	
Tamarack Lowlands	97	41	20	0	32	27	3	0	12	12	56	108	9	419	
White Spruce															
Total	1540	1464	3725	1346	1854	265	133	133	99	106	15	0	19	10695	1.5%
Littlefork-Vermilion Uplands	634	528	1962	901	944	168	91	37	86	99	5	0	19	5473	
Nashwauk Uplands	691	468	549	67	172	0	3	50	0	0	0	0	0	1999	
St. Louis Moraines	174	381	762	169	242	31	33	14	0	7	0	0	0	1812	
Tamarack Lowlands	41	87	452	209	496	66	6	32	13	0	10	0	0	1411	
<i>All Species Summary</i>															
Total	68655	86543	75494	63348	46208	37360	48060	53807	46302	38123	35567	31161	81789	712415	100%
Littlefork-Vermilion Uplands	35402	42410	36281	30984	21601	18368	21527	22009	19155	17224	18759	16436	53552	353708	
Nashwauk Uplands	7428	10510	6593	4023	2371	1530	2606	4402	3781	2916	1196	1335	2459	51149	
St. Louis Moraines	13810	19943	19857	13071	8790	6299	11171	13786	10828	6978	5609	5881	9065	145088	
Tamarack Lowlands	12015	13680	12763	15270	13446	11163	12756	13610	12538	11005	10003	7509	16713	162470	

Data Source: North 4 Subsections FIM2a, April 2008

A summary of the planned treatment acres for the North 4 subsections is found in Table 3.9d in Chapter 3, GDS 9. That table is duplicated here as Table 4.2, for convenience in reading the cover type management guidelines.

Table 4.2: Treatment Summary

Cover type	Rotation Class	Planned Rotation Age (LtfkV/NU/StLM/TL)	Management Pool Acres**	Total Plan Treatment Pool Acres***
Ash/Lowland Hardwoods	Uneven-Age	N/A	52,343	3,207
Aspen/Balm of Gilead	Normal	45/50/40/40	174,412	54,448
	ERF Max	80/80/85/65	86,596	
Birch	Normal	50	5,822	3,197
	ERF Max	70/70/90/90	4,242	
Northern Hardwoods/Oak	Uneven-Age	N/A	27,781	13,265
Jack Pine / Upland Black Spruce	Normal	50	7,395	2,120
	ERF Max	65/70/70/65	7,611	
White Spruce (Planted)	Normal	70/60/50/50	4,351	6,825
	ERF Max	90/90/70/70	5,174	
White Spruce (Natural)	Uneven-Age	N/A	1,169	455
Balsam Fir	Normal	50	16,033	7,718
Tamarack - High SI	Normal	60	11,769	2,784
	ERF Max	120/120/100/120	12,787	
Tamarack - Low SI	Normal	90/90/80/90	27,620	3,070
	ERF Max	150/150/140/150	21,832	
Black Spruce Lowland - High SI	Normal	70	16,019	4,699
	ERF Max	100	12,989	
Black Spruce Lowland - Med SI	Normal	100	47,972	7,496
	ERF Max	140	46,706	
Black Spruce Lowland - Low SI	Normal	120	28,929	8,530
	ERF Max	180	26,859	
Red Pine	Normal	N/A		15,351
	ERF Max	180/220/220/160	20,992	
White Pine	Normal	N/A		635
	ERF Max	N/A	1,541	
White Cedar	Normal	N/A	43,510	0****
	ERF Max	N/A		
Totals			712,454	133,800

* Stands were given a preliminary prescription of uneven-age as a bookkeeping measure for tracking conversions.

** Management pool acres [data source: All_results1_dec_2008_addedfields.dbf] using man_acres field and adjusted cover types

*** Total plan Treatment Pool acres [data source: lfv/nsh/slm/tam_ready_4_final_model.dbf (10/29/2008)] using t_acres field and adjusted cover types; amended by remodeling in Dec. 2010 to add red pine and bsl acres.

**** White Cedar was not selected for treatment during stand selection: a small annual pool (approximately 80 acres) will be selected for treatment consideration by Littlefork Area staff

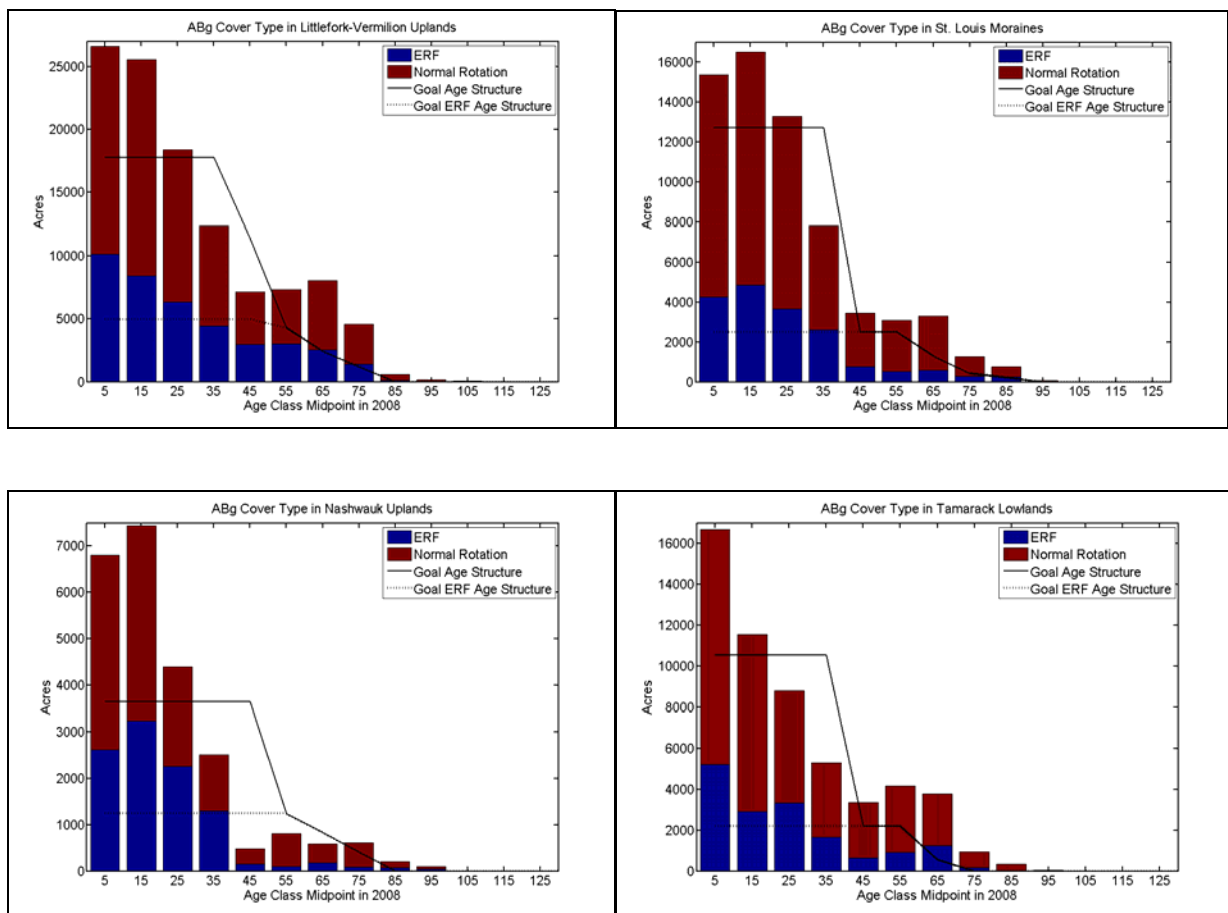
4.2 Aspen/Balm of Gilead

4.2A Current Condition

1. Cover Type Acres: In 2008, the aspen/balm of gilead (A/BG) cover type comprises 38 percent (260,992 acres) of state managed acres in these subsections. The aspen and balm of gilead cover types are combined for the SFRMP because these two species are commonly associated with each other and are managed under the same management prescriptions. Mature aspen stands are typically comprised of a mixture of species, with aspen being the major component as measured by volume.

2. Age-Class Distribution: The current A/BG age-class distribution does not reflect the desired balanced age-class structure for even-age managed cover types.

Figure 4.2a-d: Current and Desired Age-Class Distributions for the Aspen/Balm of Gilead Cover Type



In the four subsections, 25 percent (65,621 acres) of the A/BG cover type is over the recommended normal rotation age (NRA) of 40 or 50 years, depending on subsection. The goal is to have 11.5-12 percent of the managed acres (depending on subsection) between the NRA and maximum rotation age (MRA), with a declining age class distribution from NRA out to maximum age.

3. Stand Composition: Mature aspen stands are typically comprised of a mixture of species, with aspen being the major component as measured by volume. Typical secondary species in the aspen cover type are: balm of gilead, paper birch, balsam fir, red or sugar maple. Understory species in the northern part of this planning area are more likely to be balsam fir, and in the southern part, red or sugar maple.

4. Native Plant Communities: To learn more about NPCs in which aspen is typically found in these subsections, refer to Appendix P on page 7.87, and the *Field Guide to Native Plant Communities of Minnesota: the Laurentian Mixed Forest Province (NPC Field Guide)*.

4.2B Future Direction

1. Cover Type Acres: A composition goal for the next 50 years is to convert approximately 15 percent (39,153 acres) of these cover types across the four subsections to other cover types: 14 percent in the Littlefork-Vermilion Uplands, 15 percent in the Nashwauk Uplands, 16 percent in the St. Louis Moraines, and 15 percent in the Tamarack Lowlands. In the first 10 years, the reduction goal is 3, 5, 11, and 3 percent per subsection, respectively.

Table 4.2a: Recommended Aspen/Balm of Gilead Cover Type Acres by Subsections by Year

Aspen/BG					
	Subsection				
Year	LF-v totals	NU totals	SLM totals	TU totals	N4 Totals
2008	110,886	23,994	64,930	55,034	254,844
2018	108,692	23,249	61,594	53,888	247,422
2058	95,593	20,691	58,428	47,153	221,865

2. Age-Class Distribution: Improve the balance among age classes. The ERF goal for this cover type is to have 11.5-12 percent of the acres over NRA, with a declining age-class distribution from the NRA (40-50 years) out to the maximum age (60-85 years). Figures 4.2a-d illustrate the tapering off of the age-class distribution after NRA.

3. Stand Composition: The desired future within-stand composition will range from pure aspen stands to a more diverse stand structure and/or mixed forest that includes long-lived conifers such as white pine, white spruce, red pine, upland white cedar, and upland hardwoods such as birch, basswood, maple, and oak (see GDS 1B and 3A and B). A goal is to increase white pine, white spruce, red pine, or upland white cedar (long-lived conifers) and maple, basswood, and oak on appropriate NPCs.

4.2C Harvest Methods and Regeneration

1. Even-age Management Direction: The A/BG cover type will be managed on an even-age basis for pulpwood and bolts. The goal is to move towards a balanced age-class structure while maintaining or improving site productivity, forest wildlife habitat, and biodiversity.

2. Final Harvest: A/BG stands to be maintained in the cover type will be managed using clearcut or clearcut with reserves as the final harvest method. Use natural stand boundaries or natural features such as topography or soil type to delineate timber sale boundaries. Use harvest regulations and methods that favor maintaining or increasing within-stand diversity with an emphasis on long-lived conifers and hardwoods, while retaining aspen or balm of gilead as the main cover type. One of the strategies to accomplish this would be to reserve from harvest most existing individuals or patches of long-lived conifer species. These reserve trees will maintain the within-stand species diversity as well as add structural diversity for the newly regenerating stand. Reserve trees may also function as a seed source that could aid in increasing the abundance of these long-lived species in the new stand.

Harvest some larger blocks (100+ acres), where appropriate, using consolidated or natural stand boundaries. Small harvest blocks (less than 40 acres) will continue to be used. Using a range of harvest sizes will provide for various wildlife habitat needs.

3. Even-age Management Prescriptions: The following are the most common prescriptions that will be used on A/BG timber sales:

- Clearcut-Sprouting
- Clearcut with Reserves – Sprouting

Additional coding of objectives in the DNR's Forest Information System (FORIST) will be used to track accomplishments towards increasing within-stand diversity and mixed forest conditions. See Appendix G to this plan for detailed information about the coding of management objectives in the Silviculture and Roads Module (SRM) of FORIST.

4. Regeneration Methods after Final Harvest: Aspen and balm of gilead stands regenerate naturally through root sprouting (suckering) and seeding. The recommended minimum stocking of aspen regeneration two years after harvest is 4,000+ stems per acre scattered throughout the stand.¹ For some wildlife species, higher stem densities are desired. Usually, most clearcut stands regenerate at greater than 10,000 stems per acre. If stocking is below the desired level, consider conversion to another cover type or increase stocking by planting or seeding other species. Forest managers should consider the following strategies when the goal is to increase within-stand diversity, to create a more mixed hardwood or hardwood-conifer composition in the future stand.

- a. Direct seeding: This works best on sites where harvesting operations have scarified the soil creating a seedbed suitable for seed germination.
- b. Planting: Planting long-lived conifers using small patches or variable density scattered plantings with or without site preparation.

¹ Manager's handbook for aspen in the North Central States. Gen. Tech. Rep. NC-36. St. Paul, MN. USDA, Forest Service, North Central Forest Experiment Station.
St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands SFRMP

4.2D Cover Type Conversion Management

1. Conversion Goals: Natural resource managers recognize that conversion goals can take more than a rotation age to accomplish. Over the next 50 years, it is recommended that approximately 39,153 acres of the A/BG cover type be converted to other cover types (see Table 4.2b for conversion goals for each decade). Depending on site conditions, these stands will be converted to: oak or northern hardwoods; long-lived conifer species such as white pine, white spruce, red pine, or upland white cedar; as well as shorter-lived conifers such as upland black spruce or jack pine. Some converted stands will be managed for a mixed conifer-hardwood composition. The 10-year conversion goal is 13,596 acres. The decision of whether or not to convert a stand to another cover type will be determined when the stand is field visited. The outcome of a NPC-ECS field evaluation will determine the appropriate species conversions. Conversion of aspen to the desired cover types will be accomplished using a range of management options, including:

- a. Allowing natural succession to occur on sites where the within-stand composition contains a high percentage of the desired species listed above, or there is adequate advance regeneration of these species in the understory;
- b. Using partial harvest in mixed stands to release existing understory conifers and to create mixed conifer-hardwood composition in the stand;
- c. Using post-harvest treatments such as herbicide application, mechanical site preparation, or prescribed burning followed by hand planting or artificial seeding, to establish conifers on the site;
- d. Under-planting long-lived conifers in thinned or existing stands where conditions are favorable for these seedlings to become established and grow; and
- e. Converting to another species if more than 25 percent of the aspen stems in a stand contain hypoxylon canker (*DNR-Forest Development Manual*, page D-2.1).

Table 4.2b: Conversion Goals for the North 4 Subsections by Decade

North 4 Aspen-Balm of Gilead-Birch Conversions					
	Subsection totals				
	LVU	SLM	NU	TL	N4
Available A/BG/BI acres *	114,087	73,315	27,146	57,438	271,986
Treatment Acres **	21,143	19,219	5,119	12,165	57,646
Conversion Acres Total ***	3,536	4,650	1,757	2,054	11,997
% Conversion of Available****	3.1	6.3	6.5	3.6	4.4

* Aspen, Balm of Gilead, and Paper Birch acres available for treatment consideration

** Acres of Aspen, Balm of Gilead, and Paper Birch selected for treatment (source: [trt_summary_2009.doc])

*** Targeted acreage for conversion in Aspen, Balm of Gilead, and Paper Birch cover types within first decade of plan (source: [Con_summary_LTA_.xls])

**** Percentage of available A/BG/BI acres targeted for conversion during first decade of plan

4.2E Stand Selection Criteria

Table 4.2c: Aspen/Balm of Gilead Normal-rotation Acreage and Percentage by Subsection

Aspen/BG				
<i>Subsection</i>	<i>NRA</i>	<i>MRA</i>	<i>Current % > NRA</i>	<i>Current Acres > NRA</i>
L-VU	45	80	28%	29,300
NU	50	80	18%	4,234
SLM	40	85	27%	16,067
TL	40	65	30%	16,020
Total				65,621

The North-4 SFRMP does not identify high-risk, low volume stands for treatment. Rather, a priority in this landscape over the next 10 years will be to select stands within 10 years of, or over MRA for treatment. As mentioned previously, balancing age classes and creating an even flow of volume are also a priority. Stands within 10 years of NRA (NRA) and older are also available for examination with the goal of creating a better age class distribution in these cover types. For a more detailed description of harvest-level calculations, see GDS 9A in Chapter 3.

2. Extended-Rotation Forest The long-term goals for retention of acres over NRA in these cover types, while providing a declining age-class structure out to the MRA are listed in tables 3,1e-b, on page 3.7 (Chapter 3). The harvest level will be based on various harvest ages beyond the NRA out to MRA. The selection of older ERF stands for treatment will be emphasized to help move the subset of ERF stands towards the desirable declining age class structure. Figures 4.2a-d display the current age-class distribution of designated ERF and the desired declining age-class structure.

3. Thinning Aspen and balm of gilead stands were not considered as candidates for thinning, except where a thinning prescription was part of a strategy to accomplish conversion goals, enhance management of patches, or to create a demonstration area for forest management.

4.2F Stand Treatment Summary

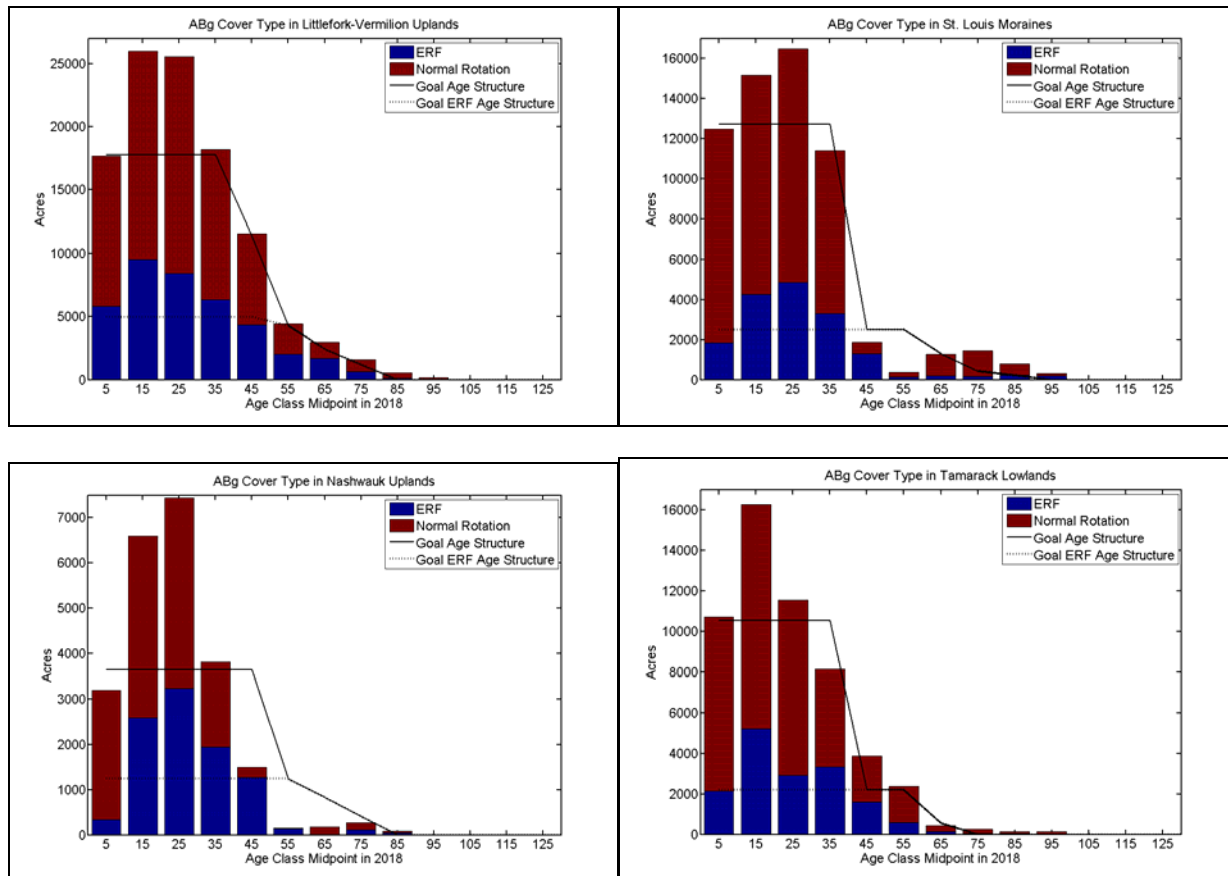
Table 4.2d shows the modeled treatment levels (acres) for the next five decades. There is considerable variation from decade to decade because of the current age-class distribution of the cover type.

Table 4.2d: A/BG Treatment Summary by Decade

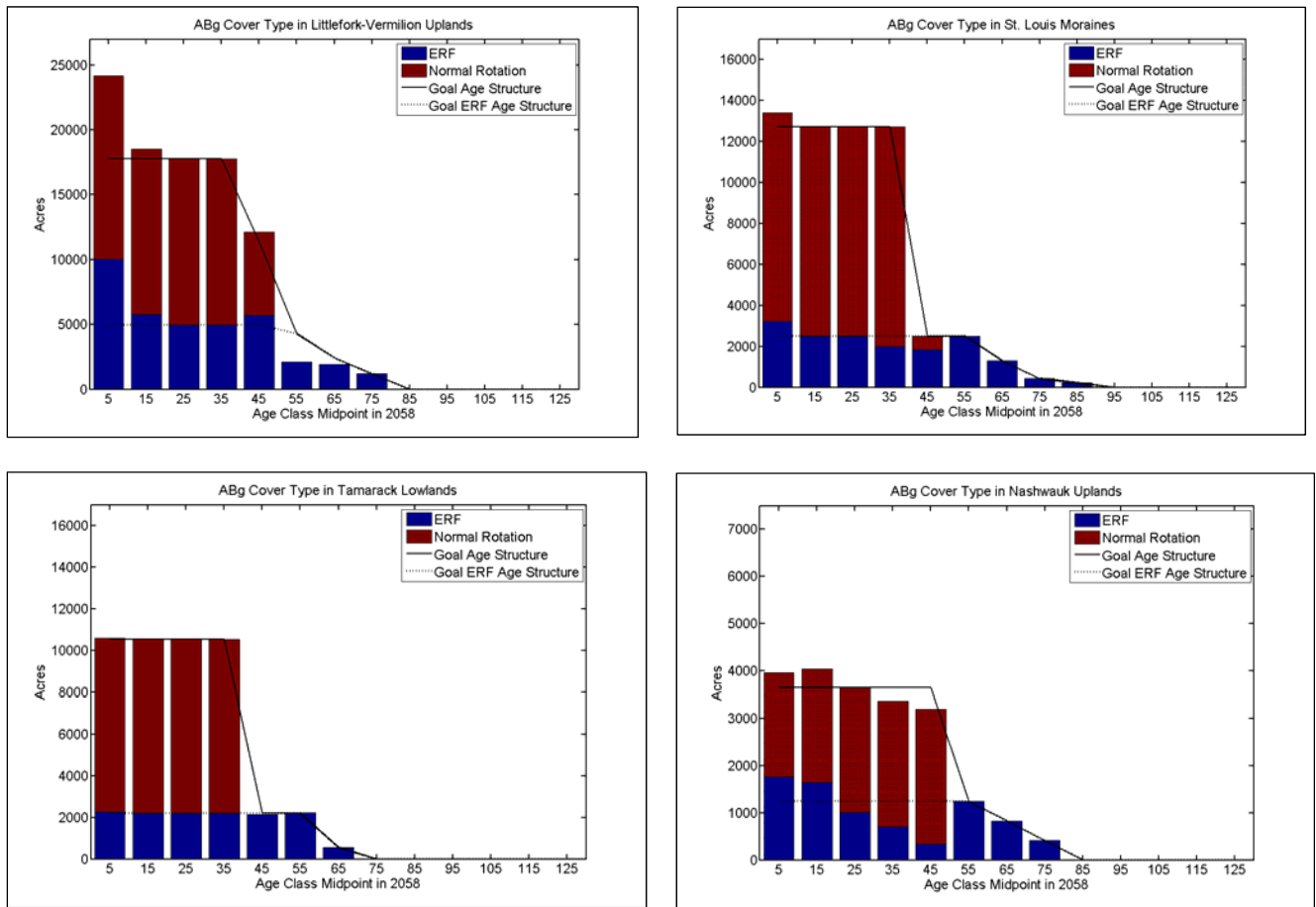
Subsection	Decade				
	1	2	3	4	5
Aspen Clearcut Area LVU	17,679	17,749	17,749	18,533	24,183
Aspen Clearcut Area NU	3,199	3,371	3,640	4,038	3,961
Aspen Clearcut Area SLM	12,475	12,699	12,699	12,699	13,405
Aspen Clearcut Area TL	10,707	10,539	10,539	10,539	10,605
Aspen Clearcut total by decade	44,060	44,358	44,627	45,808	52,154

Based on the modeling of these treatment levels, by the end of the fifth decade, the cover type should be approaching the projected age-class distribution as shown in Figures 4.2i-l.

Figures 4.2 e-h: Projected Age-Class Distributions for the A/BG Cover Type in 2018



Figures 4.2 i-l: Projected Age-Class Distributions for the A/BG Cover Type in 2058

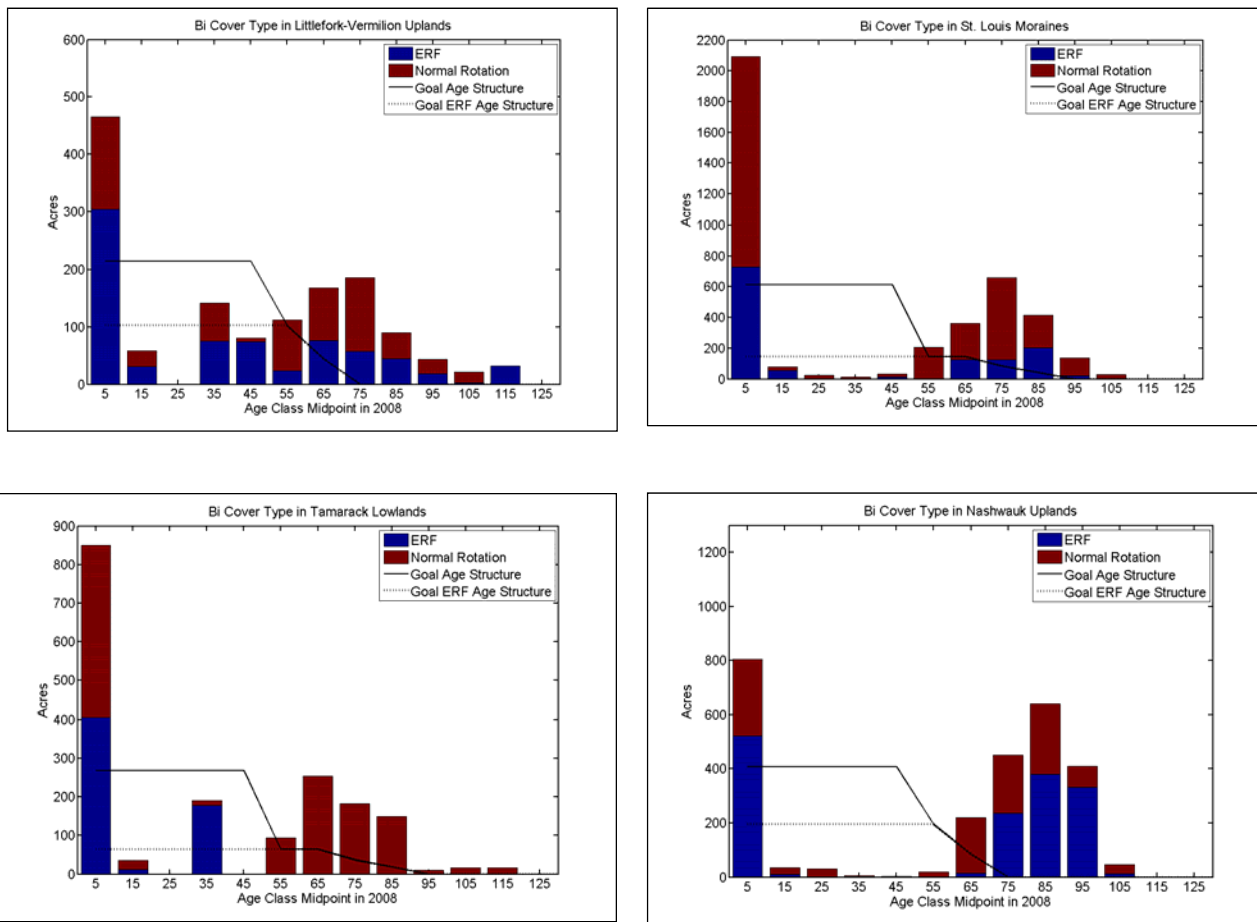


4.3 Paper Birch

4.3A Current Condition

- Cover Type Acres:** In 2008, the paper birch (Bi) cover type comprises 1.4 percent (9,969 acres) of state managed acres in these subsections. The Bi cover type most often refers to stands of paper birch (*Betula papyrifera*) within the planning area. Yellow birch (*B. allegheniensis*) also occurs within the planning area typically as a moderate to minor component of mesic hardwood forests.
- Age-Class Distribution:** The current Bi age-class distribution does not reflect the desired balanced age-class structure for even-age managed cover types. Because of this, and due to the small number of acres of this cover type in the planning area, there is some doubt about whether a balanced age-class distribution is attainable in these subsections. It does remain a goal to improve the balance of age classes in the cover type to the extent it is practicable.

Figures 4.3a-d: Current and Desired Age-Class Distributions for the Paper Birch Cover Type



In the four subsections, 50 percent (5,022 acres) of the Bi cover type is old forest at or over the recommended NRA of 50 years. The goal is to have 12 percent of the timber land acres between the NRA and the MRA (i.e., effective ERF). Currently, 22 percent (2,180 acres) is over the recommended MRA of 70 years (Littlefork Vermilion Uplands and Nashwauk Uplands Subsections) and 90 years (St. Louis Moraines and Tamarack Lowlands Subsections).

3. Stand Composition: Within-stand species composition of mature birch stands (51-80+ years old) in these subsections typically includes significant amounts of species in addition to birch such as aspen, balsam fir, white spruce, red maple, red pine, oak, and white pine. The stand history (both natural and anthropogenic) and the NPC of the site account for most of the species variation within the Bi cover type.

4. Native Plant Communities: To learn more about NPCs in which birch is typically found in these subsections, refer to Appendix P on page 7.87, and the *NPC Field Guide* in the Laurentian Mixed Forest Province.

4.3B Future Direction

1. Cover Type Acres: A goal for the next 50 years is to reduce the acreage in the A/BG, and Bi cover types (combined) by 15 percent (40,296 acres total all subsections) in the North 4 subsections. The 10-year goal for Bi is a reduction of the cover type by 5 percent (475 acres) across these subsections.

It should be noted that, while this plan recommends a reduction in the Bi cover type across the planning area in the coming decades, there is no goal to eliminate the Bi cover type or to eliminate the species as a component in mixed forests. Conversions out of the Bi cover type should be targeted at reducing the abundance of birch relative to other appropriate tree species for the site (see Appendix P for NPC information).

Table 4.3e: Recommended Birch Cover Type Acres by Subsection and Year

Year	Subsection					Totals
	LF-v totals	NU totals	SLM totals	TU totals	N4	
2008	1,434	2,686	4,050	1,800		9,969
2018	1,422	2,686	3,738	1,744		9,589
2058	1,219	2,686	3,486	1,530		8,921

2. Age-Class Distribution: A goal is to move the cover type toward a more balanced age-class structure. The ERF goal for this cover type is to have 12 percent of the acres over NRA (effective ERF) with a declining age-class distribution from NRA (50 years) out to the maximum age (70 years for the Littlefork Vermilion Uplands and Nashwauk Uplands and 90 years for the St. Louis Moraines and Tamarack Lowlands). Figure 4.3b illustrates the desired tapering off of the age-class distribution starting with the 51-60 year age class.

3. Stand Composition: The desired future within-stand composition will range from pure paper birch stands to paper birch coexisting with other species in mixed forests that include aspen, balsam fir, white pine, white spruce, red pine, upland white cedar, and upland hardwoods such as maple, oak, and ash (See GDS-1B and 3A and B). Stand-level NPC classifications will also help define the desired species mix within birch stands. A goal is to increase white pine, white spruce, red pine, or upland white cedar (long-lived conifers) in some birch stands.

Stands that contain yellow birch should be managed to retain yellow birch within the context of the NPC associated with the site (most often MHn47 and MHn45 in the North 4 planning area).

4.3C Harvest Methods and Regeneration

1. Even-age Management Direction: Manage the Bi cover type on an even-age basis for pulpwood, bolts, and veneer products. The goal is to move toward a balanced age-class structure while maintaining or improving site productivity, forest wildlife habitat, and biodiversity.

2. Final Harvest Method: Birch stands to be maintained in the Bi cover type will be managed using clearcut, clearcut with reserves, shelterwood, or seed tree as the final harvest method. Use natural stand boundaries or natural features such as topography or soil type to delineate timber sale boundaries. Use harvest regulations and methods that favor maintaining or increasing

within-stand diversity appropriate to the NPC, while retaining Bi as the main cover type. Reserve trees and reserve patches will contribute to within-stand species diversity as well as adding structural diversity for the newly regenerating stand. The reserve trees may also function as a seed source that could aid in increasing the abundance of these long-lived species in the new stand. A range of harvest sizes is needed to account for wildlife habitat needs and biodiversity considerations.

3. Even-age Management Prescriptions: The following are the most common prescriptions that will be used on Bi timber sale acres:

- Clearcut with Reserves – Sprouting
- Seed Tree
- Seed Tree with Reserves
- Shelterwood
- Shelterwood with Reserves

Additional coding of objectives in the DNR’s Forest Information System (FORIST-SRM) will be used to track accomplishments towards increasing within-stand diversity and mixed forest conditions.

4. Regeneration Methods after Final Harvest: Birch stands regenerate naturally through stump sprouting and seeding. Stump sprouting alone usually does not provide adequate stocking. Shelterwood or seed tree harvest methods are preferred for regenerating a birch stand². A shelterwood provides a moderated environment that is preferred for the initial establishment of birch seedlings. Retention of 20 to 40 percent crown cover is recommended for seed production and seedling development. Other recommendations are as follows:

- a. Scarification (via summer harvest or disking) or prescribed fire if necessary to provide a mineral-soil seedbed;
- b. Site preparation, such as disking or anchor-chaining to incorporate birch seed into the mineral soil (this is best done in late fall during seed fall, or within two years of production of a good seed crop);
- c. Herbicide application to control competing vegetation if necessary on richer sites if aspen regeneration or shrubs are expected to overtop and suppress the birch seedlings (instruction should be made in the initial silvicultural prescription for the stand to minimize the use of herbicides in order to achieve stand composition goals); and
- d. Shelterwood trees may be removed after enough birch seedlings become established.

If birch stocking is below the desired level for the cover type, consider 1) the NPC of the site and the relative abundance of birch to other tree species within this context; there are native plant communities where birch can be the dominant canopy tree species while there are others where birch occurs as a component within a different cover type or mixed forest; or 2) conversion (natural or artificial) to another cover type; or 3) decrease the relative abundance of birch by planting or seeding other species or by designing a silvicultural prescription that favors species other than birch in the post-harvest stand.

² Perala, D. and Alm, A. *Regenerating Paper Birch in the Lake States with the Shelterwood Method*. Northern Journal of Applied Forestry, December 1989.

Forest managers should consider the following strategies when the goal is to increase within-stand diversity or to create a more mixed hardwood-conifer composition in the future stand:

- a. Direct seeding: This works best on sites where harvesting operations have scarified the soil creating a seedbed suitable for seed germination.
- b. Planting long-lived conifers or hardwoods using small patches or variable-density scattered plantings, with or without site preparation.
- c. Retaining seed trees and/or advance regeneration of desired tree species.

5. Intermediate Harvest Methods: Commercial thinning in merchantable Bi stands should be given careful consideration because it may result in unacceptable levels of damage to residual trees. Thinning in a limited number of Bi stands may be a viable option for a number of reasons including patch goals, biodiversity goals, and to test new silvicultural ideas (i.e., in demonstration areas).

6. Regeneration Methods Before Harvest: A relatively new technique favoring birch regeneration applies soil scarification before initiating a harvest. A “salmon blade” is the most widely used tool to achieve this. It involves entering the stand one to three years pre-harvest to expose mineral soil that is receptive to birch seed from the existing overstory. Harvest treatments occur after the seedlings are securely established.

4.3D Cover Type Conversion Management

Attempts should be made to locate conversions in priority LTAs as noted in Appendix E.

1. Conversion Goals: Over the next 50 years, 15 percent (40,296 acres) of A/BG, and Bi will be converted to other cover types. The 10-year conversion goal is 4.8 percent (475 acres) of the Bi cover type acres. Depending on site conditions and the NPC of the site, Bi stands will be converted (naturally or artificially) to long-lived conifer species such as white pine, white spruce, red pine, and upland white cedar, as well as shorter-lived conifers such as upland black spruce or jack pine. Some stands may be converted to oak or northern hardwoods. Some converted stands will be managed for a mixed conifer-hardwood composition. Conversion to the desired cover types will be accomplished using a range of management options, including:

- a. Allowing natural succession to occur on sites where the within-stand composition contains a high percentage of the desired species listed above, or where there is adequate advance regeneration of these species in the understory.
- b. In birch stands dominated by yellow birch, or where yellow birch exists as a lesser component, efforts should be made to retain this species in the stand during conversion. Avoid conversion of fully stocked stands of yellow birch.
- c. Under-plant long-lived conifers and/or hardwoods appropriate to the site’s NPC in existing stands where conditions are favorable for these seedlings to become established and grow.
- d. Use post-harvest treatments, such as mechanical site preparation, prescribed burning, or herbicide application, followed by hand planting or artificial seeding, to establish conifers or desirable hardwoods on the site.
- e. Work with natural stand dynamics. Using NPC classification and growth stage information, plan ahead with a silvicultural prescription that favors the desired species and is unfavorable to birch (e.g., leave birch standing to reduce regeneration of birch, minimize soil scarification to reduce seed bed availability, retain some canopy closure in areas where birch regeneration may be considered a problem post-harvest).

Table 4.3f: Conversion Goals for the North 4 Subsections by Decade

North 4 Aspen-Balm of Gilead-Birch Conversions					
	Subsection totals				
	LVU	SLM	NU	TL	N4
Available A/BG/BI acres*	114,087	73,315	27,146	57,438	271,986
Treatment Acres**	21,143	19,219	5,119	12,165	57,646
Conversion Acres Total***	3,536	4,650	1,757	2,054	11,997
% Conversion of Available****	3.1	6.3	6.5	3.6	4.4

* Aspen, Balm of Gilead, and Paper Birch acres available for treatment consideration
 ** Acres of Aspen, Balm of Gilead, and Paper Birch selected for treatment (source: [trt_summary_2009.doc])
 *** Targeted acreage for conversion in Aspen, Balm of Gilead, and Paper Birch cover types within first decade of plan (source: [Con_summary_LTA_.xls])
 **** Percentage of available A/BG/BI acres targeted for conversion during first decade of plan

4.3E Stand Selection Criteria

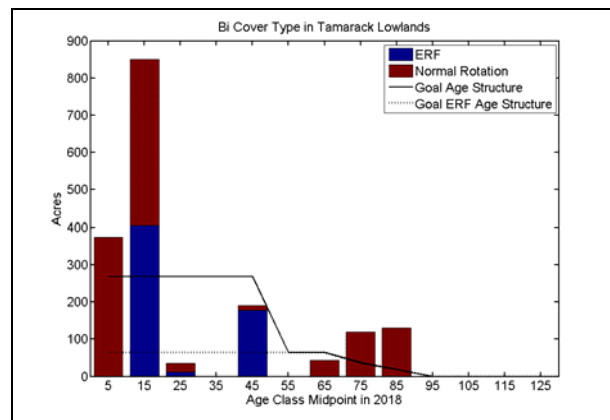
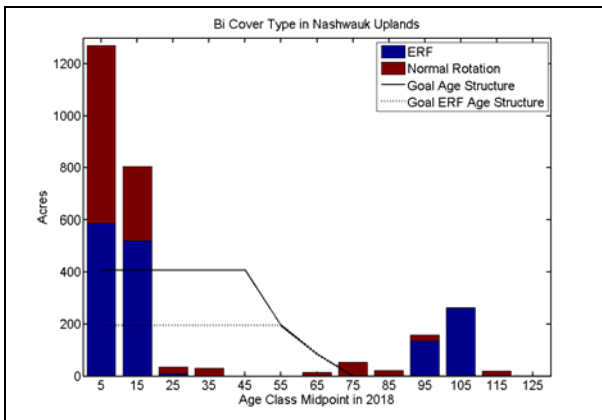
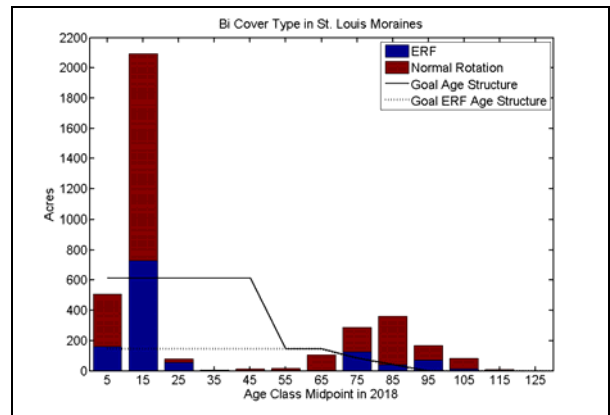
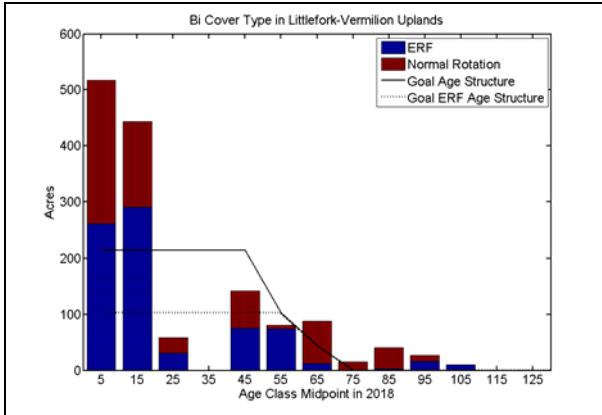
1. Normal-Rotation Forest: The objective is to move the age classes toward a more balanced structure. This plan selected all Bi stands over MRA for evaluation during the next 10 years. Stands in this group will be evaluated to determine whether they are merchantable; stands that are determined not to be merchantable will be evaluated for other treatments or alteration. For a more detailed description of harvest-level calculations, see GDS-9A.

2. Extended-Rotation Forest: Long-term goals are to retain 12 percent of the cover type acreage over the NRA and to provide a declining age-class structure out to the MRA of 70 and 90 years depending on subsection (see Figure 4.3b). The ERF Harvest Level is constrained by the desire to achieve the declining age-class structure. The North 4 team considered ways of achieving, and sustaining over time, the long-term goal of 12 percent of ERF acres over NRA.

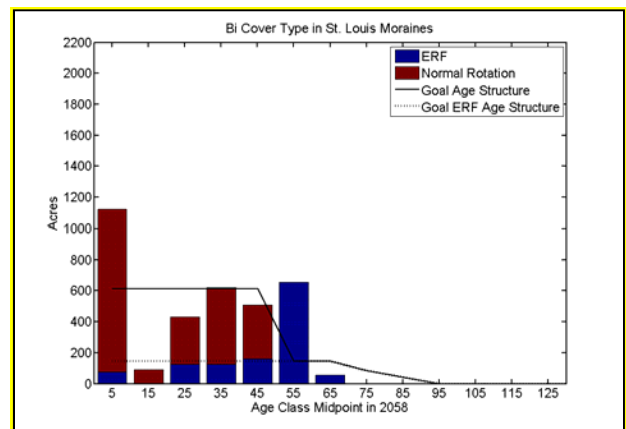
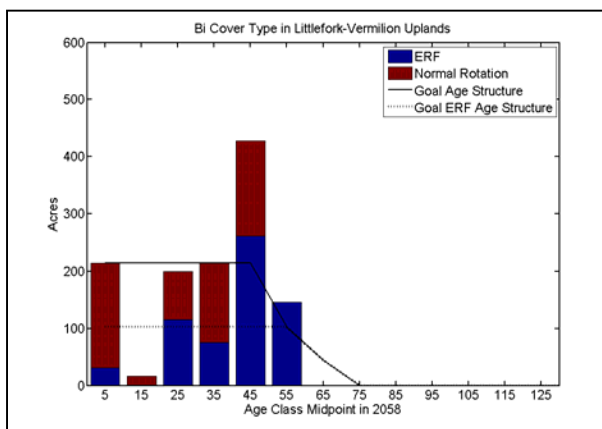
4.3F Stand Treatment Summary

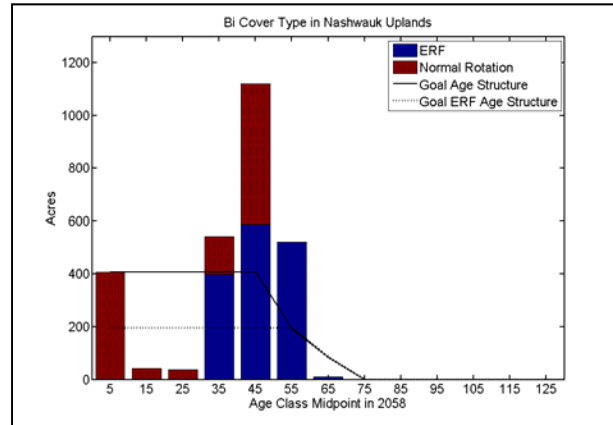
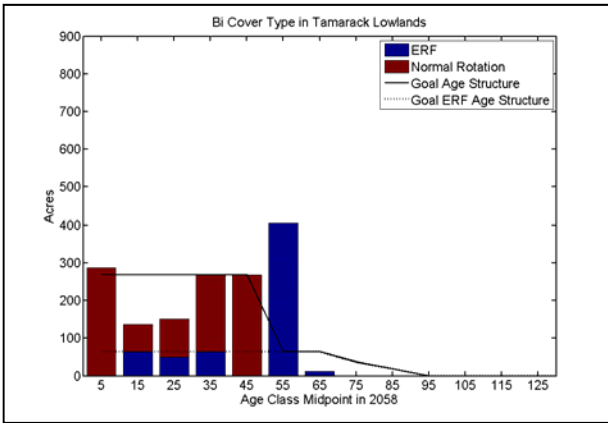
Tables in Chapter 3 of this plan (GDS-9) show the treatment level (acres), recommended conversion acreage out of the Bi cover type, old forest percent, ERF percent, and the average treatment ages for the first decade. They also show the long-term DFFCs. There will be considerable variation from decade to decade because of the current age-class distribution of the cover type. Based on the selection criteria, 3,196 acres of Bi have been selected for treatment during the first decade of this plan.

Figures 4.3 e-h: Projected Age-Class Distributions for the Paper Birch Cover Type in 2018



Figures 4.3 i-l: Projected Age-Class Distributions for the Paper Birch Cover Type in 2058





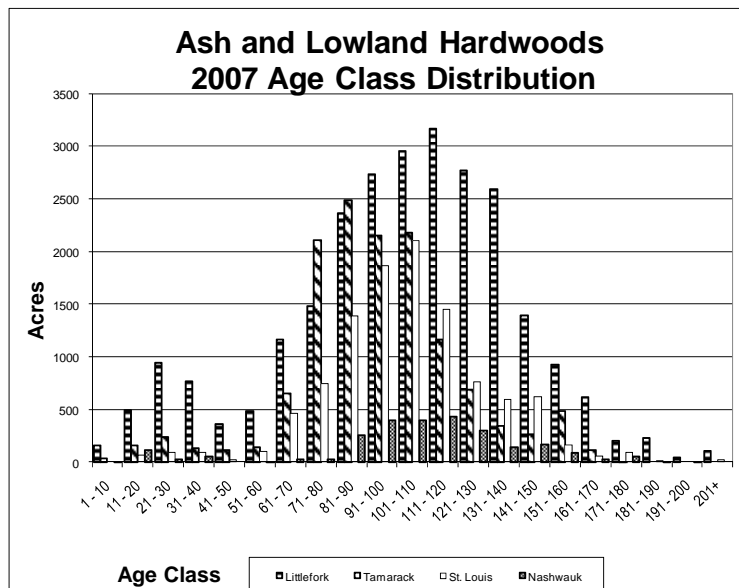
4.4 Ash/Lowland Hardwoods

4.4A Current Condition

1. Cover Type Acres: In 2008, the ash and lowland hardwoods (Ash/LH) cover type comprised 7.4 percent (52,319 acres) of state managed acres in these subsections. These cover types are combined into one management category for this SFRMP because these two cover types are commonly associated with each other and are managed under the same management prescriptions.

2. Age-Class Distribution: In each of the subsections, the current age-class distribution of these cover types reflects a forest with little acreage in the younger age classes (see Figure 4.4a). These cover types are managed using uneven-age treatments thus a balanced age class is not a goal.

Figure 4.4a: Current Age Class Distribution of Ash/Lowland Hardwood Stands.



3. Stand Composition: Natural, mature ash/LH stands range from pure or nearly pure black ash stands to mixed stands that include green ash, balm of gilead, red maple, bur oak, basswood, balsam fir, white cedar, tamarack, silver maple, yellow birch, and elm.

4. Native Plant Communities: Information about North 4 NPCs in which ash/LH are typically found is located in Appendix P on page 7.87, in the *NPC Field Guide*, and ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for ash/lowland hardwood emphasis.

4.4B Future Direction

1. Cover Type Acres: No acreage change is proposed for the ash/LH cover types during the next 10 years or over the next 50 years. There may be an increase in these cover types as inventory data is updated (e.g., some lowland hardwood stands are incorrectly typed as northern hardwood).

Limiting Factor: Emerald ash borer was discovered in Minnesota in 2009; the extent to which Minnesota ash populations will be affected is yet to be determined.

2. Age-Class Distribution: Continue to move these cover types toward an uneven-age structure with trees representing all size classes.

3. Stand Composition: Mature ash/LH stands range from pure or nearly pure black ash stands to mixed stands that include green ash, balm of gilead, red maple, bur oak, basswood, balsam fir, white cedar, tamarack, silver maple, yellow birch, and elm.

4.4C Uneven-age Stand Management Direction

1. Uneven-age Management: Manage ash/LH on an uneven-age basis for pulpwood, bolts, and sawtimber products while accounting for site productivity, wildlife habitat, and biodiversity. Small group selection may be prescribed in even-age stands to attain an uneven-age condition. Selective harvest should retain trees from all size-classes so that the residual basal area is approximately the same for trees under and over 10 inches. Treatment should reduce basal area (BA) to 75-90 square feet per acre or removal of one third of the BA, whichever leaves the most BA.

Maintain the species composition and structural diversity that naturally occurs within these forest communities. Recommendations for within-stand management are:

- a. Maintain or restore associated tree species and structural diversity appropriate to the site's NPC.
- b. Retain the older forest characteristics within stands by retaining a component of large, old trees; coarse woody debris; and snags.
- c. Retain large, old trees in the canopy for recruitment of future downed logs and the protection of hummock and hollow microtopography to promote seedling establishment.
- d. Encourage multi-layered understory development.

4.5D Harvest Methods in Uneven-age Managed Stands

1. Single Tree Selection: Single or individual tree selection will retain an unbroken and/or multistory canopy throughout the stand providing aesthetic, wildlife, and ecological values. This technique favors shade tolerant species at the expense of moderately tolerant or intolerant species. Utilize regulated size-class distribution information as a guide for the desirable stocking in a stand.

2. Group Selection: Group selection should be used when attempting to maintain or encourage species that are shade intolerant or only moderately shade tolerant, where canopy gaps are acceptable, and for moving from an unregulated stand to a regulated stand. The goal of group selection is to mimic natural disturbance patterns to meet species-specific regeneration requirements. Cuts should remove most or all timber in the gap, with the gap width limited to twice the height of the surrounding timber. Gaps should be oriented to take advantage of desired seed sources.

3. Uneven-age Management Prescriptions: The following uneven-age management harvest prescriptions will primarily be used:

- Group Selection with Reserves
- Single Tree Selection
- Variable Density
- Variable Retention

4.5E Even-age Management Direction

1. Even-age Management: The preliminary prescription for all ash/LH stands selected for treatment will be uneven-age management. Following procedures identified in the *DNR Divisions of Forestry, Fish & Wildlife, Ecological Resources Interdisciplinary Forest Management Coordination Framework (Coordination Framework)*, some stands may be identified for even-age management with a long-term goal to move towards the desired uneven-age condition.

Even-age harvest methods may occasionally be preferred because of undesirable stand conditions resulting from past management, or to move low quality even-age hardwood stands toward an uneven-age stand condition. No harvest is recommended in stands with site index <45 with the objectives of maintaining wildlife habitat, ecological integrity, and water quality.

4.5E Harvest Methods in Even-age Managed Stands

1. Shelterwood: Shelterwood systems may be considered because they have been proven to be an effective system in regenerating some, but not all, species present in ash/LH stands. A two-aged shelterwood system is the most reliable method of regenerating an even-age ash/LH stand. This system works for both small seeded (e.g., yellow birch) and large seeded species (e.g., sugar maple and red oak). The key to this system is to establish adequate advance (2-4 foot tall) reproduction prior to the removal of the overstory.

2. Clearcut: Where the existing stand quality is very poor, it may be desirable to use a clearcut technique. Advance reproduction is required prior to the final harvest. If advance reproduction is absent, one or two thinnings should be done to encourage seedling establishment. Consider the regeneration needs for the next stand when selecting the management prescription.

3. Even-age Prescriptions: The following even-age management harvest prescriptions will primarily be used:

- Clearcut with Reserves
- Clearcut with Reserves – Sprouting
- Shelterwood
- Shelterwood with Reserves
- Shelterwood with Reserves – Final Harvest

4.5F Intermediate Harvest

1. Thinning in Even-age Pole-Sized Stands: Thinning in even-age pole timber stands (5-9 inches diameter at breast height (DBH)) can be used to improve timber quality, adjust species composition, and capture volume that would otherwise be lost due to mortality. Following are recommendations:

- a. Limit the harvest of trees 10 inches DBH or larger to retain these larger diameter trees in the stand for moving toward a regulated stand.
- b. Release crop trees (Class 1 and 2) down to 80 percent crown cover for trees greater than 5 inches DBH. A crop tree is one that is retained for future commercial harvest. Crop trees are desired species that have good form and quality, good crown vigor, a low risk to loss, are usually dominant or strong codominant trees, and have a good potential for producing high value sawlogs or veneer.
- c. Crown release, seven feet on at least three sides, on 60-75 crop trees per acre.
- d. Thin from below, removing primarily the culls, poorest formed, poorest quality, and suppressed trees, until the desired stocking level is reached.
- e. Leave an adjacent tree crown to correct for a fork.
- f. Avoid creating large canopy gaps (>15 feet).
- g. Delay next thinning until crown closure and lower branch mortality is achieved (15-20 years).

2. Thinning Prescriptions:

- Selective Thinning is the most common prescription.
- Variable Density
- Variable Retention

4.4H Stand Selection Criteria

The ashLH cover type will generally be managed on an uneven-age basis. Stands to be managed as even-age will be determined at the time of the field visit. The following criteria were used in the Woodstock/Stanley model to preselect an ash/LH stand exam pool:

- a. Site index equals 45 or greater.
- b. Basal area (BA) is greater than 120 square feet per acre.
- c. Cords/acre (cds/ac) is greater than 21.

Areas will add to this pool, based on local knowledge.

4.4I Stand Treatment Summary

Based on the above criteria, 3,216 acres have been identified for possible treatment during this 10-year planning period. Based on additional field evaluations (e.g., re-inventory) of ash/LH stands during this planning period, additional acres may be added for treatment if the stands meet the harvest criteria.

4.5 Northern Hardwoods

4.5A Current Condition

1. Cover Type Acres: In 2008, the northern hardwoods (NH) cover type comprised 3.2 percent (22,706 acres) of state managed acres in these subsections. Within these subsections, there is a distinct variation in distribution of the cover type (see table 4.1 on page 4.5).

2. Age-Class Distribution: The current age-class distribution shows an abundance of middle-aged and mature stands (51 - 120 years) while there is little acreage in the younger (<50 years) or older (>120 years) age classes (see figure 4.5a).

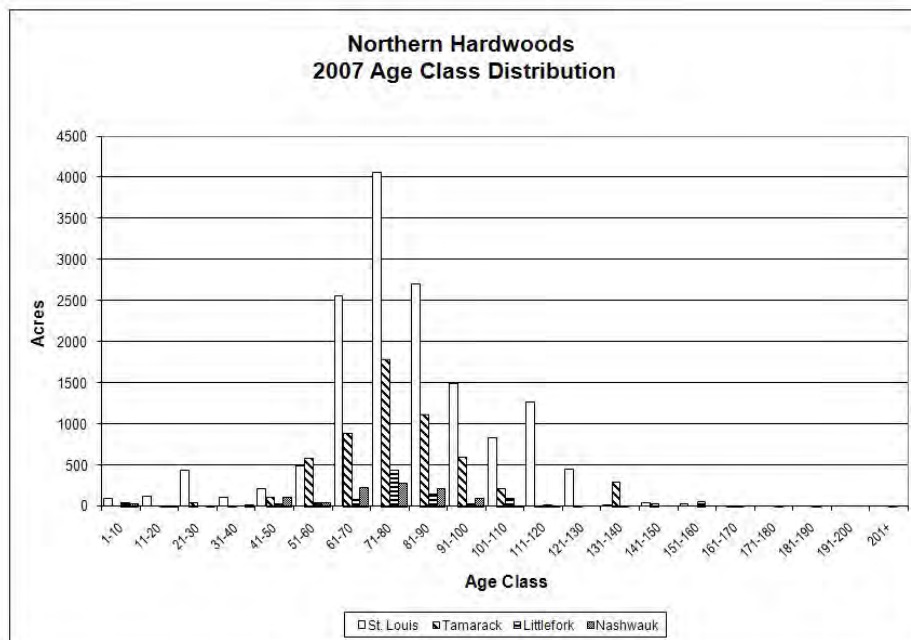


Figure 4.5a: Current Age-Class

Distribution for the Northern Hardwoods Cover Type

3. Stand Composition: Natural, mature NH stands are mixed stands. Species in the northern hardwood cover type are: sugar maple, red maple, red oak, basswood, green ash, black ash, quaking aspen, bigtooth aspen, yellow birch, paper birch, ironwood, white pine, white cedar, and white spruce.

4. Native Plant Communities: Information about North 4 NPCs in which NH stands are typically found is located in Appendix P (Suitability of Tree Species by Native Plant Community) on page 7.87, in the *NPC Field Guide*, and in the ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for northern hardwood emphasis.

4.5B Future Direction

Cover type goals are to improve the timber quality and ecological characteristics of the northern hardwood cover type, while enhancing or maintaining the aesthetic values.

1. Cover Type Acres: The long-term goal is to increase the NH cover type acreage in LTAs identified by the North 4 Team for northern hardwood emphasis, and in native plant communities where species that make up the NH covertime are good competitors (see Appendix P: Suitability of Tree Species by NPC). Most of the increase will come from the partial harvesting of A/BG, and Bi stands with a significant northern hardwood component or from natural succession of these cover types.

2. Age-Class Structure: The cover type will be managed predominantly under uneven-age management methods and move toward a regulated size-class structure that meets desired stocking levels within stands. Uneven-age management preliminary treatment prescriptions will initially be applied to all stands selected for treatment. Following procedures identified in the Forestry, Fish and Wildlife and Ecological Resources Interdisciplinary Forest Management Framework, some stands may be identified for even-age management with a long-term goal to move towards the desired uneven-age condition.

3. Stand Composition: The desired within-stand compositional goal will be to maintain or restore a diverse stand structure and mix of species. Within stand species composition in this

cover type varies from north to south. Depending on where the stand is geographically, it is desirable to increase the presence of red oak, bur oak, yellow birch, white pine, white cedar, and/or white spruce as components where NPC evaluations indicate they are suitable. Artificial regeneration may be necessary where these species have been extirpated, are not regenerating naturally, or to add species to the stand to meet various objectives.

Poor current timber quality may be present in some stands for various reasons (e.g., frost cracks, canker damage, insect and disease attacks on trees of advancing age, poor form, past harvesting to remove quality hardwoods, gap size, grazing, and the fact that the key species of this cover type are living near the edge of their range). Where possible and in appropriate native plant communities, efforts to improve timber quality will be made.

4.5C Uneven-age Stand Management Direction

1. Uneven-age Management Direction: The first step in uneven-age management decision-making is to evaluate the stand and determine if it is a regulated or unregulated stand. Regulated stands must meet the desired stocking level for all size classes.³

2. Regulated Stands: Consider the following sequence when marking regulated stands for harvest:

- a. Remove volume only from over-stocked size classes.
- b. Avoid harvest during and immediately following a drought or defoliation event.
- c. Remove high-risk and cull trees while retaining leave trees needed for plant and animal habitat, such as snags and recruitment of coarse woody debris. Retain a minimum of six cavity trees, potential cavity trees, and/or snags per acre.
- d. Utilize three sawtimber size classes, 10-13 inches, 14-17 inches, and > 18 inches for determining the basal areas to retain after harvest.
- e. Remove crop trees that have reached the rotation size up to 24 inches DBH, depending on the species, while retaining two or more trees per acre beyond the rotation size DBH as leave trees (may include cull trees). Fell all stems in the gaps created by removing these mature trees. Gaps may be a range of sizes (depending on hardwood species) with the gap width limited to twice the height of the surrounding timber.
- f. Cuts in the pole size class (5-9 inches) should be for improvement only, removing the poorest quality trees.
- g. Cut from the sapling size class (2-4 inches) only those saplings located within the canopy gaps.
- h. Re-entry should be considered after 10-15 years when the stocking has increased to the point where another harvest is feasible.

3. Unregulated Stands: Typically, stands are overstocked in the pole or small sawtimber size class, and lack adequate stocking in the sapling and large sawtimber size classes. A plan goal is to move towards a regulated stand condition. Depending on current condition it may take 3-4 cuts (30-60 years) for these stands to become fully regulated. Consider the following recommendations when moving an unregulated stand toward a regulated condition:

³ (See, for example, *Eyre, E.H. and W.M. Zillgitt. 1953. Partial cuttings in northern hardwoods of the Lake States. USDA Gen. Tech. Bull. 1076. 124 p, Aitkin County Land Department desired stocking chart; etc.*)

To increase the seedling and sapling size classes, apply gap management techniques:

- a. Use individual tree and group selection to create gaps of various sizes ranging from 30 to 100-feet in diameter (depending on hardwood species) while retaining an average of 70 – 90 percent crown closure across the stand.
- b. Fell or girdle culls and poor quality trees to create gaps. This provides space for the development of seedlings and saplings while retaining nurse logs and coarse woody debris.
- c. For regenerating light seeded hardwoods, scarify, burn, or herbicide the gaps to prepare a seedbed and remove unwanted competition.
- d. Remove all trees greater than one-inch diameter from the gaps.

To improve the timber quality and desired stocking while retaining elements of structural diversity:

- a. Leave additional high-quality trees in the next smaller size class to allow them to grow into a deficient class.
- b. Remove poorer-quality trees that compete with higher-quality trees.
- c. Remove trees infected with *Nectria* and *Eutypella* cankers.
- d. Retain leave trees needed for plant and animal habitat, such as snags and recruitment of coarse woody debris. Retain a minimum of 6 cavity trees, potential cavity trees, and/or snags per acre.
- e. Encourage drought tolerant species on ridge tops and southwest facing slopes.

After the initial entry, wait 15-20 years for the next entry. Subsequent entries may require repeated use of the above recommendations until the desired stocking level is reached for managing a regulated stand. Depending on the hardwood species, 70-90 percent crown closure is recommended after selective harvest. Because basal area is not a good indicator of crown closure for different species with different crown shapes and sizes, when marking trees, stand densities to be left should be based on crown closure. For both regulated and unregulated stands, as a general guide, average stand basal area of trees greater than 5 inch DBH should be reduced to 70-85 square feet per acre. For stands with a larger average diameter of codominant trees, higher basal areas should be maintained. For stands where oak is desired and NPCs are suited for oak management, lower crown closures and basal areas may be maintained.

4.5D Harvest Methods in Uneven-age Managed Stands

1. Single Tree Selection: Individual tree selection will retain an unbroken and/or multistory canopy throughout the stand, providing aesthetic, wildlife, and ecological values. This technique favors shade tolerant species at the expense of moderately tolerant or intolerant species. If the objective is to increase sugar maple, red maple, basswood, white pine (be aware of blister rust potential), white cedar, and yellow birch (for seedling establishment) use single tree selection. If the objective is to increase yellow birch (beyond seedling establishment), red oak, or paper birch in the northern hardwood stand, group selection should be used. Care should be taken to protect advance regeneration and maintain or improve the patterns, diversity, and composition of forest vegetation present before harvest.

Use regulated size-class distribution information as a guide for the desirable stocking in a stand when designing timber sales.

See Page 24 of the *Manager's Handbook for Northern Hardwoods in the North Central States*⁴ for a guide for selecting trees.

2. Group Selection: Group selection should be used when attempting to maintain or encourage species that are shade-intolerant or only moderately shade-tolerant, where canopy gaps are acceptable, and for moving from an unregulated forest to a regulated forest. Group selection attempts to mimic natural disturbance patterns to meet species-specific regeneration requirements. Gaps are created naturally by ice or windstorm events, individual trees senescence, or during a large disturbance event where part of the stand is impacted.

Group selection should be used to encourage yellow birch, red oak, paper birch, white spruce, and white cedar in NH stands. The landscape position (aspect), microclimate, and adjacency to seed source should be considered when cedar and white spruce are desired. Other methods should be used for increasing white pine in northern hardwood stands because of the increased risk of white pine blister rust infection in small openings. Group selection harvest of aspen inclusions in NH stands may be considered to manage and retain these aspen pockets within these stands to provide within-stand diversity and wildlife habitat.

Cuts should remove most or all timber in the gap, with the gap width limited to twice the height of the surrounding timber. Whenever possible, gaps should be oriented to take advantage of prevailing winds near the desired seed source trees. For heavier seed, such as oak, this is not a concern.

3. Uneven-age Management Prescriptions: The following uneven-age management harvest prescriptions will primarily be used:

- Group Selection
- Single Tree Selection
- Variable Density Thinning
- Variable Retention Thinning

4.5E Even-age Management Direction

The preliminary prescription for all NH stands selected for treatment will be uneven-age management. Following procedures identified in the Forestry, Fish and Wildlife and Ecological Resources Interdisciplinary Forest Management Framework, some stands may be identified for even-age management with a long-term goal to move towards the desired uneven-age condition.

Even-age harvest methods may occasionally be preferred because of undesirable stand conditions resulting from past management in some stands or to move low quality even-age hardwood stands toward an uneven-age stand condition. For the most part, stands under this management option will be those that are the poorest quality and have the lowest site index (less than SI 45).

Evaluation for even-age management should consider NPC classification, location within a designated patch, and location within an MCBS site of high or outstanding biodiversity.

⁴ Tubbs, Carl H. 1977. *Manager's Handbook for Northern Hardwoods in the North Central States*. USDA Forest Service General Technical Report NC-39, North Central Forest Experiment Station, St. Paul, MN.

1. Shelterwood: Because it has proven to be an effective system in regenerating some species present in NH stands (e.g., red oak), a shelterwood regeneration method may be considered. A two-aged shelterwood system is the most reliable method of regenerating an even-age NH stand. This system works for both small seeded (yellow birch) and large seeded species (sugar maple and red oak). The key to this system is to establish adequate advance (2-4 feet tall) reproduction prior to the removal of the overstory. The light seeded species may require scarification, herbicide application, and/or prescribed fire to prepare a seedbed.

If the goal is to regenerate maple, consider:

- a. Cut from below down to 60 percent crown cover;
- b. Logging in the winter is preferable to retain the leaf litter ground cover, which is more suitable for regenerating sugar maple over other northern hardwood species;
- c. Do not scarify; and
- d. Remove overstory after regeneration is 2-4 feet tall (3-8 years).

If the goal is to regenerate other light-seeded species, consider:

- a. Cut from below to 70-80 percent crown cover, remove trees infected with *Nectria* and *Eutypella* cankers;
- b. Scarify, burn, or herbicide the site to prepare a seedbed and remove unwanted competition; and
- c. Remove overstory after regeneration is 2-4 feet tall (3-8 years).

2. Clearcut: Where the existing stand quality is very poor and sugar and red maple dominate the stand, it may be desirable to use a clearcut technique. Advance reproduction is required prior to the final harvest. If advance reproduction is absent, one or two thinning treatments should be done to encourage seedling establishment.

Consider the regeneration needs for the next stand when selecting the management prescription. Most species found in NH stands regenerate best in partial shade. Species regenerating largely from stump sprouts may require thinning treatments in the future.

3. Even-age Prescriptions: The following even-age management harvest prescriptions will primarily be used:

- Clearcut with Reserves
- Clearcut with Reserves – Sprouting
- Shelterwood
- Shelterwood with Reserves
- Shelterwood with Reserves – Final Harvest

4.5F Intermediate Harvest

1. Thinning in Even-age Pole-Sized Stands: Thinning in even-age pole timber stands (5-9 inches DBH) can be used to improve the quality of the timber, adjust the stands species composition, and capture volume that would otherwise be lost due to mortality. Following are recommendations:

- a. Limit the harvest of trees 10 inches DBH or larger to retain these larger diameter trees in the stand for moving toward a regulated stand.

- b. Release crop trees (Classes 1 and 2) down to 80 percent crown cover for trees greater than 5 inches DBH. A crop tree is one that is retained for future commercial harvest. Crop trees are desired species that have good form and quality, good crown vigor, a low risk to loss, are usually dominant or strong codominant trees, and have a good potential for producing high value sawlogs or veneer.
- c. Crown release, seven feet on at least three sides, on 60-75 crop trees per acre.
- d. Thin from below, removing primarily the culls, poorest formed, poorest quality, and suppressed trees, until the desired stocking level is reached.
- e. Leave an adjacent tree crown to correct for a fork.
- f. Avoid creating large canopy gaps (>15 feet).
- g. Delay next thinning until crown closure and lower branch mortality is achieved (15-20 years).

For recommended even-age stocking levels after thinning, see Eyre, E.H. and W.M. Zillgitt. 1953. Partial Cuttings in Northern Hardwoods of the Lake States. USDA Gen. Tech. Bull. 1076. 124 p; Aitkin County Land Department desired stocking chart; etc.

2. Thinning Prescription: Selective thinning is the most common prescription.

4.5G Regeneration Methods

When the stand is to be retained in the NH cover type, the harvest prescriptions for the most part address regeneration methods. Consideration will be given to stand conversion for very poor quality stands, stands on offsite conditions (site index less than 45 or stands growing in NPCs better suited to other cover types). Where conversion is the chosen option, see the desired cover type management recommendations for conversion methods.

To artificially regenerate species that are present in low numbers, or those that are no longer present, regeneration techniques including scarification, herbicide treatment, and/ or fire, followed by direct seeding or planting is recommended. Species to consider are red oak, basswood, black and green ash, yellow birch, white spruce, and white cedar. White pine can be considered in appropriate NPCs with minimal blister rust concern.

4.5H Stand Selection Criteria

The following criteria will be used for selecting stands to field visit for possible treatment during this 10-year plan:

1. Basal area (BA) is greater than or equal to 100 square feet per acre;
2. Year 2008 age of the stand is greater than or equal to 36 years.

The condition of NH stands and their suitability for harvest consideration has proven to be difficult to ascertain from review of forest inventory data alone. Some stand attributes may reflect past history of negative management while growth and quality characteristics that help determine operability can vary in stands that have not been professionally managed. For these reasons, the team estimates that approximately 40 percent of the stands meeting the above criteria will lead to a harvest.

4.5I Stand Treatment Summary

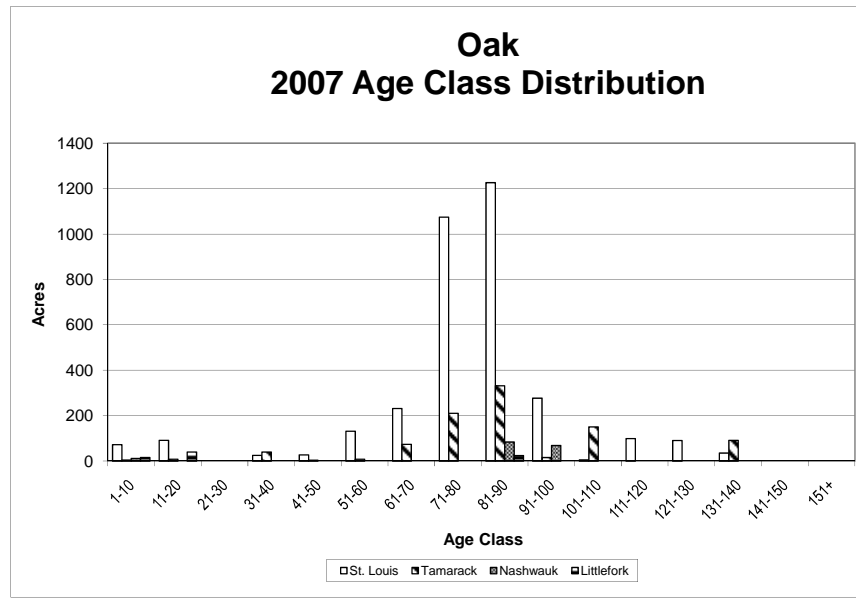
Based on the above criteria, 13,265 acres have been identified as a pool of stands for possible treatment during this 10-year planning period.

4.6 Oak

4.6A Current Condition

- 1. Cover Type Acres:** In 2008, the oak (O) cover type comprised less than 1 percent of state-managed acres in these subsections. The majority of the cover type is located in the St. Louis Moraines and Tamarack Lowlands subsections. Oak species are commonly found as a component of other cover types such as aspen, birch, northern hardwoods, and lowland hardwoods (bur oak). The O cover type includes northern red and bur oak.
- 2. Age-Class Distribution:** The current age-class distribution of the O cover type is skewed towards middle-aged stands.

Figure 4.6a: Current Age-Class Distribution for the Oak Cover Type



3. Stand Composition: Natural, mature oak stands range from nearly pure oak to mixed stands. Secondary species in the O cover type are: aspen, paper birch, sugar maple, and red maple.

4. Native Plant Communities: Information about North 4 NPCs in which oak stands are typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and in the ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for oak emphasis.

4.6B Future Direction

1. Cover Type Acres: The long-term goal is to increase the O cover type acreage in LTAs identified by the North 4 Team for oak emphasis and in native plant communities where oak species are good competitors (see Appendix P: Suitability of Tree Species by NPC). Field evaluation (including NPC information) will determine which stands are converted to oak. Most of the increase will come from the partial harvesting of aspen, balm of gilead, and paper birch stands with a significant oak component or from natural succession of these cover types. Also, a goal is to increase the oak component in other cover types where it is currently found or NPC information suggests it is an appropriate species to emphasize.

Limiting Factors: Global warming effects and a variety of insect and disease concerns (e.g. oak wilt (*Ceratocystis fagacearum*), two-lined chestnut borer (*Agrilus bilineatus*), gypsy moth (*Lymantria dispar*), and armillaria root rot (*Armillaria spp.*) may impact oak management on some sites.

To minimize these potential impacts, field managers should:

- a. Work to maintain stand vigor and health while allowing for retention of some mature mast and cavity trees;
- b. Promote within-stand species diversity;
- c. Promote stand structural diversity;
- d. Avoid transport of infected wood;
- e. Promote harvest regulations that minimize damage to reserve trees; and
- f. Consider increasing oak management efforts in some locations at the northern edge of oak range.

2. Age-Class Structure: Currently 79 percent of the cover type is in 60-100 year age classes, with very little in the young and old age classes. The primary goal is to establish young oak stands and to maintain what is currently on the landscape. Balancing an overall cover type age class structure is a long-term goal beyond the time period of this plan.

3. Stand Composition: The desired within-stand compositional goal will vary from north to south. The primary goal is to maintain or restore a stand structure and mix of species appropriate to the stand's NPC.

4.6C Harvest Methods and Regeneration

1. Even-age Management Direction: The O cover type is shade intolerant and therefore these stands are typically managed on an even-age basis. Group selection methods may be utilized in non-oak cover types to increase the presence of the oak component in those cover types.

2. Final Harvest: A limited amount of final harvest may occur within this 10-year management period based on field evaluations by the area personnel and following procedures identified in the *Coordination Framework*. The goal of a final harvest is to increase the younger component of the cover type and evaluate regeneration methods. Oak stands will be managed using shelterwood, seed tree, or clearcut with reserves as the final harvest method. Final harvest will be based on average tree diameter of the crop trees. Final harvest will occur when trees reach a diameter of 18-24 inches DBH, depending on the site index.

3. Intermediate Treatment: Thinning will produce best results if started before age 50. After that, the growth rate may not improve the merchantable products but could still capture products from suppressed and intermediate trees. When thinning has begun, re-entry can be as often as every 10 years, but should be related to the stocking tables (See *Manager's Handbook for Oaks in the North Central States*, Appendix IV⁵).

During the thinning process, crop tree (i.e., leave tree) selection criteria should include the following:⁶

- a. Dominant/codominant trees with large crowns relative to DBH;
- b. High quality trees with potential butt log grades of 1 or 2;
- c. No epicormic branches or dormant buds on the butt log;
- d. Trees should appear to have good life expectancy;

⁵ Sander, I.L. 1977. *Manager's Handbook for Oaks in the North Central States*. USDA Forest Service General Technical Report NC-37, North Central Forest Experiment Station, St. Paul, MN.

⁶ Conference Proceedings, the Oak Resource in the Upper Midwest. 1991. Minn. Ext. Serv., U. of Minn. St. Louis Moraines, Tamarack Lowlands, Nashauk Uplands, and Littlefork-Vermilion Uplands SFRMP

- e. Avoid selecting leaning trees, trees with splitting forks, poor form trees, etc. as crop trees; and
- f. Either stump sprouts or seedling-origin stems are acceptable.

Using these criteria, it is possible to economically manage as few as five red oak pole or sawtimber crop trees (high value trees) per acre while maintaining wildlife habitat and biodiversity values in the stand. Quality crop trees vary with the site. A tree that would not qualify as a crop tree on a good site may be the best that is available as a crop tree on a poorer site. When picking crop trees, it is often a matter of picking the best available. Thinning should release the crop tree crown on at least three sides.

Standard stocking tables (see Manager's Handbook for Oaks in the North Central States, Appendix IV⁷) should be consulted when deciding if a stand should be thinned. The percent stocking is related to the basal area and average DBH.

4. Intermediate Prescriptions: The following are the most common prescriptions that will be applied:

- Shelterwood with Reserves-Interim Cut
- Selective Thinning

5. Regeneration Methods: The preferred methods of regenerating an O stand are shelterwood and group selection to establish advance regeneration. It is recommended that harvest methods and sale regulations protect advance regeneration and account for the site's NPC classification. These methods could be applied to O stands or stands from other cover types that are being converted by planting to an O cover type. Large-gap group selection methods in non-oak stands may be utilized to help increase the oak component.

Stands to be converted should be those most suitable for oak based on the *NPC Field Guide*, information contained in Appendix P of this plan, and ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for conversion to O.

Some control of understory competition may be necessary after the shelterwood harvest or prior to planting, particularly where sugar or red maple advance reproduction is already established, or where there is competition from aspen sprouting.

Advance reproduction must be well-distributed and relatively tall (2-4 feet tall) in order to compete successfully with other woody vegetation in the new stand. Where advance reproduction is not well-distributed or not very tall, some success has been achieved with mowing of seedlings, which can help minimize competition and allow for more rapid growth of oak seedlings. Once advance reproduction is adequate, the overstory should be removed.

Protection of the seedlings from herbivory may be required. Various methods have been tried, e.g., self-adhesive drywall tape around the terminal bud and use of fencing (both semi-permanent barrier fencing and electric fencing).

⁷ Sander, I.L. 1977. *Manager's Handbook for Oaks in the North Central States*. USDA Forest Service General Technical Report NC-37, North Central Forest Experiment Station, St. Paul, MN.

4.6D Stand Selection Criteria

During this 10-year planning period, stands will be selected for treatment from a pool of stands of age ≥ 36 years and basal area ≥ 100 . All stands in the pool will be examined for possible treatment. From past experience, the team estimates that approximately 40 percent of stands examined will result in a harvest. Because of the relatively small O cover type acreage in these subsections and the fact that most O stands in these subsections are currently managed through selective or shelterwood harvest methods, rotation ages for even-age management of O were not developed for the 10-year planning period.

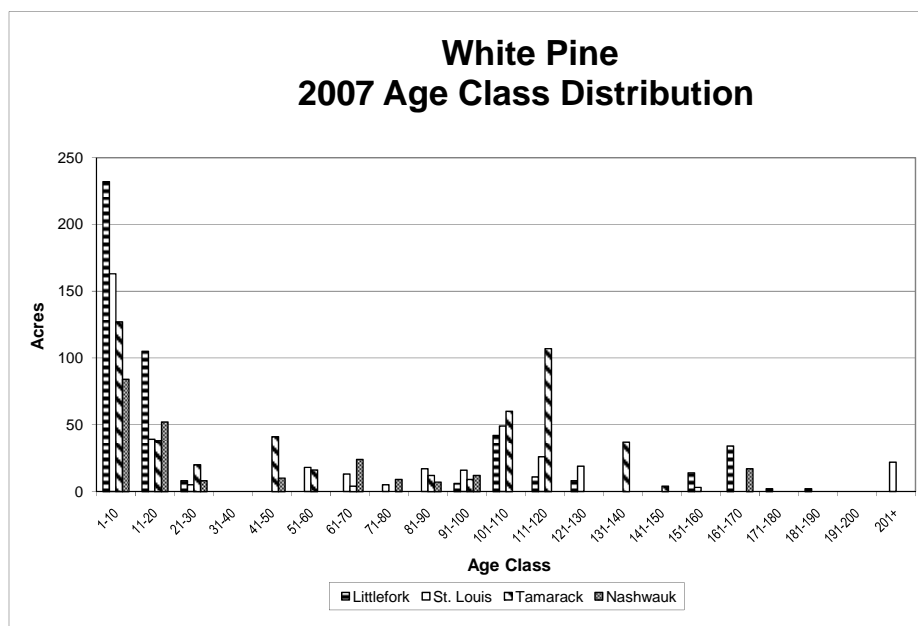
4.7 White Pine

4.7A Current Condition

1. Cover Type Acres: In 2008, the white pine (WP) cover type comprised about 0.2 percent (1,541 acres) of the state managed acres in these subsections (see Table 4.1). White pine can also be found as a component of many other upland cover types in these subsections. A stand will be considered a WP stand for this plan, if it contains ≥ 33 percent white pine by volume or basal area.

2. Age-Class Distribution: None of the North 4 subsections has a balanced age-class structure in the WP cover type. There has been a dramatic increase in white pine acres in the 0-10 age class (see Figure 4.7a). This is because of the increased emphasis on, and funding for regeneration of white pine that started in 1998 with the DNR’s White Pine Initiative. That initiative states that WP will be managed under extended-rotation forest guidelines to increase the acreage and distribution of older WP stands and individual trees on the landscape.

Figure 4.7a: Current Age-Class Distribution of the White Pine Cover Type



3. Stand Composition: Natural, mature WP stands are typically mixed stands. Secondary species in the WP cover type are: red pine, jack pine, balsam fir, aspen, birch, white spruce, and possibly a scattering of northern hardwoods.

4. Native Plant Communities: Information about North 4 NPCs in which white pine is typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for white pine emphasis.

4.7B Future Direction

1. Cover Type Acres: The long-term goal is to increase the WP cover type acreage in LTAs identified by the North 4 Team for white pine emphasis and in Native Plant Communities where white pine is a good competitor (see Appendix P: Suitability of Tree Species by NPC). It is also a goal to increase white pine as a component in mixed stands appropriate to the NPC. A stand will be considered a WP stand for this plan, if it contains ≥ 33 percent white pine by volume or basal area.

Stands identified in the A/BG and Bi cover types will be site-visited during the next 10 years and assessed as to their NPC type and related capability for natural or artificial conversion to white pine as noted in the Suitability of Tree Species by NPC guide. This guide will also be used in other cover types to determine if a stand should be managed for or converted to a WP stand.

2. Age-Class Distribution: While this plan does not call for a long-term WP balanced age class distribution; the long-term goal is to have consistent regeneration efforts of white pine in all age classes. Efforts will be made to protect advance regeneration and maintain or improve diversity and composition of forest vegetation present in the stand prior to harvest. A long-term goal is to create a sustainable white pine sawtimber harvest.

3. Stand Composition: WP stands will range in species composition from nearly pure stands to stands that are composed of mixed species (conifer-deciduous) with white pine being the predominant species. Consult the appropriate fact sheets in the *NPC Field Guide* and the ECS Silvicultural Interpretations to determine appropriate species composition and stand management decisions.

Limiting Factors: In these subsections, protective measures against insects, disease, and animal depredation are necessary to accomplish successful restoration of white pine. Limiting factors and selected management recommendations for white pine:

- a. The presence of white pine blister rust, an exotic disease, has altered the ability of white pines to grow and regenerate in northern Minnesota. Seedlings and saplings often die due to WPBR infections, especially if planted in open plantations. Establish white pines under an over-story to prevent dew formation on their needles and subsequent infection by WPBR. Once established, seedlings and saplings require tending; pathological pruning and deer browse protection. Pole-sized and mature trees can often live a long life and produce seed for many years even though some branches have succumbed to WPBR. White pine weevil repeatedly infests leaders when trees are young, causing stunting,

cabbagy tree form and forking of the stems. It can be prevented by planting/ regenerating seedlings under an overstory.

- i. All of the North 4 subsections are in the High to Very High Hazard Zone for white pine blister rust. Because this zone is characterized by abundant infections higher than nine feet, it is often difficult to grow disease-free pines. Strictly avoid open-field plantings of white pine. Instead, plant or regenerate white pine seedlings under a light overstory. Establishing solid blocks of white pine is not recommended, but rather scattering white pine seedlings among other species to become a component of the future stand. Be prepared to accept significant white pine losses.
- ii. Consider protection of natural and artificial regeneration from deer browse where necessary. In these subsections, do pathological pruning until there is 9 feet of branch-free bole. See Silviculture Tip Sheet #10 for more information.

If natural regeneration is desired:

- a. Mature white pines must be within 200 feet of each other to ensure pollination.
- b. Scarification of the soil should be done just before seeds fall during a “good” seed year.

Adequate funding to support the establishment and follow-up tending white pine will be critical to the effectiveness of efforts to maintain and expand this cover type, and to increase the white pine component in other cover types.

4.7C Stand Management

1. Management Direction: WP stands will be managed primarily as uneven-age stands with periodic intermediate thinning and a goal of maintaining or enhancing within-stand tree species diversity. Older WP stands (90+ years) should be managed predominantly as multi-aged stands consisting of white pine and other species such as white spruce, balsam fir, red pine, birch, and aspen. In younger WP stands (up to 90 years old), even-age management treatments such as a shelterwood to establish long-term goals of natural regeneration are recommended.

All WP stands that are ≥ 17 years will be selected for examination in the next 10 years.

2. Final Harvest Method: Because this cover type will be managed for uneven-age stands, final harvest will not occur except in cases of salvage.

3. Intermediate Harvest Methods: Up to age 90, thinning will be used to capture mortality; reduce stand density to increase future tree growth, quality and vigor; and to maintain or enhance species diversity. After age 90, treatment goals are diversification of age classes and encouragement of regeneration.

Thinning in stands will maintain or increase within-stand diversity, while retaining WP as the main cover type. For example, younger WP stands may have a larger component of aspen and birch, whereas older stands (90+ years) may have increasing amounts of white spruce and cedar, with smaller amounts of aspen, birch, and balsam fir. Red pine may be present throughout the life of the stand. The following methods should be considered:

- a. Consider creating or maintaining variable densities within stands when thinning ranging from un-thinned areas to heavily thinned or group-selected areas within a stand.
- b. Protect advance regeneration of desirable understory species, where possible.
- c. Higher stand densities (higher BA) are recommended along stand edges exposed to wind and along high visual quality corridors, such as major roads and lakes.

Shelterwood harvests may also be used as an intermediate method to regenerate white pine in the understory. Some method of scarification may be needed to establish a suitable seedbed.

4. Intermediate Harvest Prescriptions: The most common prescriptions are:

- Row Thinning (initial thinning only)
- Strip Thinning (initial thinning only)
- Selective Thinning (thinning from above, below, and both)
- Variable Density Thinning
- Shelterwood

5. Multi-Aged Stand Management: Older (90+ years) WP stands will be managed primarily for a multi-aged stand structure using even-age and uneven-age management techniques. The move toward a multi-aged structure will be accomplished primarily through thinning and shelterwood harvests. A goal is to mimic NPC disturbance regimes through silvicultural prescriptions.

- a. During thinning or shelterwood harvests, retain at least 25 percent of the largest white pines present. The goal is to retain a significant number of the largest cohorts while creating or maintaining a multi-aged WP stand.
- b. Periodically consider the use of a group selection harvest with the goal of establishing a new age class of white pine within the stand. The long-term goal is to create stands with layered age classes (two or more). Timing of the first group selection harvest will depend on seed production and stand condition (age, density, and distribution of white pine).
- c. Use of prescribed surface fire in mature WP stands can be an effective management tool for eliminating shrub competition, reducing thick duff layers, and preparing mineral seedbeds. Summer fires, conducted over several growing seasons, are most effective at controlling dense shrub competition and exposing mineral soil. This may be done before harvesting to prepare seedbeds unless charred bark on harvested trees poses a problem.

6. Multi-aged harvest prescriptions: The most common prescriptions to use are:

- Thinning
- Shelterwood
- Variable Density Thinning
- Group Selection

4.7D Cover Type Conversion Management

1. Conversion Goals: A 10-year goal is to increase the WP cover type in these subsections on appropriate sites (i.e., per site-level NPC classification) and in LTAs identified by the North 4 Team as a priority for increasing WP (see Appendix E in this plan). The decision whether convert a stand to another cover type will be determined when the stand is field visited. The outcome of a NPC ECS field evaluation will determine the appropriate species conversions.

4.7E Regeneration Methods

Following are recommendations to consider in regenerating white pine, in stands that are WP cover types now, in stands of other cover types that will be converted to WP, and in mixed stands with a white pine component.

1. Use a variety of site preparation techniques to provide the necessary ground scarification to prepare the seedbed or planting site.
 - a. Decisions regarding whether or not site preparation is necessary, and the technique used, will be made following on-the-ground site evaluations.
 - b. Site preparation techniques such as prescribed fire, anchor chains, broadcast skidding, disc-trenching, and/or herbicide will be favored over those that create more disturbance to the soil profile, such as deep rock raking.
2. Natural or artificial seeding, under-planting, and reserving advance regeneration will be used to regenerate young white pine age classes in existing WP stands.
 - a. Varying proportions of secondary species should co-exist as stand components depending on site conditions and NPC.
3. Tending white pine regeneration is important to its survival. Site selection, bud capping, application of animal repellents, fencing, basal pruning, and release from competing vegetation are important for the long-term survival of young white pine.

4.7F Stand Selection Criteria

1. **Final Harvest:** No final harvest is planned in this cover type during the next 10 years.
2. **Thinning and Shelterwood Harvest:** The following criteria will be used to establish a pool of stands to be field visited for evaluation for thinning or shelterwood harvest:
 - a. All WP stands that are currently ≥ 17 years old will be field visited to assess whether harvest is appropriate during this 10-year planning period. The forest inventory will be updated, as needed, based on the field examinations. The field visit year will be scheduled based on the stand's current age or most recent thinning year.

4.7G Stand Treatment Summary

A total of 605 acres of WP cover type met the selection criteria for the current planning period.

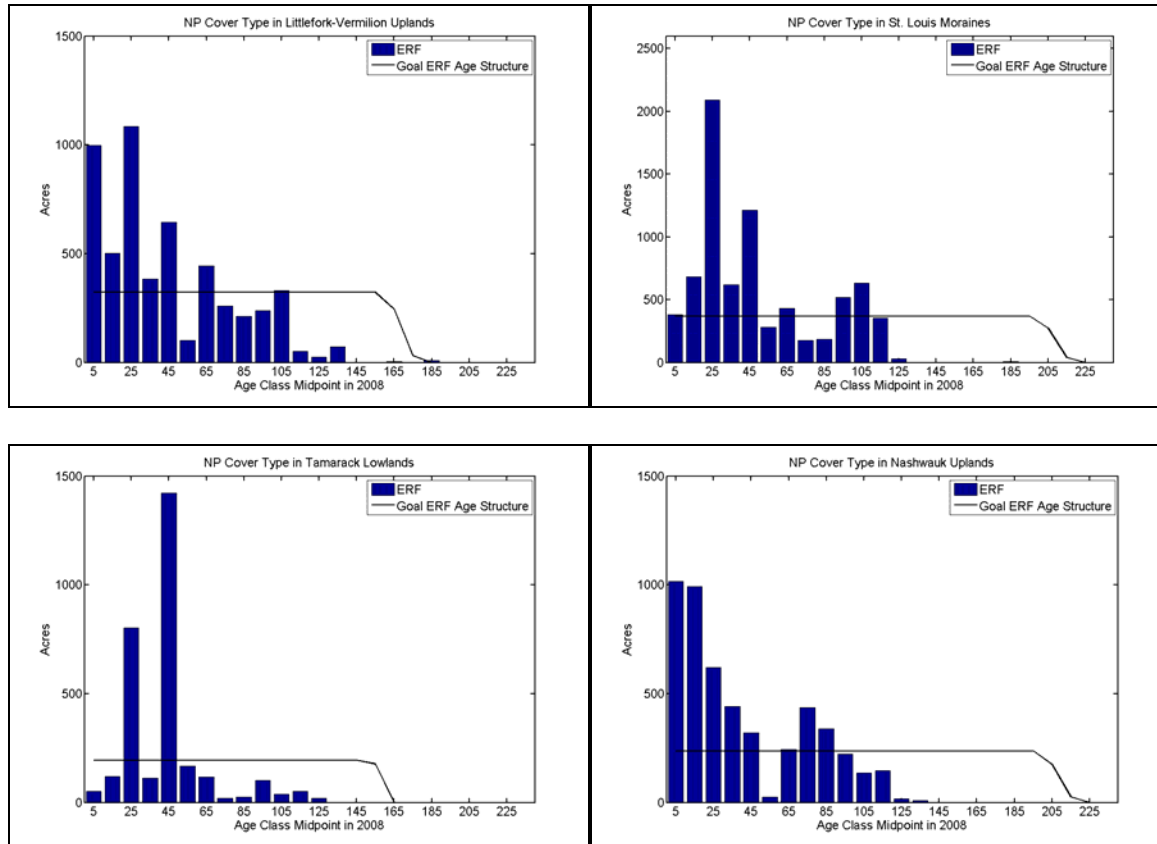
4.8 Red (Norway) Pine

4.8A Current Condition

1. **Cover Type Acres:** In 2008, the NP cover type comprised 2.9 percent (20,992 acres) of the state-managed acres in these subsections.
2. **Age-Class Distribution:** In these subsections, the current age-class distribution of the NP cover type does not reflect the desired balanced age-class structure for even-age managed cover types. The current age-class distribution of the NP cover type is skewed toward the younger age classes. The primary reason for the large acreages found in the 0-40 age classes is the planting of red pine in the past 40 years on sites that were previously other cover types. As a result, the 0-40 year age classes dominate this type (see Figures 4.9a-d).

3. Stand Composition: Natural, mature NP stands are typically mixed stands. Secondary species in the NP cover type are: white pine, jack pine, balsam fir, aspen, birch, white spruce, and possibly a scattering of red maple.

Figures 4.8a-d: Current and Desired Age-Class Distributions for the Red (Norway) Pine Cover Type



This age-class imbalance is found across all subsections. Within these subsections 9 percent (1,944 acres) of the NP cover type is currently over the recommended NRA of 100 years.

4. Native Plant Communities: Information about North 4 NPCs in which NP is typically found is located in Appendix P of this plan, and in the *NPC Field Guide*, and ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for NP emphasis.

4.8b Future Direction

- 1. Cover Type Acres:** It is a priority for these subsections to increase the acreage of NP overall. Ideally, most of this cover type increase will occur in NPCs where red pine is an excellent competitor (see: Appendix P: Suitability of Tree Species by NPC).
- 2. Age-Class Distribution:** The long-term goal is to move the age classes toward a more balanced structure. The older age classes will be managed so that enough older stands are held

(ERF) beyond the NRA to provide an adequate declining age-class distribution out to the maximum age of 160-220 years.

3. Stand Composition: The desired structure within the NP cover type will range from predominantly single-canopied even-age stands to multi-canopied, mixed-aged stands with white pine, other conifers, and deciduous species as codominants, depending on the NPC.

4.8C Harvest Methods and Regeneration

1. Even-age Management Direction: NP will be managed predominantly as an even-age cover type for poles, high value sawtimber products, biological diversity, riparian buffers, recreation, aesthetics, and wildlife habitat. As NP stands age, manage to diversify within-stand species composition and increase within-stand structure to maintain or improve site productivity, wildlife habitat, and biodiversity.

2. Uneven-age Management: Isolated opportunities to manage NP in uneven-age stands exist. Regeneration in uneven-age NP stands must be monitored for *Diplodia* and *Sirococcus* shoot blights.

3. Final Harvest Method: Any NP final harvest requires divisional review following the *Coordination Framework*. If the objective is to regenerate NP, final harvest will occur using clearcut or clearcut with reserves. Shelterwood harvests will be employed when converting to white pine. With either system, reserving biological legacies such as large, healthy, live trees, decadent trees, snags, and logs and other coarse woody debris on the forest floor can carry some ecological complexity into the next rotation.

4. Intermediate Harvest Methods: Thinning will be used to reduce stand density to increase future tree growth, quality, and vigor, and to obtain the desired composition of the stand. Recommendations are:

- a. Stand thinning will occur in merchantable stands at approximately 10-year intervals, depending on site quality.
- b. Older stands may have longer intervals between thinnings to compensate for slower growth rates and to facilitate the growth of desirable understory species.
- c. Variable density thinning and/or variable retention thinning or other techniques may be incorporated to meet stand objectives. (Examples are: thin 20 percent of the stand to 60 BA, 60 percent to 90 BA, and skip thinning in 20 percent to encourage within-stand diversity and mimic natural disturbance regimes).
- d. Thinning will maintain (especially in natural-origin stands) or increase within-stand diversity, while retaining NP as the main cover type by the following methods:
 - i. Reserve from harvest individual trees or patches of other species appropriate to the site, where possible.
 - ii. Consider creating or maintaining variable densities within stands when thinning.
 - iii. Protect advance regeneration of desirable understory species, where possible.
 - iv. Higher stand densities (basal area) are recommended along stand edges exposed to wind and along high visual quality corridors, such as major roads and lakes.
 - v. Consider under-planting tolerant species, where seed sources or advance regeneration for these are lacking. For species suggestions, refer to the *NPC Field Guide* and associated Silvicultural Interpretations.

Limiting Factors: Potential impacts of bark beetles should be considered during intermediate harvest in the NP cover type in these subsections. Bark beetles (*Ips pini*) feed and reproduce in the moist cambium of freshly cut, recently killed, or blown-down red pine, jack pine, and occasionally white pine. Bark beetles normally attack standing live trees in patches or pockets near the dead material in which they developed into adults. The DNR's bark beetle considerations should be followed when harvesting in pine stands.

5. Intermediate Harvest Prescriptions: The following are the most common management prescriptions that will be used for the NP cover type:

- Row Thinning
- Strip Thinning
- Selective Thinning
- Thinning from Above (removal of dominate and codominants)
- Thinning from Below (removal of suppressed, intermediate, and smaller co-dominants)
- Thinning from Above and Below (combination of previous two)
- Variable Density Thinning and Variable Retention Thinning

6. Regeneration Methods: The following recommendations should be considered when regenerating red pine:

- a. Plant stock from local seed source.
- b. Site preparation and herbicide use should consider maintaining within-stand diversity.
- c. Scarify to encourage natural seeding of red pine and other species.
- d. Scarify and artificially seed red pine and/or other species.
- e. Use of prescribed surface fire in mature NP stands can be an effective management tool for eliminating shrub competition, reducing thick duff layers, and preparing mineral seedbeds. Summer fires, conducted over several growing seasons, are most effective at controlling dense shrub competition and exposing mineral soil. This may be done before harvesting to prepare seedbeds unless charred bark on harvested trees poses a problem.
- f. Consider the risk of *Diplodia* tip blight and canker (*Sphaeropsis sapinea*) and shoot blight (*Sirococcus conigens*) infection on sites where taller infected red pine or jack pine are left on or next to sites being regenerated to NP.
- g. Use natural regeneration in natural-origin stands.

Limiting Factors: Pole-sized and mature stands can be attacked by bark beetles (*Ips* and *Dendroctonus* species) during (1) droughty weather, especially if basal area is high; (2) if bark beetles have built up in slash or cut products on the site or on an adjacent site; or (3) after a fire has scorched crowns and/or created or enlarged basal fire scars. Avoid creating pine slash and cut products, and wounding pines from March through August, especially when the weather is droughty.

Natural and artificial regeneration can succumb to infections caused by *Diplodia pinea*, an invasive pathogen. *Diplodia* occurrence is patchy in northern Minnesota, and its impact varies when it is present. Fortunately, spores are spread in raindrops (and by cone insects), so this disease can be managed. Only seedlings growing directly beneath an infected overstory of red pines, or growing within one chain of overstory trees, are likely to be heavily infected and die when drought-stressed.

- a. Do not rely on the survival of understory red pine seedlings and saplings when they are growing under an overstory of red pine trees.
- b. Planting red pine seedlings under red pine overstories should be discouraged where overstory trees are known to be infected with *Diplodia/Sirococcus*. However, to assess *Diplodia*'s current impact, foresters should evaluate the presence of shoot blight on existing red pine seedlings and the percentage of cones infected by *Diplodia*; this will determine whether or not red pine regeneration is likely to succumb to *Diplodia* infections on that site.
- c. If foresters determine the need to create a one-chain buffer between planted red pine seedlings and adjacent overstory red pines to minimize red pine losses where overstory trees are known to be infected with *Diplodia/Sirococcus*, they should let natural regeneration (aspen, birch, oak) fill in the buffers, or plant them to spruce or white pine.
- d. If red pines are retained as leave trees, choose locations where they are clumped together and are near the stand edges. This will minimize the area of disease impact.
- e. Consider regenerating white pine under mature red pine on appropriate native plant communities where *Diplodia* concern is present.

4.8D Stand Selection Criteria

Stands were selected using the Remsoft harvest-scheduling model. The process is explained in detail in Appendix I of this plan.

1. Normal-Rotation Forest: The NRA of 100 years is used for calculating a regulated harvest level. Table 3.9a in Chapter 3 identifies normal and MRAs for NP. With the exception of a small pool selected for final harvest, all NP will be managed according to ERF guidelines.

For a detailed description of harvest-level determination, see GDS 9A.

2. Extended-Rotation Forest: Long-term DFFC goals are to retain 100 percent of the NP cover type acreage in effective ERF. This will provide a declining age-class structure out to the maximum harvest age. Rotation ages for ERF stands range from 160-220 years (Table 3.9b on page 3.67) in these subsections. Table 3.9a on page 3.66 identifies maximum ages for the NP cover type in the four subsections.

3. Thinning: The following criterion will be used to determine a pool of stands to be field visited for evaluation for thinning:

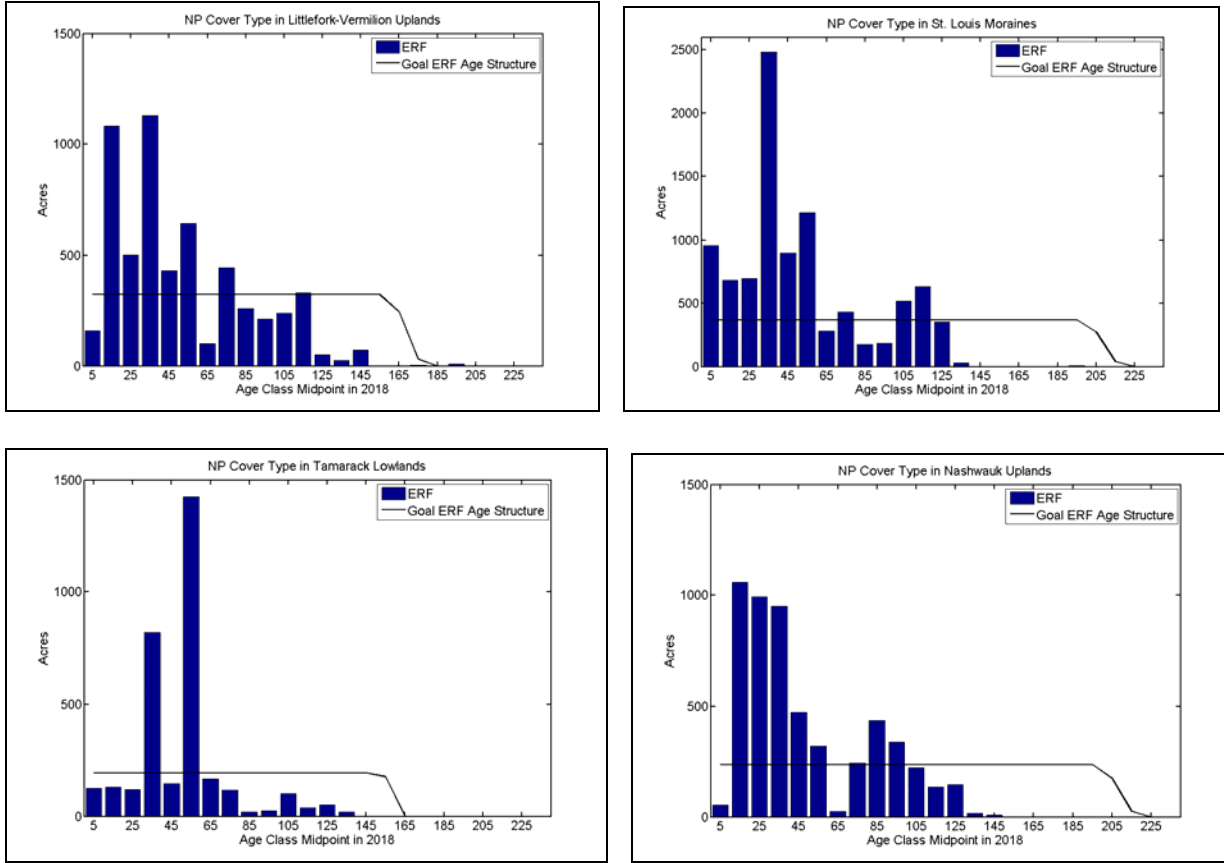
All NP plantations that are currently ≥ 17 and < 100 years old will be field visited to assess whether thinning is appropriate during this 10-year planning period.

4.8 E Stand Treatment Summary

Tables 3.9a and b in Chapter 3 display the total treatment acres, old forest percentages, effective ERF percentages, and the average treatment ages for the next five decades. There is variation from decade to decade because of the current age-class distribution of the cover type.

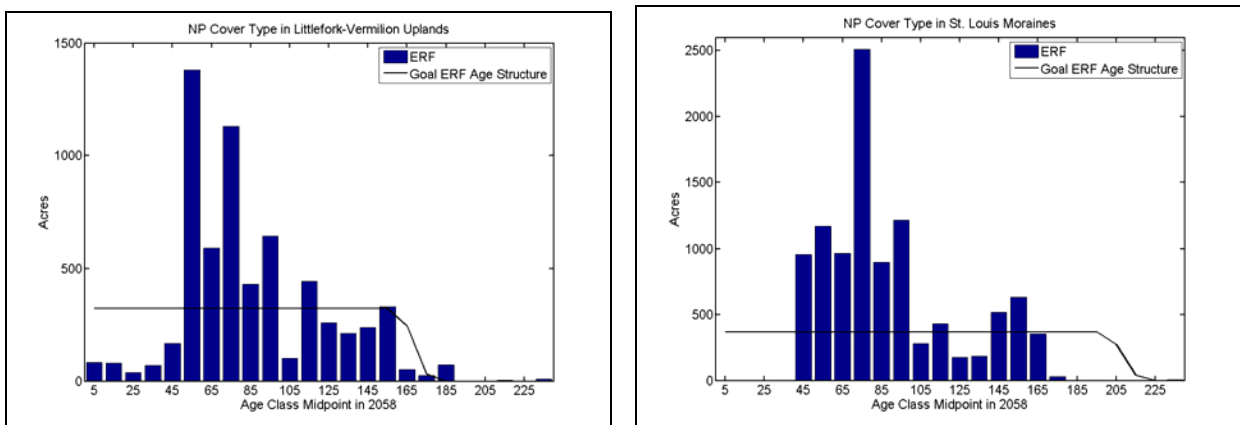
Figures 4.9e-h show the projected age-class structure of the NP cover type in 2018 at the end of the 10-year planning period.

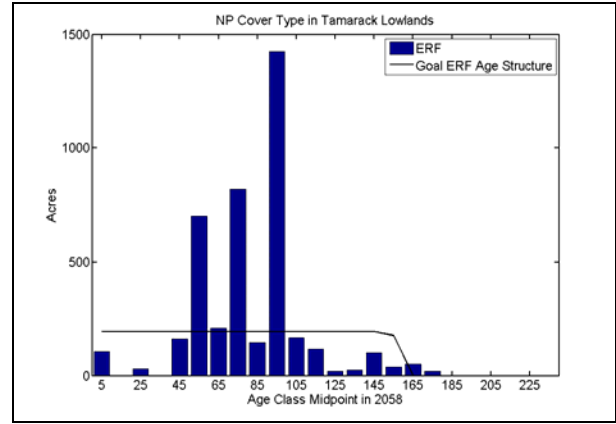
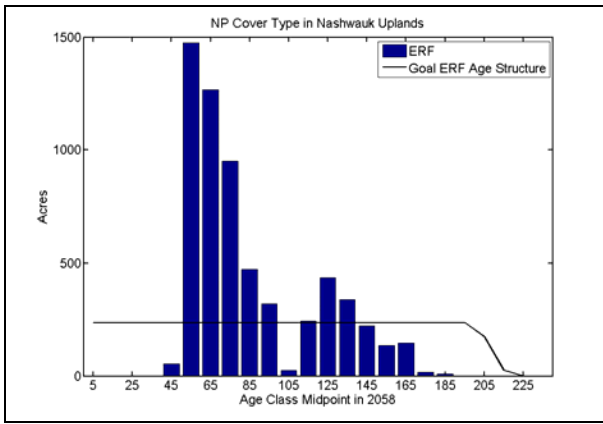
Figures 4.9e-h: Projected Age-Class Distributions for the Red (Norway) Pine Cover Type In 2018



Figures 4.9i-l show the projected age-class structure of the NP cover type in 2058. Based on the modeling of these treatment levels, by the end of the fifth decade, the cover type is expected to more closely approach the desired age-class distribution.

Figures 4.9i-l: Projected Age-Class Distributions for the Red (Norway) Pine Cover Type in 2058



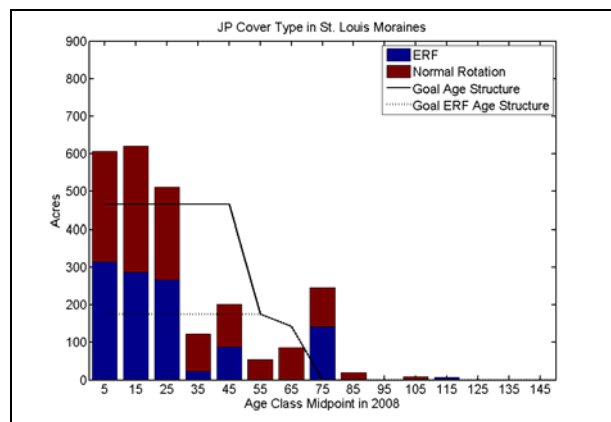
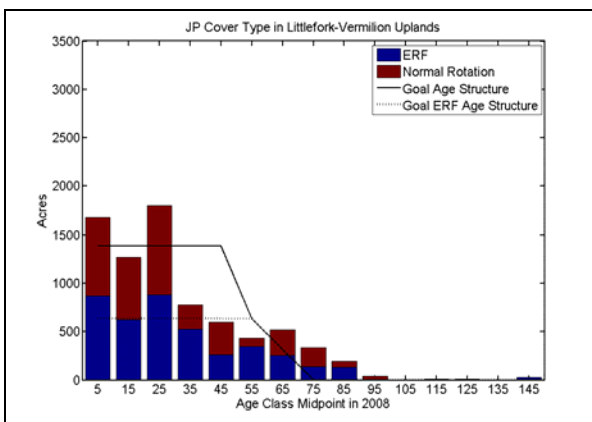


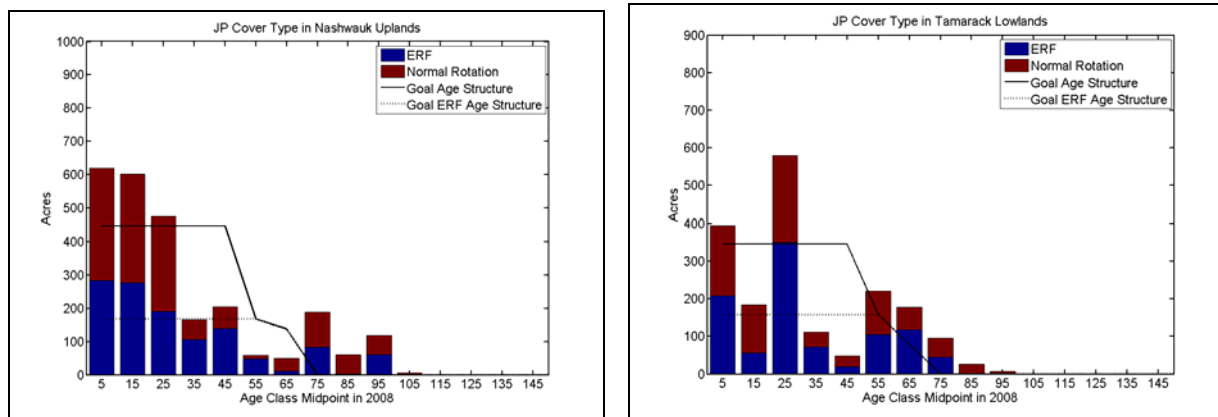
4.9 Jack Pine

4.9A Current Condition

- Cover Type Acres:** In 2008, the jack pine (JP) cover type comprised 1.9 percent (13,506 acres) of state managed lands in these subsections.
- Age-Class Distribution:** In these subsections, the current age-class distribution of the JP cover type does not reflect the balanced age-class structure desired for even-age managed cover types. (see Figures 4.9a-e).
- Stand Composition:** Mature JP stands are typically nearly pure stands. Typical secondary species in the JP cover type are: red pine, balsam fir, birch, black spruce, and possibly a scattering of red maple.

Figures 4.9a-e: Current and Desired Age-Class Distribution for the Jack Pine Cover Type





4. Native Plant Communities: To learn more about NPCs in which JP is typically found in these subsections, refer to Appendix P of this plan, and to the *NPC Field Guide*. For detailed tree species composition descriptions, refer to the Vegetation Structure and Composition and the Natural History section for the pertinent NPC in the *NPC Field Guide*. Most JP stands occur in NPC Classes that are woodlands and should have canopy cover ranging from 100 percent down to 25 percent. Canopy cover generally increases as these stands age.

The jack pine-dominated communities in the central floristic region evolved with frequent, mild surface fires in between catastrophic fires. Consequently, the jack pines in these subsections have adapted to this disturbance regime with a shorter life span and very few serotinous cones. These natural JP stands appear to have regenerated over a period of about 30 years with several age classes of seedlings contributing to these classes. The remainder of the North 4 JP resource occurs in the northern floristic region. In this floristic region, natural JP stands usually regenerate in a single cohort after a catastrophic fire stimulates the serotinous cones to shed seed.

4.9B Future Direction

1. Cover Type Acres: It is a priority for these subsections to increase the acreage of JP overall. Ideally, most of this cover type increase will occur in Native Plant Communities where jack pine is an excellent competitor (see: Appendix P – Suitability of Tree Species by NPC).

2. Age-Class Distribution: The long-term goal is to move the age classes toward a more balanced structure. Figures 4.9a-e display the desired age-class distribution for the JP cover type. The older age classes will be managed so that enough ERF stands are deferred beyond the NRA to provide an adequate declining age-class distribution out to the maximum age of 65-70 years.

3. Stand Composition: The desired within-stand composition will be relatively pure jack pine in younger growth stages. As stands mature, and in the absence of fire, other species such as red pine, aspen, bur oak, paper birch, and/or white pine may increase, depending on the NPC.

Limiting Factors: Jack pine budworm is a perennial problem in these subsections. Stands older than 50 years are at high risk for significant mortality due to budworm outbreaks. Outbreaks occur at 6-12 year intervals and usually last 3 to 4 years in any one location. Unlike other areas in the state, JP rotation age in these subsections is based on preventing adverse impact from jack

pine budworm (rather than stem decay severity). The following are suggested treatments to address these limiting factors:

- a. Maintain age-class diversity to minimize mortality losses.
- b. Use a harvest age between 45 and 55 years to manage JP stands.
- c. Salvage budworm-killed trees. Pre-salvage if intended products include dimensional lumber.
- d. Minimize “edge” when designing timber sales as this also decreases the severity of budworm impact.
- e. Regenerate JP from local seed sources to preserve the natural diversity of these drought-tolerant populations, noting that natural regeneration on the central floristic sites can take many years to reach full stocking.

4.9C Harvest Methods and Regeneration

1. Even-age Management Direction: The JP cover type will be managed primarily on an even-age basis for pulpwood and bolts, and to support forest wildlife habitat and biodiversity. The goal is to move toward a balanced age-class structure while maintaining or improving site productivity and stand health.

2. Harvest Methods: The JP cover type will generally be treated through even-age prescriptions using seed tree methods, clearcuts with reserves, or clearcuts.

- a. In the central floristic region, natural seeding may be accomplished by reserving ~30 sq. ft. of BA scattered seed trees, islands or clumps of mature seed trees, or advance jack pine regeneration. Small gaps (~3 acre) could also be created in existing JP stands through a group selection harvest. These should be allowed to regenerate through natural seeding from remaining mature stands.
- b. In the northern floristic region, natural seeding can be accomplished through summer harvest treatments and full tree skidding, which distributes serotinous cones on mineral soil.

3. Harvest Prescriptions: The following are the most common prescriptions that will be used on JP timber sales:

Seed Tree

Clearcut with Reserves followed by natural seeding

Clearcut with Reserves followed by artificial seeding or planting

Clearcut followed by natural seeding (from serotinous cones on exposed soil)

Clearcut followed by artificial seeding or planting

Group Selection

4. Intermediate Harvest Methods: Thinning is not standard procedure in North 4 Subsections JP stands. Precommercial methods (thinning and group selection) may be considered on appropriate NPCs, with coordination per the *Coordination Framework*, to explore innovative techniques, and with the intention of meeting specific SFRMP management objectives. The use of these techniques will depend on whether stands meet merchantability criteria based on a field examination, and whether there are markets for the timber.

5. Intermediate Harvest Prescriptions: Thinning is not a standard treatment prescription for JP stands in these subsections. As noted above, its use will be coordinated per the *Coordination Framework* and will be undertaken only to meet SFRMP management objectives.

6. Regeneration Methods: Natural seeding, artificial seeding, or planting will be used to regenerate JP. Consider that natural regeneration on the central floristic sites can take many years to reach full stocking. Regeneration recommendations are to:

- a. Separate treatment/prescription types by northern and central floristic regions.
- b. Promote natural regeneration through seed tree and small gap harvests, with appropriate slash management.
 - i. Use full-tree skidding prior to aerial seeding or hand planting.
 - ii. Lop and scatter the slash for natural seeding.
 - iii. Broadcast the slash if the site will be prescribed burned.
- c. Regenerate JP from local seed sources on these sites to preserve the natural diversity of these drought-tolerant populations.
- d. Conduct brush and sod control when necessary, manage for prairie grasses and forbs (ground layer) in appropriate NPCs, use prescribed burning (understory and light slash burns) when possible, and discourage establishment of invasive or cool-season sod-forming grass species.
- e. Consider mixing some other species that are appropriate to the site and NPC with jack pine when seeding or planting to regenerate some JP stands.

4.9D Cover Type Conversion Management

Conversion Goals: A 10-year goal is to increase the JP cover type in these subsections on appropriate sites, i.e., with reference to site-level NPC classification (see Appendix P of this plan).

4.9E Stand Selection Criteria

Stands were selected using the Remsoft harvest-scheduling model. The process is explained in detail in Appendix I of this plan. Rotation ages and treatment acres are listed in Table 3.9a (Chapter 3). For a detailed description of harvest-level determination, see GDS 9A.

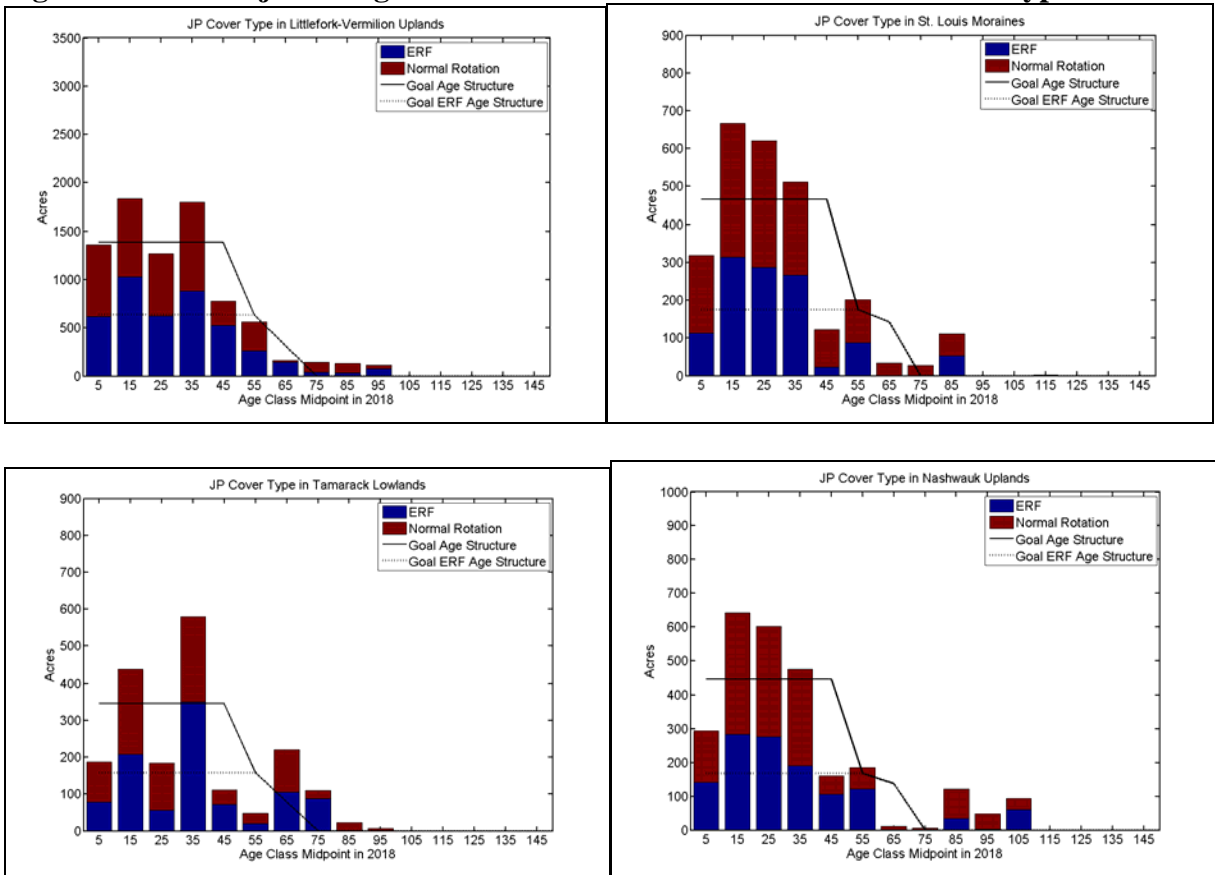
- 1. Normal-Rotation Forest:** The NRA of 50 will be used for calculating a regulated harvest level in the North 4 Subsections.
- 2. Extended-Rotation Forest:** The ERF goal for this cover type is to maintain 12 percent of the acres over the 50-year old NRA (i.e., effective ERF) at any one time (see tables 3.1 b-e in Chapter 3).

4.9F Stand Treatment Summary

Total treatment acres, old forest percent, effective ERF percent, and the average treatment ages for the next five decades can be found in GDS-9. For the first decade of this plan, 2,120 acres of JP and BSU were selected for treatment. There is variation from decade to decade because of the current age-class distribution of the cover type.

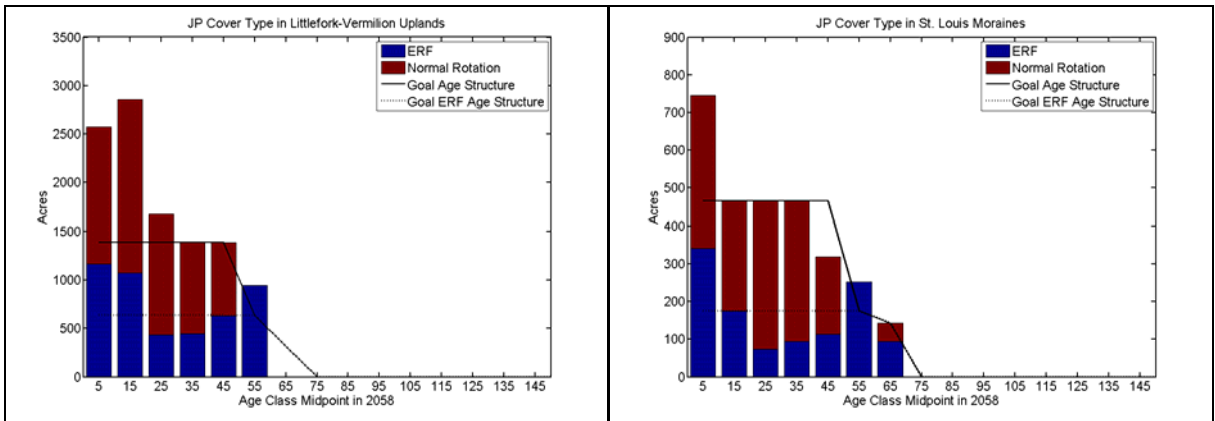
Figures 4.9i-h display the projected age-class structure of the JP cover type in 2018 (at the end of the 10-year planning period).

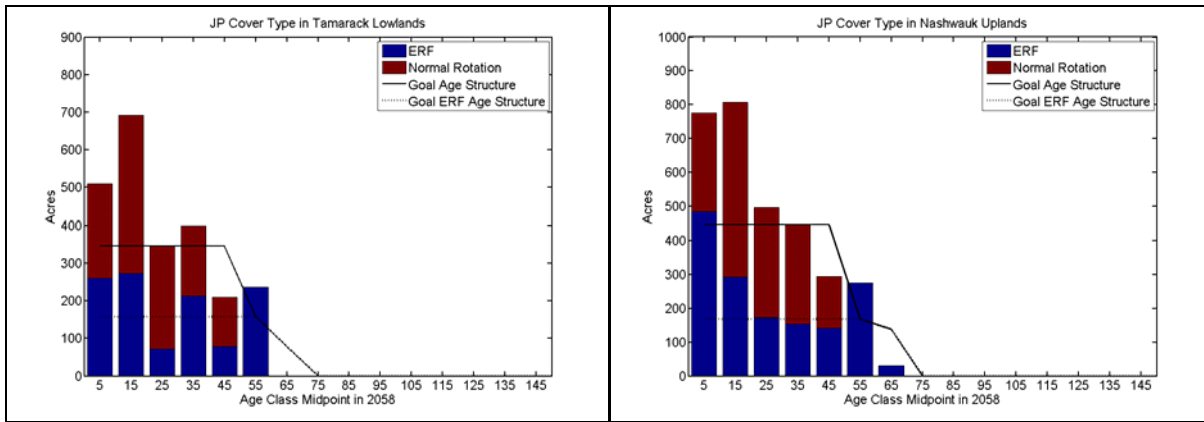
Figures 4.9i-h: Projected Age-Class Distribution for the Jack Pine Cover Type in 2018



Figures 4.9i-l display the projected age-class structure of the JP cover type in 2058. Based on the modeling of these treatment levels, by the end of the fifth decade the cover type age-class distribution should be more consistent with the desired distribution.

Figure 4.9i-l: Projected Age-Class Distribution for the Jack Pine Cover Type in 2058





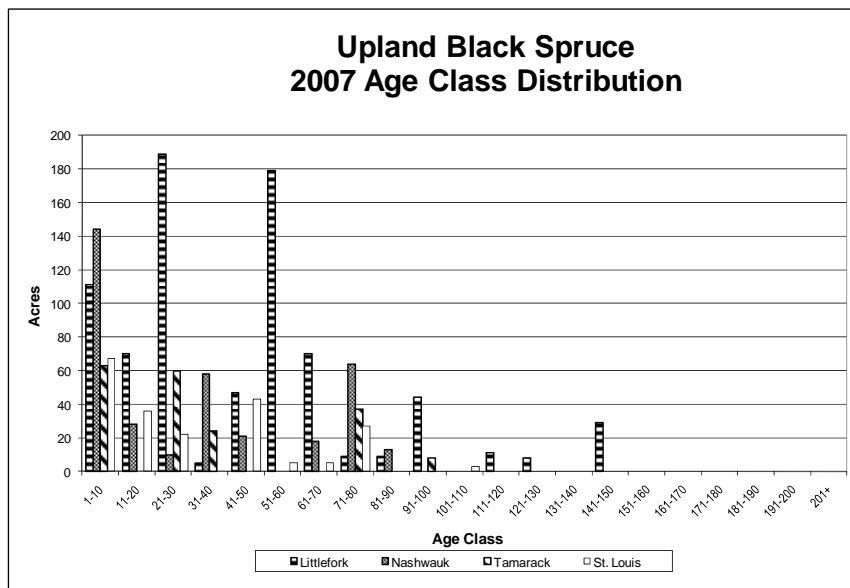
4.10 Black Spruce Upland

4.10a Current Condition

- 1. Cover Type Acres:** In 2008, the upland black spruce (BSU) cover type comprised 0.2 percent (1,499 acres) of state-managed acres in the subsections.
- 2. Age-Class Distribution:** In these subsections, the current age-class distribution of the BSU cover type does not reflect the desired balanced age-class structure described for even-age managed cover types. The current age-class distribution is skewed toward older age classes. This age-class imbalance is consistent across all subsections.

In these subsections, approximately 38 percent (1,275 acres) of the BSU acreage is currently over the recommended NRA of 50.

Figure 4.10a: Current Age-Class Distribution of the Upland Black Spruce Cover Type



3. Stand Composition: Mature BSU stands are typically mixed. White spruce, aspen, birch, red and white pine, are typical secondary tree species.

4. Native Plant Communities: To learn more about NPCs in which BSU is typically found in these subsections, refer to Appendix P of this plan, and to the *NPC Field Guide*.

4.10b Future Direction

1. Cover Type Acres: A 10-year goal is to maintain BSU at the current level.

2. Age-Class Distribution: A goal is to move the age classes toward a more balanced structure. The ERF goal for BSU in these subsections is to have 12 percent of the acres over the 50-year NRA, with a declining age-class distribution out to the maximum age of 65-70 years.

3. Stand Composition: The desired within-stand composition will range from pure BSU stands to a more diverse stand structure that might include upland species such as jack pine, aspen, balsam fir, and birch, depending on the NPC. Jack pine often occurs as a codominant species in BSU types.

4.10C Harvest Methods and Regeneration

1. Even-age Management Direction: The BSU cover type will be managed on an even-age basis for pulpwood. The goal is to move toward a balanced age-class structure while maintaining or improving site productivity, forest wildlife habitat, and biodiversity.

2. Harvest Methods: BSU stands will be treated through even-age management using clearcut or clearcut with reserves prescriptions. Potential reserve tree species associated with this plant community type are jack pine, white pine, white spruce, aspen, balsam fir, or birch. This can be accomplished through reserving seed trees, islands or clumps of mature trees, or advance regeneration. Where possible, harvest sites should use natural stand boundaries.

Limiting Factors: Stem decay can affect BSU similarly to jack pine. Stem decay can be more prevalent in upland than lowland black spruce, and usually occurs at a younger age; stands over age 50 are at higher risk. Stem decay does not kill trees, but it does lead to more stem breakage from wind and can substantially reduce merchantable volume. Exposing the windward side of mature BSU stands should be avoided during harvest of adjacent stands.

The spread of eastern dwarf mistletoe to regenerating stands of black spruce is a concern in the management of this cover type. The following recommendations for harvest and post-sale treatment are recommended to limit the spread of dwarf mistletoe where it is present in a stand:

- a. Black spruce trees are not recommended as reserve trees due to the possibility of spreading dwarf mistletoe infection to the regenerating stand.
- b. All clearcuts should kill all live black spruce greater than 5 feet in height.
- c. If the site is to be burned prescriptively, slash should be distributed evenly across the site.
- d. Design timber sales boundaries to include mistletoe pockets plus a two-chain (132 feet) buffer of non-infected black spruce.

3. Harvest Prescriptions: The following are the most common prescriptions to be used on BSU timber sale acres in the North 4 subsections:

- Clearcut with Reserves, followed by natural seeding.
- Clearcut with Reserves, followed by artificial seeding or planting.

4. Regeneration Methods: Regeneration of BSU sites will be accomplished through natural seeding, artificial seeding, or planting. Recommendations are:

- a. Plant or seed species appropriate to the site.
- b. Manage slash to accomplish regeneration objectives. For example, use full-tree skidding prior to aerial seeding or hand planting, or broadcast the slash if the site will be burned.

4.10D Stand Selection Criteria

1. Normal-Rotation Forest: A NRA of 50 years will be used for calculating a regulated harvest level. The objective is to move the age classes toward a more balanced structure.

Table 3.9a of GDS-9A shows rotation ages and stand acres for this cover type and gives a more detailed description of harvest-level calculations. See also Appendix I of this plan for a description of the modeling process.

2. Extended-Rotation Forest: The ERF goal for this cover type is to maintain 12 percent of the acres over the 50-year NRA at any one time (see tables 3.9b-e in Chapter 3 of this plan).

4.10E Stand Treatment Summary

Tables in GDS-9A and Appendix F of this plan show the modeled treatment levels (acres), recommended conversion acreage into the BSU cover type, old forest percent, effective ERF percent, and the average treatment ages for the next 6 decades. For the first decade of the plan, 2,120 acres of BSU and JP combined were selected for treatment. Some variation in treatment levels from decade to decade is expected because of the current age-class distribution of the cover type.

Based on the modeling of these treatment levels, by the end of the fifth decade, the cover type should be approaching the desired age-class distribution.

As each new 10-year plan is developed, the treatment levels by decade and modeling will be re-evaluated.

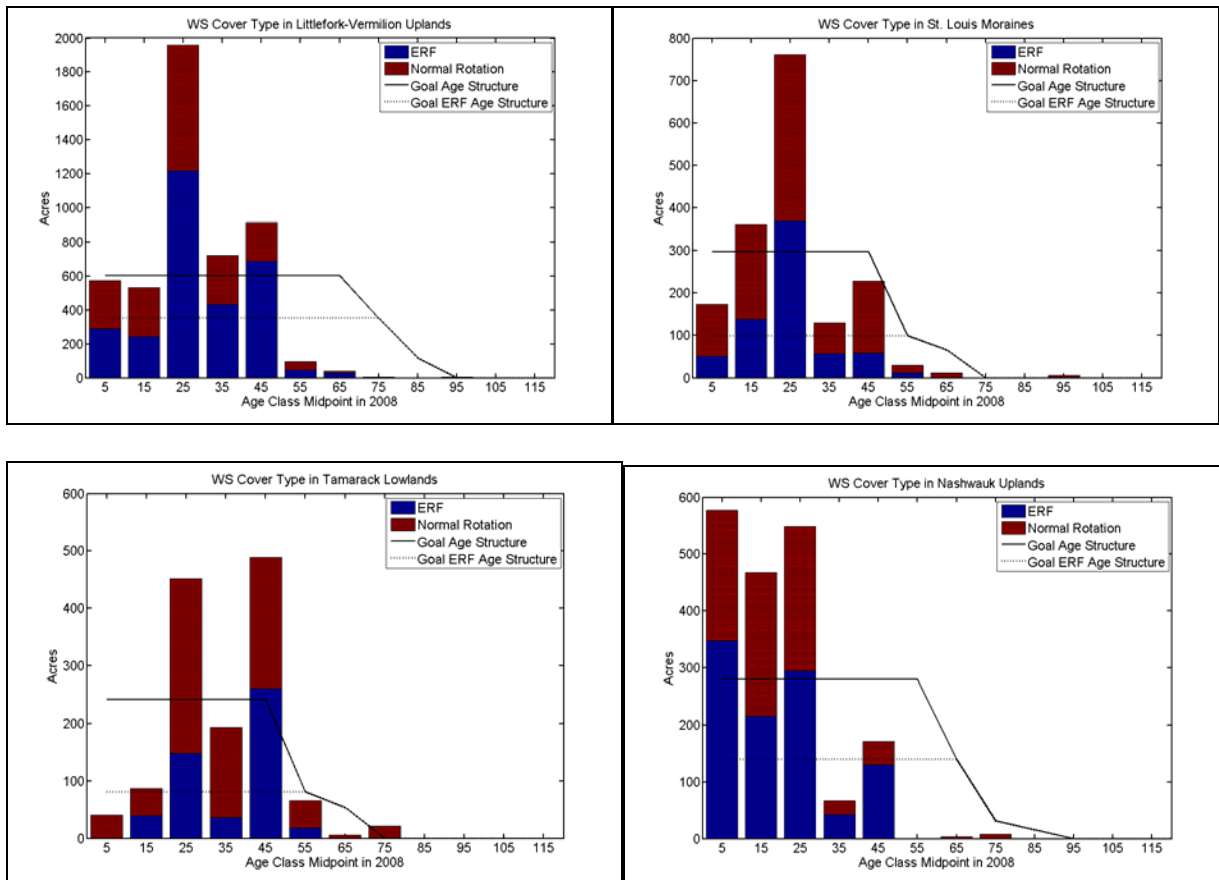
4.11 White Spruce

4.11A Current Condition

1. Cover Type Acres: In 2008, the white spruce (WS) cover type comprised about 1.5 percent (10,695 acres) of state-managed acres in these subsections.

2. Age-Class Distribution: The current WS age-class distribution for the portion of the cover type that will be managed as even-age stands (i.e., planted stands) is not balanced.

Figures 4.11a-d: Current Age-Class Distributions for the White Spruce Cover Type



In these subsections, .04 percent (472 acres) of the WS cover type managed as even-age is beyond the recommended NRA of 50 (SLM and TL), 60 (NU) or 70 (LFVU) years. The goal is to have 10 percent of the timber land acres between the NRA and the MRA. Currently, .02 percent (199 acres) is over the recommended MRA of 70 (SLM and TL) or 90 (LFVU and NU) years, depending on subsection.

3. Stand Composition: WS stands vary from planted monotypic stands of nearly pure WS to natural-origin stands where white spruce coexists with other canopy tree species. Most of the older natural-origin WS stands have a mixed coniferous-deciduous canopy with varying amounts of quaking aspen, paper birch and balsam fir, with smaller amounts of white pine, tamarack or black spruce depending on landscape context, site conditions, management history, and NPC.

4. Native Plant Communities: Information about North 4 NPCs in which WS is typically found is located in Appendix P of this plan, the *NPC Field Guide*, and ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for WS emphasis.

4.11B Future Direction

- 1. Cover Type Acres:** A goal for the next 50 years is to increase the acreage in this cover type. See GDS-9A and Appendix E for goals for the WS cover type in these subsections.
- 2. Age-Class Distribution:** There is no long-term goal to move this cover toward a more balanced age-class structure. ERF and natural-origin WS stands will be managed as multi-aged and mixed-species stands. The ERF goal for this cover type is to have 10 percent of the WS acres between NRA and the maximum age (70 or 90 years, depending on subsection).
- 3. Stand Composition:** WS stands will vary from mostly pure stands of white spruce to mixed species stands. A decreasing proportion of the WS plantations will be managed as single species. Future stands will favor a more diverse structure that includes varying amounts of conifers such as white pine, red pine, tamarack, black spruce, balsam fir, upland white cedar, and upland hardwoods such as aspen and birch depending on NPC, landscape context, site conditions, and management history (see GDS-1B and 3).

4.11C Stand Management

A. Even-age Management

1. Even-age Management Direction: Manage normal-rotation WS stands (i.e., planted stands) on an even-age basis for pulpwood, bolts and sawtimber products, maintaining or improving site productivity, wildlife habitat, and biodiversity considerations.

2. Even-age Harvest Methods: Manage normal-rotation WS stands using clearcut, shelterwood, or seed tree prescriptions. Use natural stand boundaries or natural features such as NPC, topography, and soil type to delineate timber sale boundaries.

Establish harvest regulations and apply harvesting techniques that will favor maintaining or increasing within-stand diversity by reserving from harvest a portion of the hardwoods and other long-lived conifers, and protect desirable advance regeneration. These reserve trees and reserve patches will maintain the within-stand species diversity, add structural diversity for the newly regenerating stand, and may also function as a seed source that could aid in increasing the density of these species in the new stand.

Reserve trees may also mitigate impacts of insects and disease. The two most common defoliators of white spruce are spruce budworm and yellow-headed spruce sawfly. Reserve trees may mitigate impacts from the sawfly by providing partial overstory shade. When regenerating WS stands, efforts should be made to reduce the amount of balsam fir in the stand since balsam fir is the preferred host for spruce budworm.

3. Even-age Management Prescriptions: The following are the most common prescriptions that will be used on normal-rotation WS timber sale acres:

- Clearcut with Reserves
- Clearcut with Reserves, followed by artificial regeneration (planting or seeding)
- Seed Tree
- Shelterwood

B. Uneven-age Management

1. Uneven-age Management Direction: ERF and natural-origin WS stands will be managed as uneven-age stands with a goal of increasing species and age-class diversity within the stand. Uneven-age managed stands should result in multi-canopy, mixed-species conditions that are desired on some sites. Some recommendations are:

- a. Discriminate against balsam fir in harvest prescriptions, due to spruce budworm considerations.
- b. Retain a portion of the largest cohorts of supercanopy white spruce, or other overstory species such as white pine, in patches or clumps, at each treatment where possible.
- c. Encourage multi-layered understory development.
- d. When regenerating trees in the understory, emphasis should be given to regenerating white spruce and not balsam fir, and also to increase the amount of non-host (i.e., for spruce budworm) tree species such as pines and hardwoods in the stand.
- e. Use the NPC classification of the site and growth-stage data to inform species and age-class diversity decisions.

2. Uneven-age/Multi-Aged Management Prescriptions: Single tree and group selection harvest methods should be used where multiple ages already exist in the stand. Where the stand is currently even aged, shelterwood, seed tree with reserves, or group selection harvest methods may be needed to move the stand toward a multiple-aged stand. The following are the most common management prescriptions that will be used for WS ERF stands:

- Group Selection
- Single Tree Selection
- Seed Tree with Reserves
- Shelterwood with Reserves
- Variable Density and Variable Retention Thinning

C. Intermediate Harvest

1. Intermediate Harvest Methods: Thinning will be used to reduce stand density to increase future tree growth, quality, vigor, and to reduce the risk of spruce budworm outbreaks and damage by reducing the amount of balsam fir. Recommendations are:

- a. Thinning will occur in merchantable normal-rotation stands at approximately 10-year intervals, depending on site quality.
- b. Thin down to a basal area no less than one-third of the current stand BA on the initial thinning. Subsequent thinning treatments should retain a minimum of 100 BA or 40 percent live-crown ratio.
- c. Older ERF stands may have longer intervals between thinning entries to compensate for slower growth rates, to facilitate the growth of desirable understory species, and to promote within-stand diversity and the development of old forest components.
- d. In multi-aged stands, residual basal area may be modified to meet ERF and other objectives. Examples are: 1) thin to 60 BA rather than 100 BA to encourage within-stand diversity, and 2) maintain higher residual basal areas because of the larger diameter of older trees.
- e. Higher residual stand densities (higher BA) are recommended along stand edges exposed to wind (because white spruce is shallow-rooted and susceptible to blowing down) and along high quality visual corridors, such as major roads and lakes.

2. Thinning Prescriptions: Prescriptions for thinning include:

- Row Thin
- Strip Thin
- Selective Thin
- Variable Density and Variable Retention Thinning

D. Regeneration

1. Regeneration Methods: Following a final or selective harvest, consider these recommendations when regenerating WS stands:

- a. Classify the site to NPC and identify the growth stage for the purpose of identifying suitable species and their relative abundance.
- b. Use prescribed fire, mechanical scarification, or herbicides to prepare the site for natural or artificial seeding or planting.

- c. During site preparation, discriminate against balsam fir and maintain non-host tree species such as pines and hardwoods in the stand, to reduce the risk of spruce budworm infestation.
- d. Consider within-stand diversity goals when determining the method, timing, and intensity of site preparation or release, so that species composition and structure within the stand is allowed to develop. For example, reduce the concentration of herbicide used or use a less intense method than rock raking.
- e. Consider using techniques that make plantations look more like naturally regenerated stands.
- f. Retain advance regeneration of desired species from the previous stand.
- g. Plant fewer trees per acre to allow other species to develop.
- h. Plant trees at various densities.
- i. When regenerating spruce-fir stands, emphasis should be given to regenerating white spruce and not balsam fir, and also to increasing the amount of non-host tree species such as pines and hardwoods in the stand.
- j. After treatment of ERF stands, consider under-planting or artificial seeding white spruce and other desired species to supplement natural seeding.
- k. Work with natural stand dynamics. Using ECS silviculture guides and NPC classification and growth stage information, plan ahead with a silvicultural prescription that favors regeneration of desired species and discourages undesirable species through natural species competition and regeneration without the use of post-harvest site prep and chemical treatments.

4.11D Stand Selection Criteria

1. Normal-Rotation Forest: A rotation age of 50, 60 or 70 years, depending on subsection, will be used for calculating a regulated harvest level for stands managed under normal rotation. The Remsoft harvest-scheduling model used to select stands is described in Appendix I of this plan.

Normal and maximum rotation ages and acres of stands selected can be found in Table 3.9a in Chapter 3 of this plan. Criteria developed for selection resulted in 7,201 acres of WS being selected for examination during the first decade of this plan.

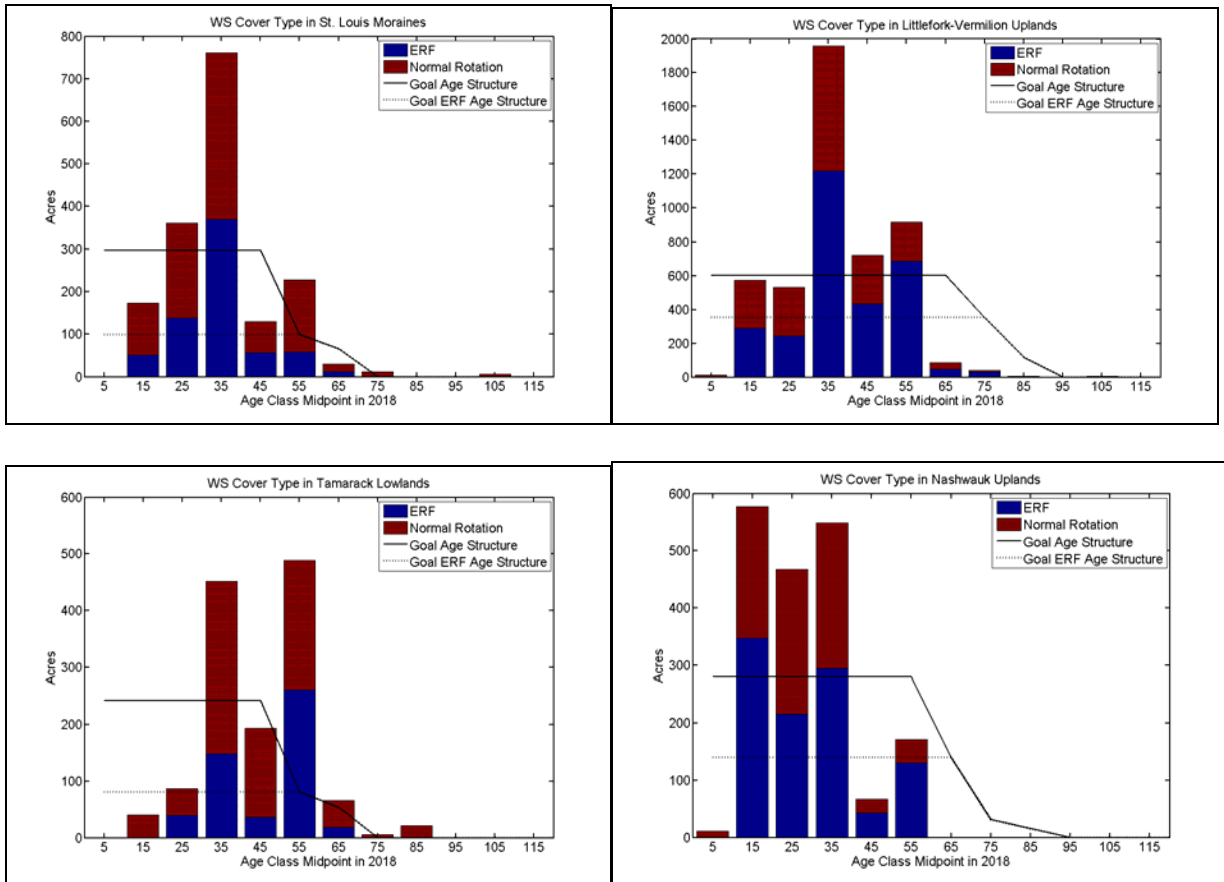
2. Extended-Rotation Forest: ERF stands (10 percent of the cover type) will be managed as uneven-age or multi-aged stands with a goal of increasing species and age-class diversity within the stand.

Due to the current age of ERF stands, only four stands were selected for final harvest treatment during this 10-year planning period. Some ERF-designated stands were selected for thinning treatments, however.

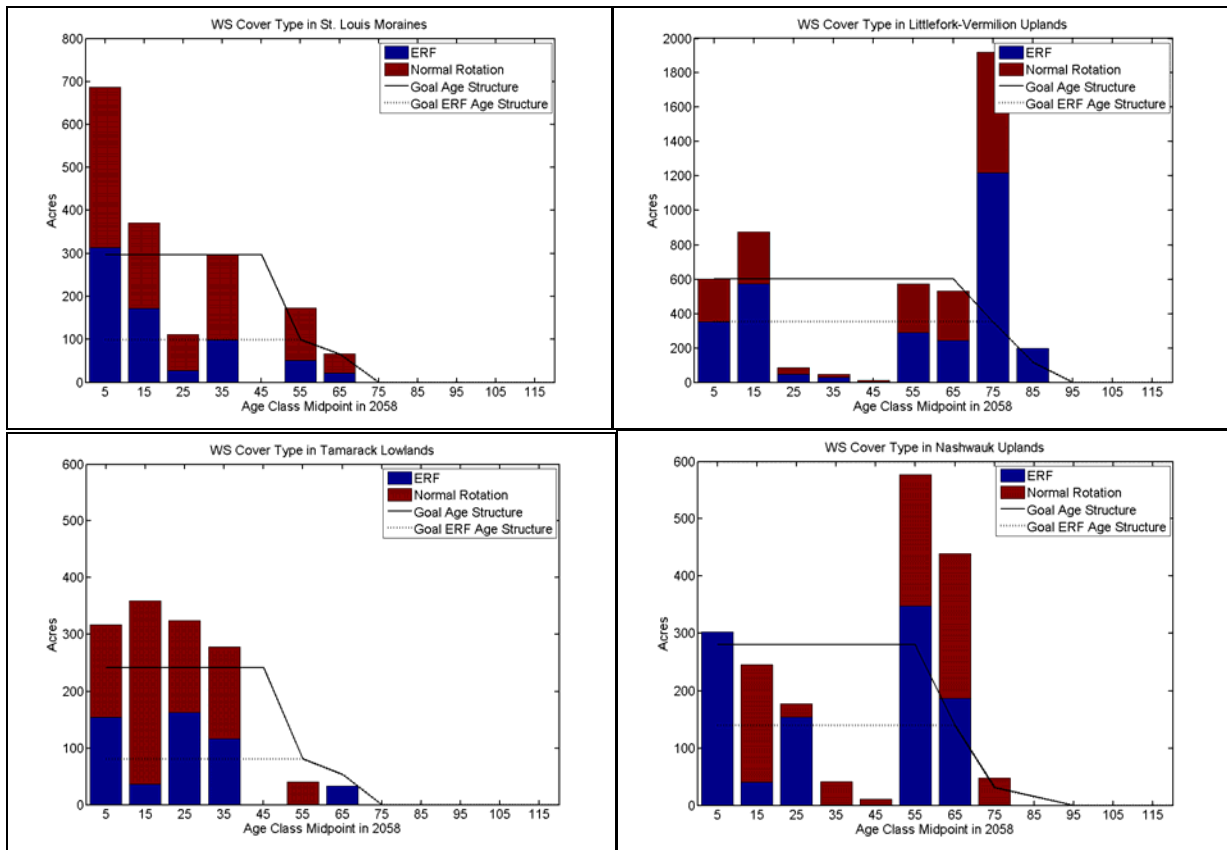
3. Thinning: See Appendix I for an explanation of criteria used to select stands for thinning.

4.11E Stand Treatment Summary

Figures 4.11e-h: Projected Age-Class Distributions for the White Spruce Cover Type (Even-age Managed Portion) in 2018



Figures 4.11i-l: Projected Age-Class Distributions for the White Spruce Cover Type (*Even-age Managed Portion*) in 2058



4.12 Balsam Fir

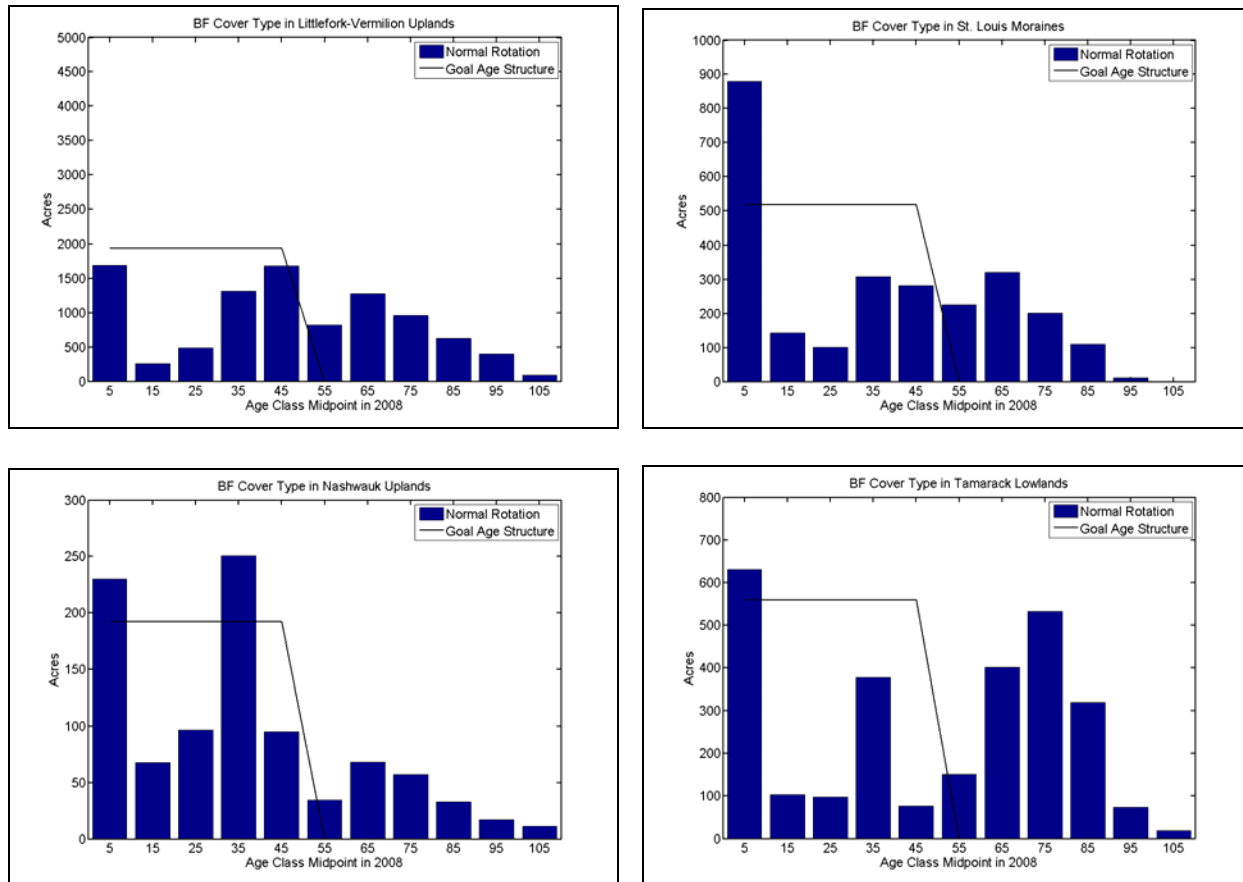
4.12A Current Condition

1. Cover Type Acres: In 2008, the balsam fir (BF) cover type comprised 2.3 percent (16,033 acres) of state managed acres in these subsections. Of the total acreage, 60 percent (9,691 acres) is growing in the Littlefork-Vermilion Uplands subsection.

Roughly half of the BF acreage in these subsections occurs on mesic and drier sites, while the other half occurs on wet-mesic or wet soils. The discussion herein focuses on mesic and drier sites. Site conditions, management goals, and NPC should inform consideration and treatment of wet-mesic and wet BF stands.

2. Age-Class Distribution: The current BF age-class distribution does not reflect the desired balanced age-class structure described for even-age managed cover types.

Figures 4.12a-e: Current and Desired Age-Class Distributions for the Balsam Fir Cover Type



There are fewer acres (only 702 acres recorded as 1-10 in the forest inventory) in the 1-10 age class in the North 4 forest inventory because: 1) after a BF stand is harvested, balsam fir typically only shows up as a component in the new cover type (e.g., aspen). The stand may be classified as a BF cover type again sometime after it grows out of the 1 – 10 age class; and 2) some stands are converted to pine or WS after harvest.

In these subsections, approximately 56 percent of the normal-rotation-age BF acres are currently over the recommended NRA of 50.

3. Stand Composition: Natural, mature BF stands are typically mixed stands. Secondary species in the BF cover type are: white spruce, aspen, white pine, jack pine, birch, and possibly a scattering of northern hardwoods.

4. Native Plant Communities: Information about North 4 NPCs in which BF is typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and in the ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for BF emphasis.

4.12B Future Direction

1. Cover Type Acres: It is expected that over the next 50 years the BF cover type acreage will decrease. Some BF stands will be converted to other cover types or mixed forests appropriate to the NPC of the site. While the overall BF cover type acreage is expected to decline, the number of stands that contain a balsam fir component is not likely to change to any great degree over the next 50 years. There is no target for conversion out of the BF cover type. The expectation is that movement away from BF will occur through the course of typical management.

2. Age-Class Distribution: A goal is to move the current age-class structure toward a more balanced age-class structure. (Note: The 0 – 10 age class is expected to be less than the desired balanced structure because of the time it takes for a harvested stand to develop into a BF cover type.)

No BF stands were designated ERF. Instead, during the next decade all BF stands selected for examination will be classified to NPC and managed towards a species mix or cover type appropriate to the NPC.

3. Stand Composition: The desired future within-stand composition of existing BF acreage will be mixed forests that include long-lived conifers appropriate to the site's NPC, such as white pine, white spruce, red pine, upland white cedar, and upland hardwoods such as aspen, maple, and ash (see GDS-1B and 3). A goal is to manage at least 5 percent of the BF cover type in age classes 25-40 years old through uneven-age management that promotes mixed forest conditions.

Limiting factor: Spruce budworm. The BF cover type will be managed to reduce the intensity and extent of spruce budworm outbreaks. Management will be directed toward:

- a. Increasing non-host species in BF stands, due to spruce budworm considerations.
- b. Retaining a portion of the largest cohorts of supercanopy white spruce, or other overstory species such as white pine, in patches or clumps, at each treatment where possible.
- c. Encouraging multi-layered understory development.
- d. Emphasizing regeneration of white spruce rather than balsam fir in the understory, and increasing the amount of non-host (i.e., for spruce budworm) tree species such as pines and hardwoods in the stand.
- e. Avoiding the creation of multi-aged BF stands to avoid spruce budworm damage to balsam fir regeneration.

4.12C Stand Management

1. Even-age Management Direction: Fifty percent of the BF cover type over NRA will be managed on an even-age basis. This will be done while moving toward a balanced age-class structure and maintaining or improving site productivity, forest wildlife habitat, and incorporating biodiversity considerations.

2. Final Harvest Methods: Harvest stands by clearcutting with reserves. Protect advance balsam fir regeneration along with non-host species where the goal is to maintain the stand as a BF cover type (although this should rarely be the goal). Leaving scattered mature balsam fir may attract spruce budworm to a stand resulting in an increased risk of damage to regenerating

balsam fir. Where the goal is to reduce the BF cover type, plan the selection of cutting areas and design of timber sales to break up large areas of even-age BF.

3. Final Harvest Prescriptions:

Clearcut with Reserves.

4. Regeneration Methods after Final Harvest: Natural regeneration to mixed species stands is recommended. Natural regeneration of mixed stands relies on recent seed fall or advance reproduction present at the time of harvesting, seeding from surrounding stands, and sprouting or suckering of other tree species. Supplemental balsam fir planting may occur on sites where BF is appropriate per NPC classification but is currently lacking on the ground. Objectives in regenerating BF stands are to be based on a site-level NPC classification.

5. Intermediate Harvest Methods: Thinning will be used to reduce stand density as a means of increasing future tree growth, quality, and vigor. Thinning will increase production of small saw logs and reduce the risk of spruce budworm outbreaks and damage by increasing non-host tree species in the stand. Following are recommendations for thinning BF stands:

- a. Thinning of 5 percent of the cover type is recommended in merchantable stands between 25 and 40 years old.
- b. Use caution when removing more than one-third of the stand basal area during a thinning.
- c. Normal-rotation stands that meet thinning criteria will be thinned once (MRA is 50).
- d. Protect advance regeneration of desirable understory species.
- e. Higher residual stand densities (higher BA) are recommended along stand edges exposed to wind and along high quality visual quality corridors, such as major roads and lakes.
- f. If the stand is used as a thermal cover area by deer, consider applying one of the following options:
 - i. Maintain a higher stand basal area (e.g., wider reserve strips with canopy closure),
 - ii. Thin only a portion of the stand, or
 - iii. Don't thin.

6. Thinning Prescriptions: The following harvest prescriptions will be used for thinning:

Strip Thinning

Selective Thinning

Variable Density Thinning

7. Uneven-age Prescription: Up to 5 percent of BF stands younger than NRA will be thinned followed by uneven-age management. Fifty percent of the stands over NRA will receive uneven-age prescriptions. The assumption is that most of this will come from BF stands in MHn44 native plant communities.

Uneven-age management will have as a goal, achievement of a balsam fir component and mixed forest condition appropriate to the NPC.

4.12D Conversion Management

1. Conversion Goals: No specific conversion goal for balsam fir is established in this plan. A majority of BF stands will be managed to develop cover types or mixed forests appropriate to the site. While the overall BF cover type acreage is expected to decline, the number of stands that contain a balsam fir component is not likely to change to any great degree over the next 50 years from the current condition.

Conversion of BF to desired cover types will be accomplished using a range of management options, including:

- a. Allowing natural succession to occur on sites where there is adequate advance regeneration of the desired species.
- b. Planting long-lived conifers or hardwoods on suitable sites. If planting white spruce, avoid retaining overstory balsam fir.
- c. Treatments such as mechanical site preparation, prescribed burning, or herbicide application, followed by hand planting or artificial seeding, may be required to establish desired species on the site.
- d. Thinning to include pre-commercial, intermediate, and stands at and beyond NRA.
- e. Implementing uneven-age prescriptions that move the stand towards a species mix and age class distribution suitable for the NPC of the site.

4.12E Stand Selection Criteria

1. Normal-Rotation Forest: A NRA of 50 years was used to calculate a regulated harvest level.

2. Extended-Rotation Forest: No ERF is recommended for even-age managed BF. In place of this at least 5 percent of BF stands in the 25-40 year age classes in the coming decade will be managed as uneven-age stands where older balsam fir may be retained. Also, 50 percent of stands ≥ 40 years old are targeted for uneven-age management.

3. Thinned Stands: Because there is no BF ERF, and because thinning criteria suggest a first-entry thinning at 25 years, most BF stands will be thinned only once. Five percent of the cover type in stands 25-40 years old will be field visited to evaluate thinning potential.

4.12F Stand Treatment Summary

Tables 3.9c-g in Chapter 3 show the modeled treatment levels (acres), recommended uneven age acreage, intermediate thinning acreage, thinning of stands beyond normal-rotation acreage, and even-age acreage for the next five decades. Currently there are 7,711 acres of BF on the 10-year stand examination list. There is variation from decade to decade because of the current age-class distribution of the cover type.

In these subsections, 6,882 acres (43 percent of the BF cover type) is over the NRA established for this type.

Based on the modeling of treatment levels by decade, Figures 4.12e-h show the projected age-class distribution in 2018 of the BF cover type.

Figure 4.12e-h: Projected Age-Class Distributions for the Balsam Fir Cover Type in 2018

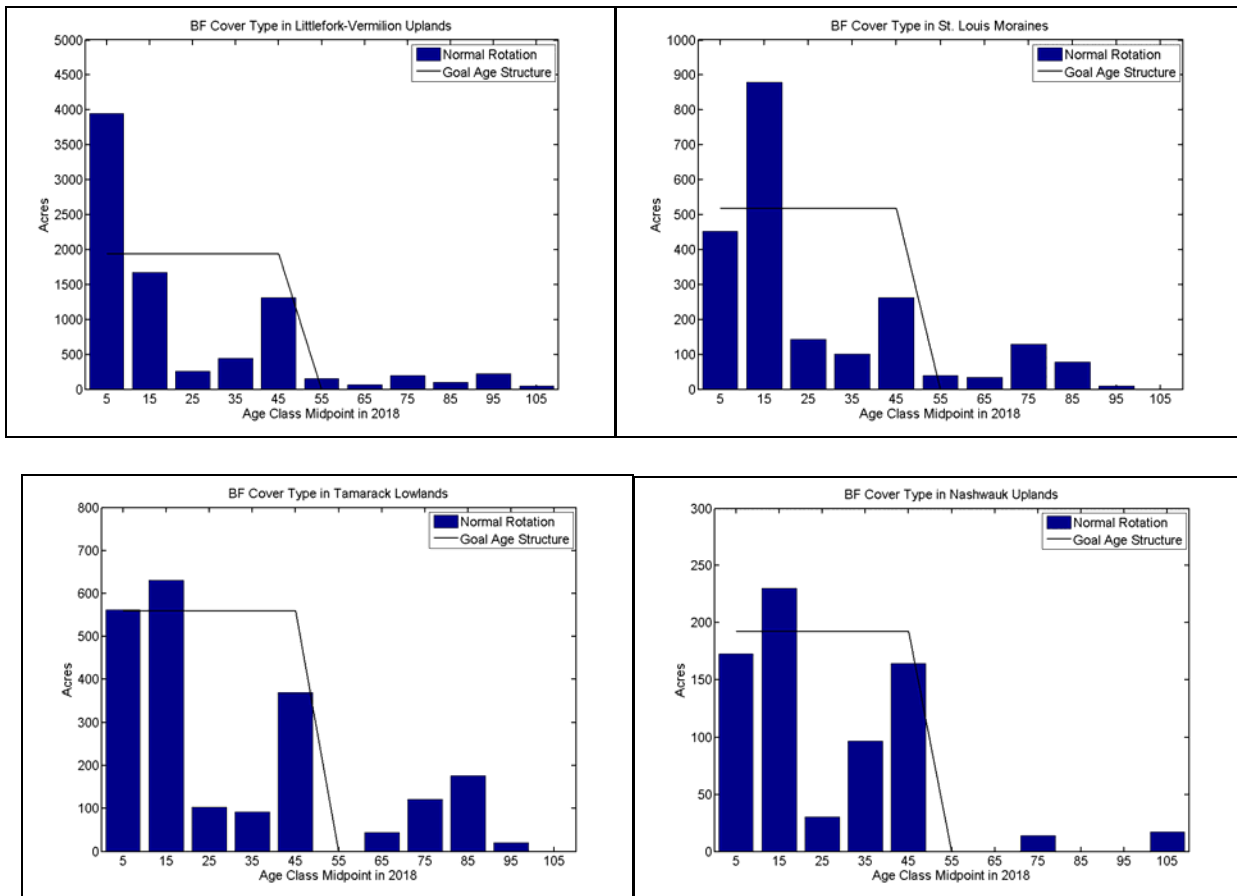
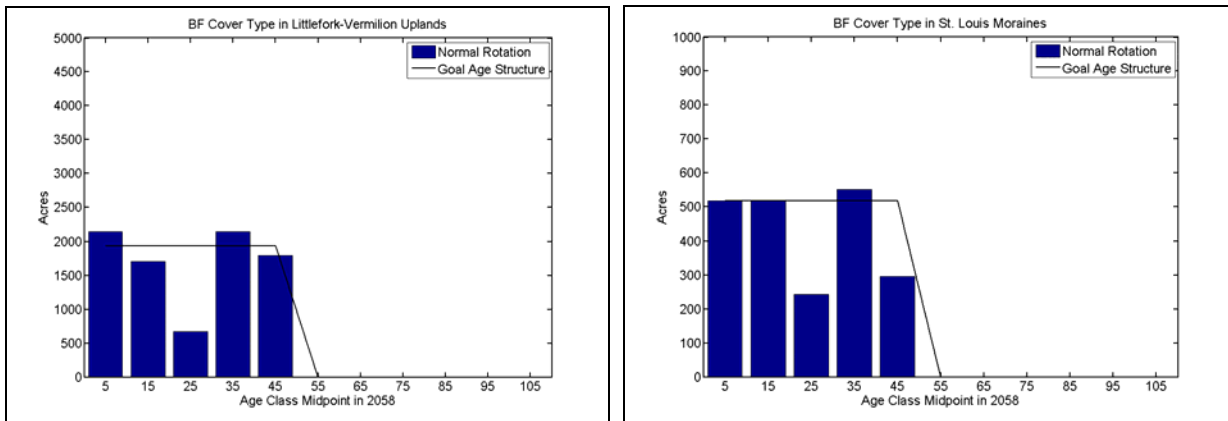
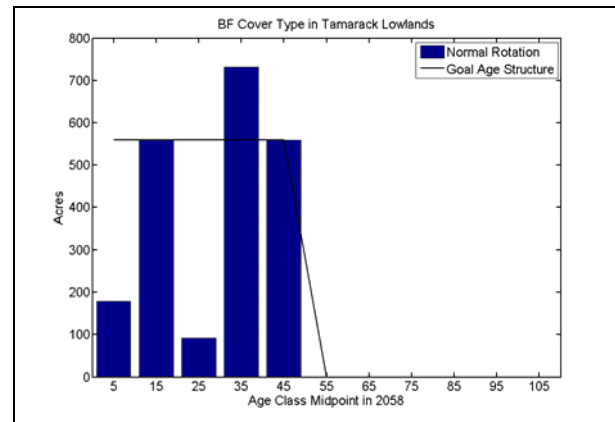
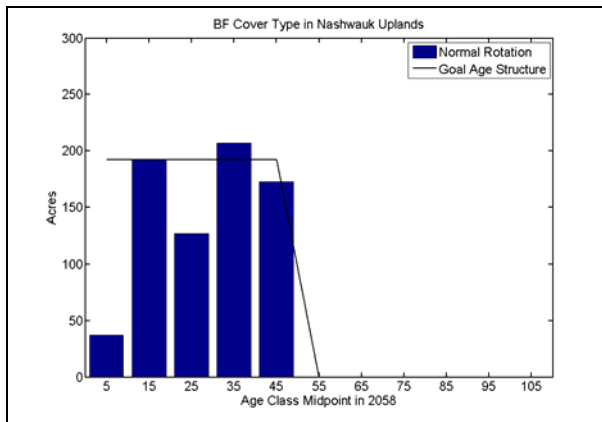


Figure 4.12i-l: Projected Age-Class Distributions for the Balsam Fir Cover Type in 2058



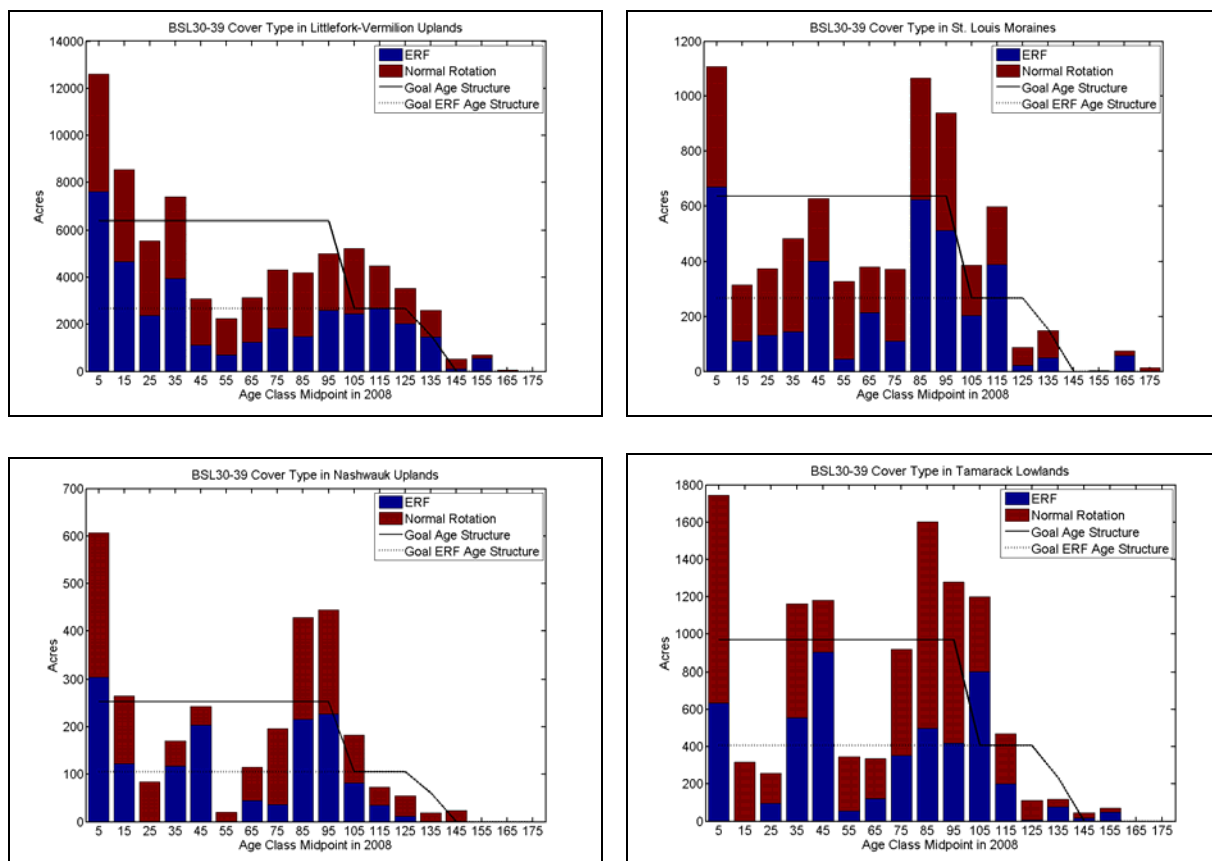


4.13 Black Spruce Lowland

4.13A Current Condition

- Cover Type Acres:** In 2008, the lowland black spruce (BSL) cover type comprised 25.2 percent (179,474 acres) of the state-managed acres in these subsections.
- Age-Class Distribution:** The current age-class distribution of the BSL cover type does not reflect the desired balanced age-class structure for even-age managed cover types. This age-class imbalance is consistent across all four subsections. Lowland black spruce has been divided into three site index groups (40+, 29-39, and 23-28) for determining harvest rotation ages and allowable treatment acres. Low site index BSL can be grown to a much older rotation age than the high site index portion. The current age-class distribution is skewed toward older age classes, especially in the high and medium site index groups.

Figures 4.13a-d: Current and Desired Age-Class Distribution for the BSL Cover Type
 (Note: Only the mid-range site index (SI=30-39) portion of the BSL cover type is shown. We expect the low and high site index portions of the BSL cover type will respond similarly to the plan strategies.)



In these subsections, approximately 25 percent (23,841 acres) of the normal-rotation BSL acres are currently over the recommended NRA.

3. Stand Composition: Natural, mature BSL stands range from pure or nearly pure stands to mixed stands. Secondary species in the BSL cover type include tamarack, balsam fir, cedar, and birch.

4. Native Plant Communities: Information about North 4 NPCs in which lowland black spruce is typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and in the ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for lowland black spruce emphasis.

4.13B Future Direction

1. Cover Type Acres: The 50-year goal is that the BSL cover type acreage will remain about same as it is now. No deliberate losses or gains of the BSL cover type are recommended, although minor changes may occur due to inventory updates.

2. Age-Class Distribution: A goal is to move the age classes toward a more balanced structure.

The older age classes will be managed with enough ERF stands deferred to provide adequate tapering of the age-class distribution out to the maximum age.

3. Stand Composition: Mature BSL stands range from pure or nearly pure stands to mixed stands. Secondary species in the BSL cover type include tamarack, balsam fir, cedar, and birch.

4.13C Stand Management

1. Even-age Management Direction: The BSL cover type will be managed on an even-age basis for pulpwood while accounting for forest wildlife habitat and biodiversity.

2. Final Harvest: BSL stands will be treated through even-age management using clearcuts or clearcuts with reserves. Efforts were made during the development of the 10-year stand selection list to identify larger blocks for harvest using natural stand boundaries.

Maintain secondary component species in BSL stands such as tamarack, white cedar, balsam fir, and paper birch. This can be accomplished through reserving seed trees, islands or clumps of mature trees, advance regeneration, or harvesting to promote sprouting of deciduous species.

Limiting Factors: The spread of eastern dwarf mistletoe to regenerating stands of black spruce is a primary silvicultural concern in the management of this cover type. The following recommendations for harvest and post sale treatment are recommended to limit its spread:

- a. Black spruce reserve trees are not recommended due to the possibility of spreading dwarf mistletoe infection to the regenerating stand.
- b. All clearcuts should kill all live black spruce greater than 5 feet in height.
- c. If the site is to be burned prescriptively, slash should be distributed evenly across the site.
- d. Design timber sales boundaries to include mistletoe pockets plus a 2-chain (132 feet) buffer of non-infected black spruce.

3. Harvest Prescriptions: The following are the most common prescriptions that will be used on black spruce timber sale acres:

- Clearcut, followed by natural seeding
- Clearcut with Reserves, followed by natural seeding
- Clearcut, followed by artificial seeding
- Clearcut with Reserves, followed by artificial seeding

4. Regeneration Methods: Natural seeding or artificial seeding will be used to regenerate BSL stands after harvest.

To reduce dwarf mistletoe infection in newly regenerating stands:

- a. Use prescribed fire or winter shearing to remove all residual infected trees if they are not removed during timber harvest.
- b. Regenerate densely stocked stands of black spruce because mistletoe spreads more slowly and causes less damage in them than open stands.

4.13D Stand Selection Criteria

The Remsoft harvest-scheduling model was used to optimize BSL stand selection based on the even-age cover type scenario (see Appendix I in Chapter 7 of this plan).

Lowland conifer stands that have been designated as ecologically important lowland conifers (EILC) will be reserved from harvest during this 10-year plan period or until such time that a DNR old-growth lowland conifer policy is developed, but they will be included in harvest-level calculations.

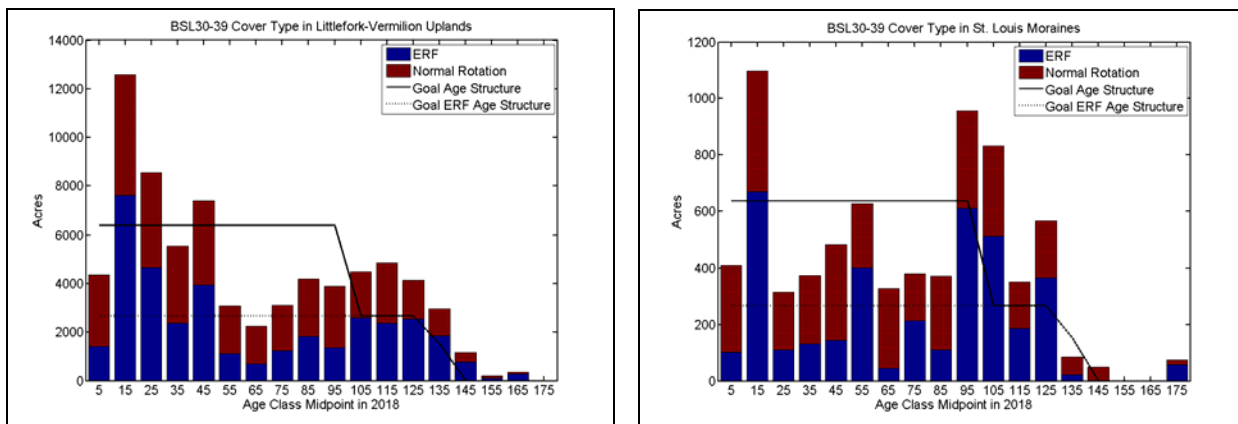
1. Normal-Rotation Forest: Three site-index groups were used, with three corresponding NRAs. The objective is to move the age classes in each of the site index groups toward a more balanced structure. Table 3.9b in GDS-9A shows Normal and Maximum Rotation ages for BSL by site index group.

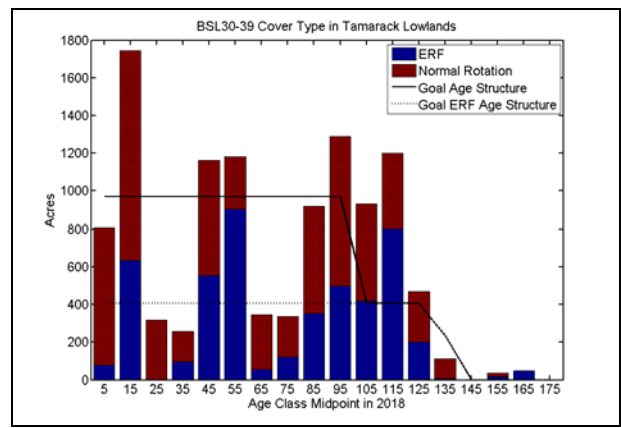
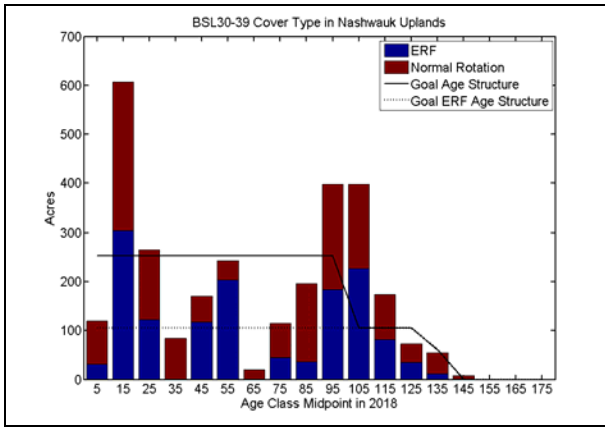
2. Extended-Rotation Forest: The selection of older-aged stands will be emphasized to help move the subset of ERF stands toward a desirable declining age-class structure. The long-term goal is to retain 11-16 percent of the cover type (depending on site index) over the NRA and to provide a declining age-class structure out to the maximum harvest age (see Figures 4.13e – h, following).

4.13E Stand Treatment Summary

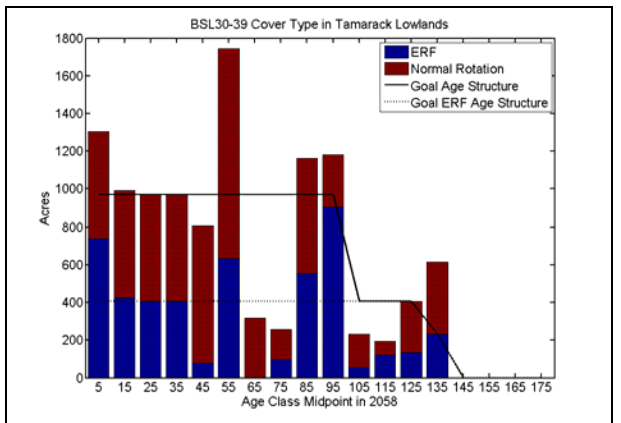
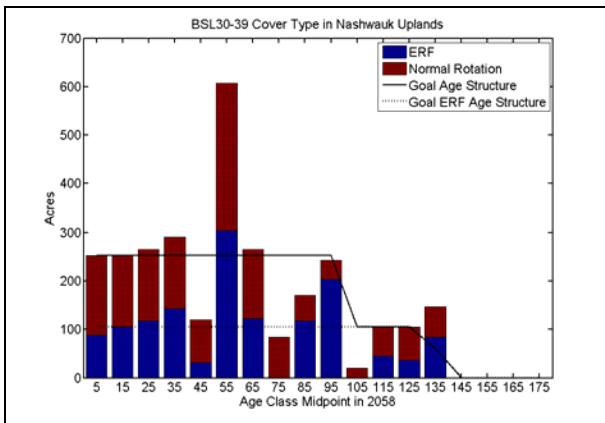
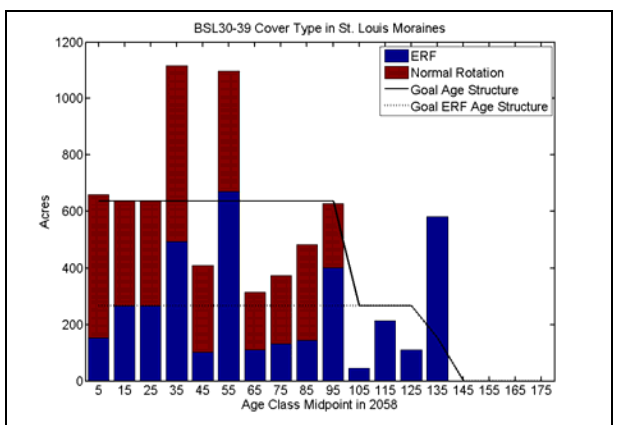
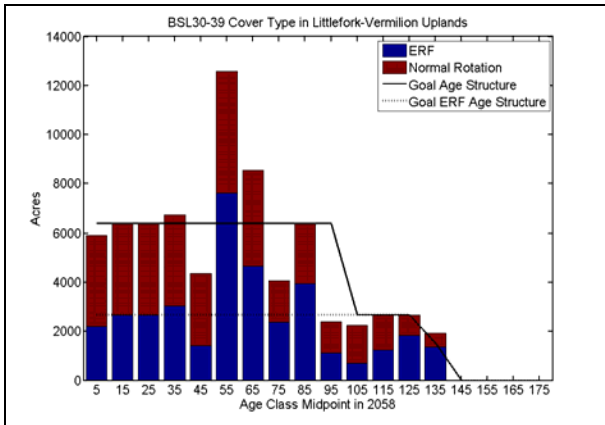
Tables in GDS-9A of this plan show the modeled treatment levels (acres), old-forest percentages, effective ERF percentages, and the average treatment ages for the next five decades. There is variation from decade to decade because of the current age-class distribution of the cover type. Based on modeling of treatment levels, 13,531 acres of BSL were selected for examination during the first decade of this plan.

Figure 4.13e-h: Projected age-class Distributions for the BSL Cover Type in 2018
 (Note: Only the mid-range site index (SI=30-39) portion of the BSL cover type is shown. We expect the low and high site index portions of the BSL cover type to respond similarly to the plan strategies.)





Figures 4.13i-l: Projected Age-class Distributions for the BSL Cover Type in 2058
 (Note: Only the mid-range site index (SI=30-39) portion of the BSL cover type is shown. We expect the low and high site index portions of the BSL cover type to respond similarly to the plan strategies.)

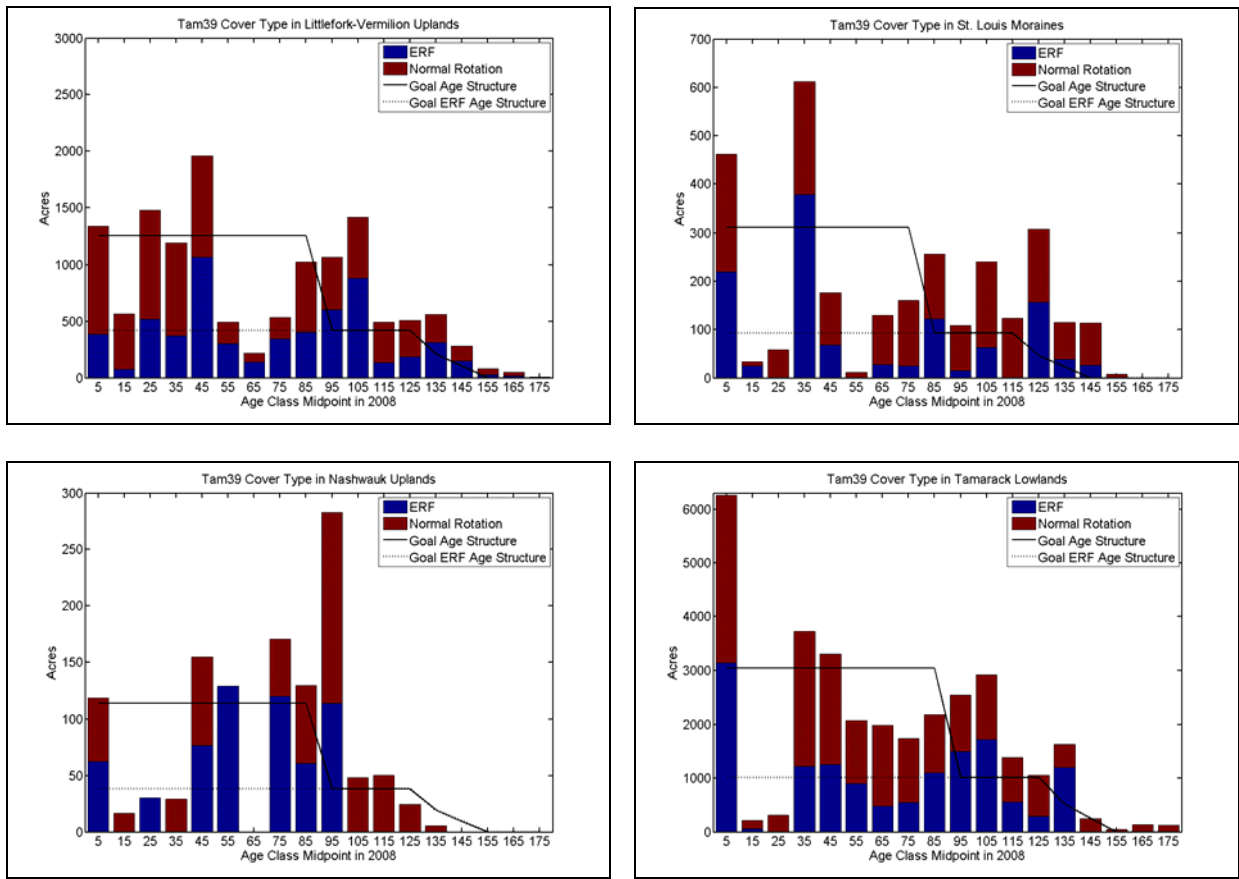


4.14 Tamarack

4.14A Current Condition

- Cover Type Acres:** In 2008, the tamarack (T) cover type comprised 10.4 percent (74,008 acres) of the state managed acres in these subsections.
- Age-Class Distribution:** The current age-class distribution of the T cover type does not reflect the desired balanced age-class structure for even-age managed cover types. This age-class imbalance is consistent across these subsections.

Figures 4.14a-d: Current and Desired Age-Class Distributions for the Tamarack Cover Type
 (Note: Only the low site index (SI-39) portion of the T cover type is shown. The high site index portions of the cover type are expected to respond similarly to the plan strategies.)



- Stand Composition:** Natural, mature T stands range from pure or nearly pure stands to mixed stands. Secondary species in the cover type include black spruce, balsam fir, cedar, and birch.

- Native Plant Communities:** Information about North 4 Native Plant Communities in which T is typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and in the

ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for T emphasis.

4.14B Future Direction

- 1. Cover Type Acres:** The 50-year goal is that the T cover type acreage will remain about the same as it is now. No deliberate losses or gains of the cover type are recommended, although minor changes will occur due to inventory updates. A goal is to increase tamarack presence in other cover types (e.g., A/BG and Bi) on upland sites.
- 2. Age-Class Distribution:** A goal is to move the age classes toward a balanced structure out to NRA, with a tapering age-class distribution out to the MRA. The older age classes will be managed with enough older stands (ERF) deferred from treatment to provide an adequate tapering age-class distribution out to the maximum age. The ERF goal for this cover type is to have 15 percent of the acres over NRA at any one time.
- 3. Stand Composition:** Mature T stands range from pure, or nearly pure stands to mixed stands. Secondary species in T stands include black spruce, balsam fir, cedar, and birch.

4.14C Stand Management

- 1. Even-age Management Direction:** The T cover type will be managed primarily by even-age management methods for pulpwood while accounting for forest wildlife habitat and biodiversity.
- 2. Final Harvest:** Tamarack stands will be treated through even-age management using clearcuts or clearcuts with reserves. Leaving about 10 wind-firm and vigorous tamarack trees with open-grown form (full crown) per acre is recommended for successful natural seeding. In areas of larch bark beetle outbreak, artificial seeding is recommended. Where possible, maintain secondary species such as white cedar, paper birch, and balsam fir. This can be accomplished by reserving seed trees, reserve islands, or clumps of mature trees or advance regeneration. Efforts were made during the development of the 10-year stand selection list to designate larger blocks for harvest, using natural stand boundaries.
- 3. Harvest Prescriptions:** The following are the most common prescriptions that will be used on tamarack timber sale acres:
 - Clearcut, followed by natural seeding
 - Clearcut with Reserves, followed by natural seeding
 - Clearcut followed by artificial seeding.
 - Clearcut with Reserves, followed by artificial seeding
- 4. Regeneration Methods:** Natural seeding and artificial seeding are the methods used to regenerate T stands. Artificial seeding may be an option for maintaining secondary species, especially for black spruce, which is not recommended as a mature reserve tree due to the possibility of spreading dwarf mistletoe to black spruce regeneration.

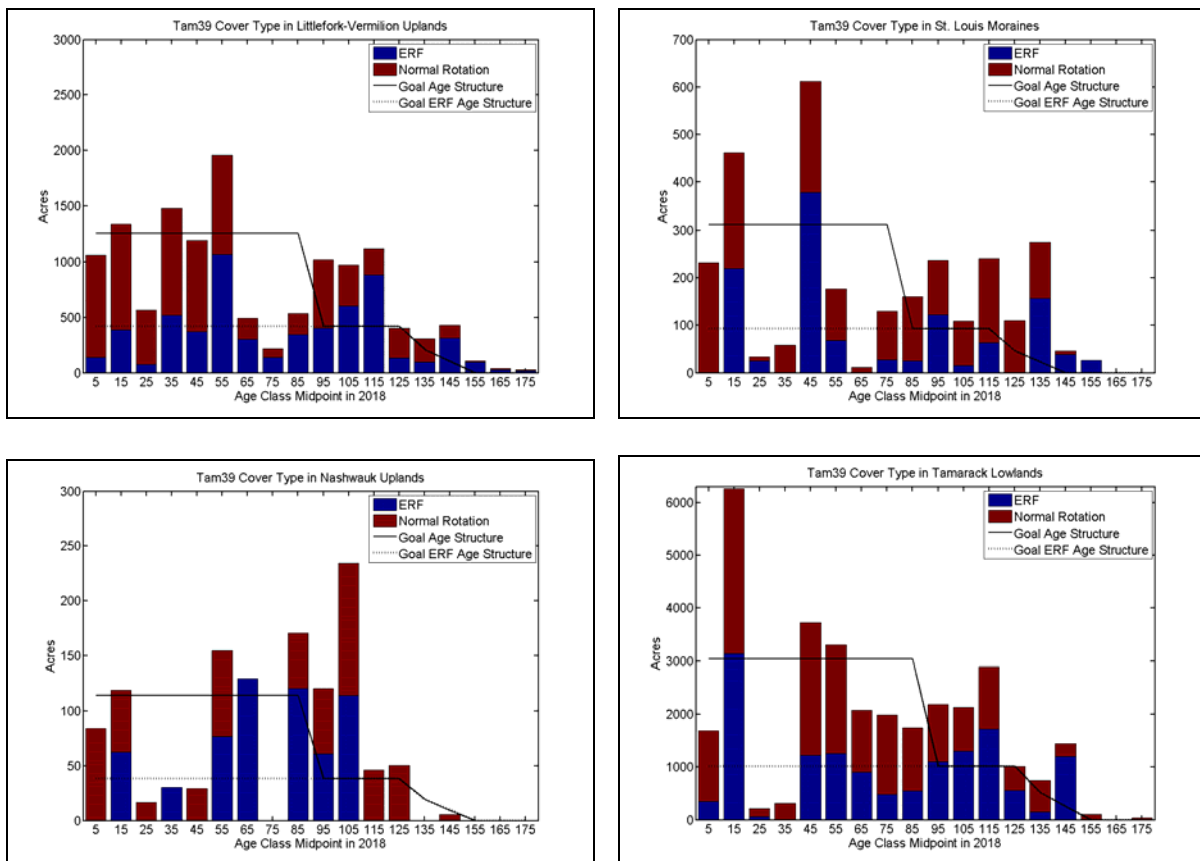
4.14D Stand Selection Criteria

The Remsoft harvest-scheduling model was used to optimize T stand selection based on the even-age cover type scenario. Details about the modeling process can be found in Appendix I of this plan. Normal and maximum rotation ages for cover types are in Table 3.9a in Chapter 3.

Lowland-conifer stands that have been designated as EILC will be reserved from harvest during this 10-year plan period, or until such time as a DNR old-growth lowland-conifer policy is developed, but they will be included in harvest-level calculations.

1. **Normal-Rotation Forest:** Two site-index groups were used with two corresponding NRAs. The objective is to move the age classes in each of the site-index groups toward a more balanced structure.
2. **Extended-Rotation Forest:** The selection of older aged stands will be emphasized to help move the subset of ERF stands toward a desirable declining age-class structure. The long-term goal is to retain 15 percent of the cover type (depending on site index) over the NRA, and to provide a declining age-class structure out to the maximum harvest age.

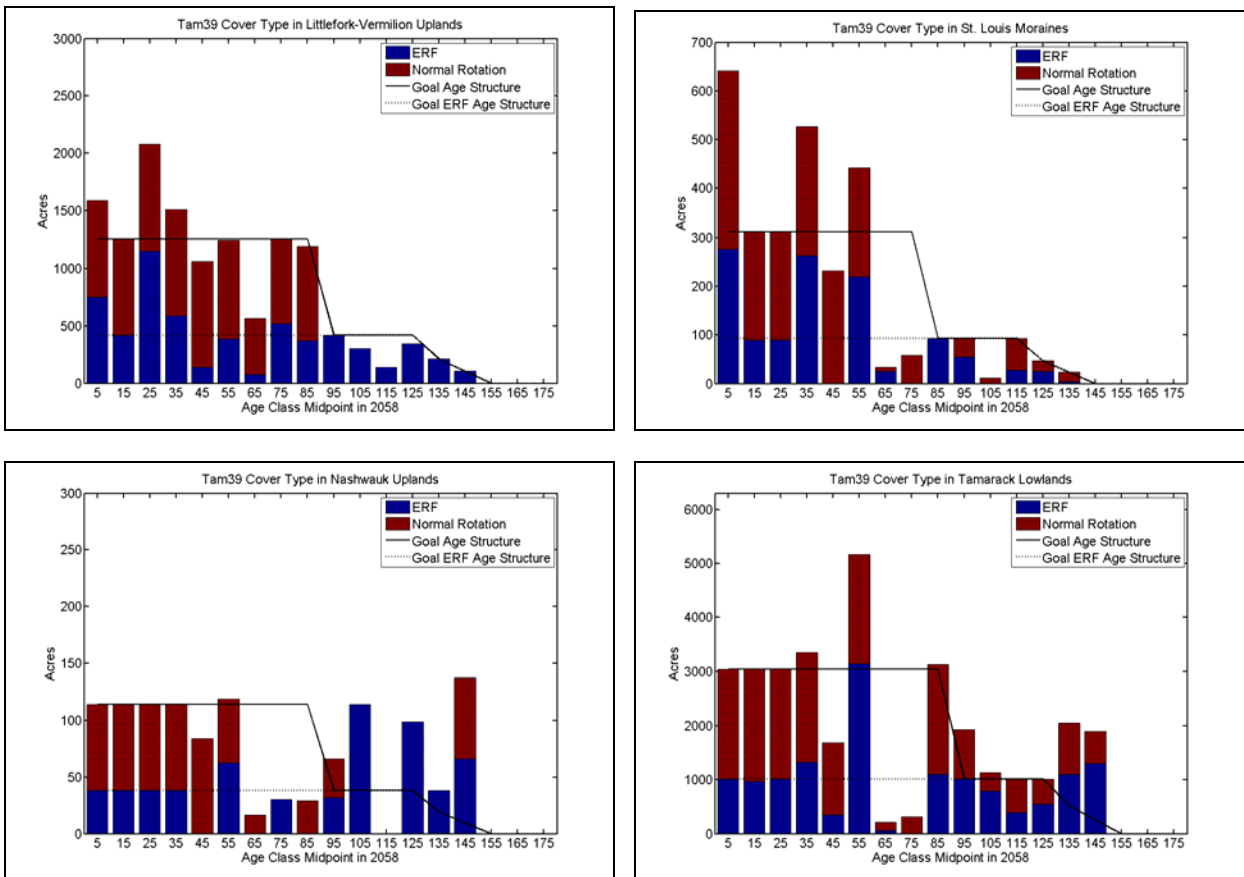
Figures 4.14e-h: Projected Age-Class Distributions for the Tamarack Cover Type in 2018
 (Note: Only the low site index (SI-39) portion of the T cover type is shown. The high site index portions of the cover type are expected to respond similarly to the plan strategies.)



4.13E Stand Treatment Summary

Tables in GDS-9A of Chapter 3 show the modeled treatment levels (acres), old forest percentage, effective ERF percentage, and the average treatment ages for the next five decades. There is variation from decade to decade because of the current age-class distribution of the cover type. Based on modeling of treatment levels by decade, Figure 4.14i-l shows the projected age-class distributions in 2058 for the T cover type.

Figure 4.14i-l: Projected Age-Class Distributions for the Tamarack Cover Type in 2058
 (Note: Only the low site index (SI-39) portion of the T cover type is shown. The high site index portions of the cover type are expected to respond similarly to the plan strategies.)



4.15 White Cedar

4.15A Current Condition

1. Cover-Type Acres: In 2008 the white cedar (C) cover type comprised 6.1 percent (43,509 acres) of the state-managed acres in these subsections. The DNR forest inventory system does

not separate cedar into upland and lowland types. In all four subsections, C cover types are found primarily on lowland sites, but upland cedar does occur.

2. Age-Class Distribution: The C cover type, on both lowland and upland sites, does not reflect a balanced age-class structure in any of these subsections. A balanced age-class structure is not a major goal for this cover type.

3. Stand Composition: Natural, mature C stands range from pure, or nearly pure, stands to mixed stands. Secondary species in the C cover type include black ash, black spruce, tamarack, balsam fir, aspen, and birch.

4. Native Plant Communities: Information about North 4 Native Plant Communities in which C is typically found is located in Appendix P of this plan, in the *NPC Field Guide*, and in the ECS Silvicultural Interpretations. Consult these references when determining sites appropriate for white cedar emphasis.

4.15B Future Direction

1. Cover-Type Acres: In these Subsections, the 10-year and 50-year goals for the C cover type will be to maintain the current acreage. No deliberate losses or gains of the cover type are recommended, although minor changes may occur due to inventory updates.

In addition, cover type goals include:

- a. Maintain or increase the acreage of C stands traditionally utilized as thermal cover areas by deer; and
- b. Maintain or increase white cedar as a component of other forest cover types.

2. Age-Class Distribution: In these subsections, a long-term goal is to increase young cedar both as a cover type and as a component in mixed stands. A balanced age-class distribution is not a goal for this cover type.

3. Stand Composition: Mature C stands range from pure, or nearly pure, stands to mixed stands. Secondary species in the cover type include black ash, black spruce, tamarack, balsam fir, aspen, and birch.

4.15C Stand Management

1. Management Direction: The C cover type will be managed for wildlife habitat value, biodiversity, and wood products. Very limited harvest is recommended at this time due to the difficulties associated with regenerating cedar. The Divisions of Forestry, Fish & Wildlife, and Ecological Resources will work together to evaluate various sites and harvest methods for regenerating cedar.

2. Final Harvest Methods: When white cedar receives a final harvest, clearcut strips or small patches (width depending on tree height), shelterwood, or seed tree methods are the most common methods.

3. Harvest Prescriptions:

- Group Selection
- Single Tree Selection
- Thinning
- Clearcut with Reserves - Natural Seeding
- Clearcut - Artificial Regeneration
- Clearcut with Reserves - Artificial Regeneration
- Shelterwood
- Shelterwood with Reserves
- Shelterwood - Final Harvest
- Shelterwood with Reserves - Final Harvest
- Seed Tree

4. Regeneration Methods After Final Harvest: White cedar has been a difficult species to successfully regenerate after harvest. Gathering data before treatment and monitoring after treatment should be used to determine the effectiveness of the various practices.

4.15D Stand Selection Criteria

The Remsoft harvest-scheduling model was programmed not to select C stands. However, there will be a very limited lowland cedar harvest in these subsections. The Littlefork Forestry Area has a target of 80 acres per year to be evaluated by area personnel for possible harvest with the intention of providing opportunities to explore silvicultural methods, and to meet the needs of the local market.

Lowland conifer stands designated as EILC will be reserved from harvest during this 10-year plan period, or until such time as a DNR old-growth lowland-conifer policy is developed, but they will be included in harvest-level calculations.

1. Preferred Stand Selection Criteria:

Age range: 60 – 160 years

Volume per acre greater than 12.5 cords

Stands with advance cedar regeneration present are preferred; small seedlings (less than 1 inch diameter) greater than 250 stems per acre or regeneration of saplings (1-4.9 inch diameter) present.

2. Extended-Rotation Forest: The entire C cover type will be managed as ERF.

4.16 Stagnant Spruce**4.16A Current Condition**

1. Cover Type Acres: In 2008, the stagnant spruce (Sx) cover type comprises 12 percent (142,784 acres) of state-administered forest lands in these subsections.

2. Age-Class Distribution: Stagnant spruce is not considered a commercial cover type, however, a certain amount of harvest occurs for spruce tops, for decorative uses. This selective harvest of spruce tops does not affect the age-class distribution of the type.

3. Stand Composition: This cover type is composed of predominantly lowland black spruce, or a mix of black spruce and other lowland conifers (tamarack or white cedar), growing on very poor sites. These sites are organic soils that are saturated throughout the year, and have low nutrient levels. Stagnant spruce has a site index of less than 23. This means that when these trees are 50 years old, they are 22 feet or less in height.

4. Native Plant Communities: Information about North 4 NPCs in which stagnant black spruce is typically found is located in Appendix P of this plan, and in the *NPC Field Guide*. Consult these references when working in stagnant black spruce sites.

4.16B Future Direction

1. Cover Type Acres and Age-Class Distribution: In these subsections, the 10-year and 50-year goals for the Sx cover type will be to maintain the current acreage. No deliberate losses or gains of the stagnant black spruce cover type are recommended.

4.16C Stand Management

Because of their small size, black spruce trees found in this cover type are not typically harvested for timber purposes. Harvesting in this cover type is primarily selective harvest of spruce tops for decorative purposes. Because harvest operations take place during the fall, prior to freeze-up of the site, caution must be used to prevent site damage.

Lowland conifer stands (including Sx) that have been designated as EILC will be reserved from harvest during this 10-year plan period, or until such time that old-growth lowland conifer DNR policy is developed, but they will be included in harvest-level calculations.

1. Management Direction: The primary goal is to protect the hydrological and ecological integrity of the site. Following are recommendations that will be used to guide decorative tree-top harvesting in this cover type:

- a. Identify stands that are suitable for potential harvest of decorative tops;
- b. Determine the percentage of stems that may be harvested;
- c. Determine re-entry period for repeat harvest in Sx stands;
- d. Follow statewide guidelines and regulations (currently being reviewed) for decorative tree site selection, harvest operations, and sale supervision;
- e. Promote alternative methods of transporting tops off the site that reduces or eliminates impacts to the sites (e.g., helicopter slings).

Decorative top harvest operations will be directed to sites with the following features:

- a. Stocking of at least 1250 stems/acre; and
- b. Adequate numbers of trees from three to 20 feet tall. Trees taller than 20 feet are generally too tall for harvesting decorative tops.

At least 50 percent of the foliage must be left on the tree. This will allow the tree to survive and continue to grow and produce new top(s) from lateral branches.

2. Management Prescriptions: The primary management prescription for this cover type is decorative tree harvest where tree tops are harvested for Christmas trees or winter greenery. Occasionally, Sx stands are found to be of merchantable size for pulpwood and they may be harvested through clearcut methods. Sometimes Sx stands that are infected with dwarf mistletoe disease and located adjacent to more productive black spruce are clearcut-harvested or sheared off with a dozer and/or burned prescriptively for dwarf mistletoe control.

3. Regeneration Methods: Regeneration will occur through lateral-branch growth after tops are harvested, or through natural seeding from mature trees.

4.16D Stand Selection Criteria

1. Stand Selection Guidance: Areas will be selecting stands based on local market needs and following the *Coordination Framework*. The following criteria will guide identification of stands for possible tree top harvest:

- a. Stands should have a minimum density of 1,250 trees per acre with an average diameter less than 5 inches DBH;
- b. Do not select Sx stands that have been designated as EILC stands;
- c. Avoid stands that are in MCBS Sites of Outstanding and High biodiversity significance or MCBS Preliminary Sites with a high priority for survey, or in Watershed Protection Areas of Peatland SNAs;
- d. Avoid stands with rare features or significant cultural resources;
- e. Avoid stands where the only access routes are across lags and flowage areas that cannot be crossed easily. These areas are excessively wet, and often lack adequate root structure to support motorized traffic; and
- f. Avoid stands with poor access for the time of year (late fall) when decorative tree harvest typically occurs.

Chapter 5: Public Comments on Preliminary Issues and Assessment

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5.1 Background

A public comment period on the *Preliminary Issues and Assessment* document was initiated in (September 28, 2007) and ended (October 31, 2007). Comments were accepted via letter, e-mail, or fax (a list of individuals and organizations that submitted comments can be found at the end of this chapter).

The comments submitted were summarized and grouped into common topics and issues. They were not edited. In contrast with past SFRMP planning efforts, specific responses to comments were not developed as part of a planning process effort to reduce time spent developing plans. Comments were read and considered by subsection team members during work on General Direction Statements (GDSs), Strategies, Cover Type Management Recommendations, and Stand Selection.

5.2 Document and Process-Related Comments

1. The subsection planning process should be simplified for the benefit of DNR staff and interested stakeholders. Reviewers have a significant amount of material to read through.
2. The use of bearing tree survey information to estimate historical forest composition doesn't work. Bearing tree choices were made based on ability to persist. They were not chosen to provide a representative sample of the forest. Management decisions should not be based on bearing tree information, and this section should be removed from the plan.

5.3 General Comments on the Preliminary Issues

1. Please include application of the Minnesota Forest Resources Council's (MN FRC) site level guidelines in the DNR response to issues F., L., and M.
2. It is critical that lands in these areas be managed in a manner that promotes economic growth, recreational opportunities, and forest health. Timber sold on these lands provides many direct and indirect jobs to the region as well as funding for the general fund and school districts.
3. The depressed forest products industry in Minnesota needs a strong supply of reasonably priced fiber to remain economically viable.
4. I am concerned about what I perceive as a deteriorating quality of our woodlands. I think a more active role for the logging industry is needed. Timber harvest levels in the area have decreased to a rate two thirds of what the GEIS on timber harvesting indicated

they should be, and mature/over mature timberlands now represent over 40 percent of area woodlands. Our timberlands should be managed to ensure there are few over mature timber stands, sufficient public access points for the public and forest protection crews, and to increase funding for the landowner.

5.4 Specific Comments and Responses by Issue

Issues from the *Preliminary Issues and Assessment* document:

How should the age classes of forest types be represented across the landscape?

1. Mature or over-mature aspen should be reduced by harvesting timber more aggressively—DNR should propose harvest of all stands greater than 60 years of age in the next ten years.
2. The SFRMP should apply the following ERF and normal rotation ages:

Forest Type	Extended Rotation Age	Normal Rotation Age
Aspen	60	40
Balm of Gilead	60	40
Balsam Fir	60	50
Black Spruce	120	90
Jack Pine	60	50
Lowland Hdwds/Ash	120	90
Northern Hardwoods	120	80
N. White Cedar	120	100
Paper Birch	60	40
Red Pine	120	80
Tamarack	120	90
White Pine	150	100
White Spruce	80	60

No more than 20 percent of timberlands should be managed to an extended rotation age, and all forestlands should be recognized as contributing to ERF goals.

In your opinion, what are appropriate mixes of vegetation composition, structure, spatial arrangement, growth stages, and plant community distribution on state lands across the landscape?

1. There appears to be a decision to convert the current landscape to pre-European conditions and to mimic natural disturbance patterns in management decisions. Diversity is important but can be accomplished by a variety of vegetative management strategies. Conversion to pre-European conditions should be removed as a goal.
2. The DNR should only use the Range of Natural Variation as a tool and not as a goal. Pre-settlement conditions are difficult to determine and are not necessary to maintain biological diversity. Social and economic values should be considered and balanced along with ecological values.
3. DNR should identify off-site aspen (site index < 50) for conversion, using active management. Conversion of good quality aspen sites is not an appropriate management direction.

How can we address the impacts of forest management on riparian and aquatic areas?

1. This issue has been answered by the development of MN FRC site level guidelines. Your answer says that managers may want to exceed these guidelines. These guidelines are not a minimum standard, so a more appropriate choice of word than “exceed” would be “modify”—please change “exceed” to “modify.”
2. The DNR implies that MN FRC site level guidelines may not be adequate. We question this basis. The DNR should follow these guidelines and not exceed them.

How might we address the impacts on forest ecosystems from forest insects and disease, invasive species, nuisance animals, herbivory, global climate change, and natural disturbances such as fires and blowdowns?

1. Extended Rotation Forest (ERF) application increases the risk of insects and disease.
2. DNR should: consider all aspen, birch, and white spruce stands greater than 70 years of age for harvest in the next five years; manage balsam fir and jack pine on a 50 year rotation and harvest all stands greater than 60 years of age during the next ten years due to susceptibility to budworm and heart rot.

What are sustainable levels of harvest for timber and nontimber forest products?

1. The lands in these subsections should be managed to provide the highest sustainable timber harvest.
2. Forest certification and FRC Site level guidelines help safeguard against unsustainable harvest levels.
3. DNR could increase harvest levels to ca. 250,000+ cords annually, and should expand use of commercial thinning in aspen, red pine, and white spruce.
4. Using a timber planning model with DNR timberland data; ERF constrained to a 20 percent prescribed level; economic rotation ages used for normal rotation age; harvest of all aspen older than 70 years of age in the first decade; and scheduling of oldest stands first in aspen, we believe harvest levels in the planning area can be increased from an average of 191,000 cords to 266,090 – 312,600 cords annually for the next ten years. 29,700 cords of this total could come from thinning of aspen, red pine, and white spruce forest types. Similar harvest levels could occur for two more decades, after which a harvest level of approximately 200,000 cords could be sustained for two decades. Initial higher harvest levels would target stands above economic rotation age.

How can we increase the quantity and quality of the timber products on state lands?

1. DNR should develop a high risk/low volume (HRLV) stand criteria to be implemented in the first five years of the plan, and make an attempt to market all of them, allowing industry to determine marketability.
2. Intensive forest management programs should be developed to increase timber productivity on state lands. This may involve multiple entries over the life of a stand. Application of existing BMP’s would resolve any concerns regarding ecological objectives.
3. DNR should identify site productivity classes and use them to prioritize the most productive sites for management. Regeneration should occur to full stocking levels post harvest.

5.5 Other Issues Submitted – Addressed Elsewhere

1. Damage and mortality related to stands being carried to an over mature condition represents a significant loss of timber volume. This should be addressed in the plan through inclusion of strategies designed to reduce such loss.
2. Extended Rotation Forest (ERF) application wastes considerable volumes of useable wood fiber, decreasing the amount of revenue to the state general fund and school districts.
3. School trust fund lands should not be reserved from timber management. DNR should also assess the percentage of these lands that are managed as ERF or are considered high biodiversity areas or Ecologically Important Lowland Conifers (EILC), along with determining any loss of revenues to the trust from these designations.
4. We do not support categorical land exclusions that preclude or limit timber management on lands designated as timberland.
5. DNR should maximize timber productivity on their lands to increase revenue to rural school districts.
6. Total revenue potential from timber sales on the lands within the planning area can exceed \$5.3 million dollars, with \$4.2 million of that total on school trust lands. Applying U.S. Census of Manufactures data to this potential harvest level produces an estimated economic impact of \$216 million and 1,200 jobs annually.
7. Sustainably increasing timber outputs from state lands is critical to maintaining a viable forest products industry in Minnesota while generating substantial economic activity in rural parts of the state.

5.6 Other Issues Submitted – Beyond the Scope

1. The DNR must provide huntable populations of game species, and should recognize the importance of the Lake States region to early successional species. Population goals for species of economic importance such as ruffed grouse and white-tailed deer should be developed.
2. The DNR should provide access to private lands as well as other public lands for timber management purposes. Roads needed for future forest management or forest protection should be identified and maintained. Road closures should be reviewed carefully, and if closed they should not be completely obliterated.

5.7 List of Organizations and Individuals Who Submitted Comments

The following individuals/organizations have submitted comments on the *Preliminary Issues and Assessment* document.

1. Steve Earley, Boise Cascade
2. Tim J. O’Hara, Minnesota Forest Industries
3. Nathan Heibel
4. Dan Klocek
5. Jim Marshall, UPM-Blandin Paper

6. Bruce Meade

Chapter 6: Glossary and List of Acronyms

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Glossary

Access route: A temporary access or permanent road connecting the most remote parts of the forest to existing public roads. Forest roads provide access to forest lands for timber management, fish and wildlife habitat improvement, fire control, and a variety of recreational activities. Also, see *Forest road*.

Acre: An area of land containing 43,560 square feet, roughly the size of a football field, or a square that is 208 feet on a side. A “forty” of land contains 40 acres and a “section” of land contains 640 acres.

Advance regeneration: Seedlings or saplings that develop or are present in the understory – *synonym* – advance growth, advance reproduction.

Age class: An interval, commonly 10 years, into which the age range of trees or forest stands is divided for classification or use.

Age-class distribution: The proportionate amount of various age classes of a forest or forest cover type within a defined geographic area (e.g., ecological classification system subsection).

All-aged: Describes an uneven-aged stand that represents all ages or age classes from seedlings to mature trees.

Animal aggregations: A concentration of animals (of rare or common species or a mixture of rare and common) that occurs during part or all the species life cycle, such that when these animals are in these aggregations, they are highly vulnerable to disturbance. Examples are colonial water bird nesting sites, bat hibernacula, and mussel beds.

Annual stand examination list: List of stands to be considered for treatment in a particular year that was selected from the 10-year stand examination list. Treatment may include harvest, thinning, regeneration, prescribed burning, re-inventory, etc.

Annual work plan: The annual work responsibilities at the area (i.e., Division of Forestry administrative boundary) documented for the fiscal year.

Area forest resource management plan (AFRMP): Successor to timber management planning (TMP), recognizing that TMP discussions and decisions affected or included a lot more than the decision to harvest. This should not be confused with the comprehensive FRMPs developed for a number of areas in the mid-to late-1980s.

Artificial regeneration: Renewal of a forest stand by planting seedlings or sowing seeds.

Assessment: A compilation of information about the trends and conditions related to natural and socio-economic resources and factors. In this case, SFRMP Assessment is the first step of the SFRMP process. The initial round of SFRMPs will focus primarily on trends and conditions of forest resources. Standard core SFRMP assessment information sources and products are defined in the *SFRMP Staff Guidebook*.

Basal area: The cross-sectional area of a tree taken at the base of the tree (i.e., measured at 4.5 feet above the ground). Basal area is often used to measure and describe the density of trees within an geographic area using an estimate of the sum of the basal area of all trees cross-sectional expressed per unit of land area (e.g., basal area per acre).

Biodiversity (biological diversity): The variety and abundance of species, their genetic composition, and the communities and landscapes in which they occur, including the ecological structures, functions, and processes occurring at all of these levels.

Biodiversity Significance: The relative value, in terms of size, condition, and quality of native biological diversity for a given area of land or water. (*Adapted from: Guidelines for MCBS Statewide Biodiversity Significance Rank*): The Minnesota County Biological Survey uses a statewide ranking system to evaluate and communicate the biodiversity significance of surveyed areas (MCBS sites) to natural resource professional, state and local government officials, and the public. MCBS sites are ranked according to several factors, including the quality and types of *Element Occurrences*, the size and quality of native plant communities, and the size and condition of the landscape within the site. Areas are ranked as *Outstanding, High, Moderate, or Below the Minimum Threshold* for statewide biodiversity significance. (*Draft definition 3/24/2004*)

Outstanding Sites: Those containing the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes present in the state.

High Sites: Those containing the "best of the rest," such as sites with very good quality occurrences of the rarest species, high quality examples of the rarest native plant communities, and/or important functional landscapes.

Moderate Sites: Those containing significant occurrences of rare species, and/or moderately disturbed native plant communities and landscapes that have a strong potential for recovery.

Sites Below the Minimum Threshold: Those lacking significant populations of rare species and/or natural features that meet MCBS minimum standards for size and condition. These include areas of conservation value at the local level, such as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, and open space areas.

Board foot: A unit of measuring wood volumes equaling 144 cubic inches. A board foot is commonly used to measure and express the amount of wood in a tree, sawlog, veneer log, or individual piece of lumber. For example, a 16-inch diameter at breast height (DBH) standing tree that is 80 feet tall, contains approximately 250 board feet of wood, and a tree with a 30-inch DBH and 80 feet tall contains about 1000 board feet or one metric board foot (MBF). A piece of

lumber one cubic foot (1 foot x 1 foot x 1 inch) contains one board foot of lumber.

Browse: (n) Portions of woody plants including twigs, shoots, and leaves used as food by such animals like deer and rabbits. (v) To feed on leaves, young shoots, and other vegetation.

Carr: Deciduous woodland or scrub on a permanently wet, organic soil. A carr develops from a bog, fen or swamp.

Clearcut: The removal of all or most trees during harvest to permit the re-establishment of an even-aged forest. A harvest method used to regenerate shade-intolerant species, such as aspen and jack pine.

Coarse filter: Management of lands from a local to landscape scale that addresses the needs of all or most species, communities, environments, and ecological processes. In using a coarse filter approach (Hunter, 1990), it assumes that a broad range of habitats encompassing the needs of most species needs will be met, and their populations will remain viable on the landscape.

Coarse woody debris: Stumps and fallen tree trunks or limbs of more than 6-inch diameter at the large end.

Cohort: A group of trees developing after a single disturbance, commonly consisting of trees of similar age.

Collaboration: A group in which members identify with the group and seriously consider the group's overall charge. Group members assume collective responsibility for outcomes, are interdependent, and have a joint ownership of decisions.

Common forest inventory: Also, known as CCSA (common cooperative stand assessment). Forest inventory stand data compiled by the Minnesota Interagency Information Cooperative from public agencies including the Minnesota DNR, Superior and Chippewa national forests, and county land departments (2001). The common format contains the common attributes found in the state, federal, and county forest inventories.

Competition: The struggle between trees to obtain sunlight, nutrients, water, and growing space. Every part of the tree, from the roots to the crown, competes for space and food.

Comprehensive DNR subsection plans: Address Minnesota Department of Natural Resources (DNR) programs and activities within the subsection. Involves programs and activities of multiple DNR divisions, not just the Division of Forestry.

Comprehensive Division of Forestry SFRMPs: Address other aspects of forest resource management on DNR Forestry lands (e.g., recreation, land acquisition/sales, fire management, private forest management).

Connectivity: An element of spatial patterning where patches of vegetation such as forest types, and native plant communities or wildlife habitats are connected to allow the flow of organisms

and processes between them.

Conversion: A change, through forest management, from one forest (cover) type to another within a forest stand or site.

Cooperative stand assessment (CSA): The forest stand mapping and information system used by the Minnesota Department of Natural Resources to inventory the approximately 5 million acres (7,800 square miles) owned and administered by the state. The spatial information and stand attributes are now maintained in the Forest Inventory Module (FIM).

Cord: A pile of wood four feet high, four feet wide, and eight feet long, measuring 128 cubic feet, including bark and air space. Actual volume of solid wood may vary from 60-100 cubic feet, depending on size of individual pieces and how tight the wood is stacked. In the Lake States, pulpwood cords are usually 4x4x100 feet and contain 133 cubic feet. Pulpwood volume of standing trees is estimated in cords. For example, a 10-inch DBH tree, which is 70 feet tall, is about 0.20 cords; or five trees of this size would equal one cord of wood.

Corridor: A defined tract of land connecting two or more areas of similar habitat type through which wildlife species can travel.

Cover type: Expressed as the tree species having the greatest presence (i.e., in terms of volume for older stands or number of trees for younger stands) in a forest stand. A stand where the major species is aspen would be called an aspen cover type.

Cover type distribution: The location and/or proportionate representation of cover types in a forest or a given geographic area.

Critical habitat: Habitat or habitat elements that must be present and properly functioning to assure the continued existence of the species in question.

Crop tree: Any tree selected or retained to be a component of a future commercial harvest.

Cruise: (verb) A survey of forest land to locate timber and estimate its quantity by species, products, size, quality, or other characteristics; or (noun) an estimate derived from such a survey.

Cubic foot: A wood volume measurement containing 1,728 cubic inches, such as a piece of wood measuring 1 foot on a side. A cubic foot of wood contains approximately 6-10 usable board feet of wood. A cord of wood equals 128 cubic feet.

Cultural resource: An archaeological site, cemetery, historic structure, historic area, or traditional use area that is of cultural or scientific value.

Desired future forest composition (DFFC): Broad vision of landscape vegetation conditions in the long-term future. For the purposes of the initial round of subsection planning, DFFCs will focus on future desired forest composition looking ahead 50 years. DFFCs may include but are

not limited to: 1) the amount of various forest cover types within the subsection; 2) age-class distribution of forest cover types; 3) the geographic distribution of these across the subsection, and the related level of management for even-aged forest; and 4) extended rotation forest.

Disturbance: Any event, either natural or human induced, that alter the structure, composition, or functions of an ecosystem. Examples include forest fires, insect infestation, windstorms, and timber harvesting.

Disturbance regime: Natural or human-caused pattern of periodic disturbances such as fire, wind, insect infestations, or timber harvest.

Dominant trees: Trees that are in the upper layer of the forest canopy, larger than the average trees in the stand.

Early successional forest: The forest community that develops immediately following a removal or destruction of vegetation in an area. Plant succession is the progression of plants from bare ground (e.g., after a forest fire or timber harvest) to mature forest consisting primarily of long-lived species such as sugar maple and white pine. Succession consists of a gradual change of plant and animal communities over time. Early successional forests commonly depend on and develop first following disturbance events (e.g., fire, windstorms, or timber harvest). Examples of *early successional forest* tree species are aspen, paper birch, and jack pine. Each stage of succession provides different benefits for a variety of species.

Ecological classification system (ECS): A method to identify, describe, and map units of land with different capabilities to support natural resources. This is done by integrating climatic, geologic, hydrologic, topographic, soil, and vegetation data (see SFRMP Appendix A).

Ecological evaluation: A concise report containing descriptions of the significant natural features of a site such as the flora, fauna, rare features, geology, soils, and any other factors that provide interpretation of the site's history, present state, and biodiversity significance. Management and protection recommendations are often included in these reports. Evaluations are produced by the Minnesota County Biological Survey (MCBS) at the completion of MCBS work in a given county or ecological classification system (ECS) subsection, and are generally reserved for those sites with the highest biodiversity significance in a geographic region, regardless of ownership.

Ecological integrity: In general, ecological integrity refers to the degree to which the elements of biodiversity and the processes that link them together and sustain the entire system are complete and capable of performing desired functions. Exact definitions of integrity are relative and may differ depending on the type of ecosystem being described.

Ecologically important lowland conifers (EILC): Includes stands of black spruce, tamarack, and cedar, including stagnant lowland conifer stands, that are examples of high quality native plant communities (NPCs) that are representative of lowland conifer NPCs found in the subsections. The designated EILC stands will be reserved from treatment during this 10-year planning period. Future management/designation of these stands is yet to be determined.

Ecosystem based management: The collaborative process of sustaining the integrity of ecosystems through partnerships and interdisciplinary teamwork. Ecosystem based management seeks to sustain ecological health while meeting social and economic needs.

Element Occurrence (EO): An area of land and/or water where a rare feature (plant, animal, natural community, geologic feature, animal aggregation) is, or was present. An Element Occurrence Rank provides a succinct assessment of estimated viability or probability of persistence (based on condition, size, and landscape context) of occurrences of a given Element. An *Element Occurrence Record* is the locational and supporting data associated with a particular *Element Occurrence*. *Element Occurrence Records* for the State of Minnesota are managed as part of the rare features database by the Natural Heritage and Nongame Research Program. (*Draft definition 3/24/2004, Adapted from Biotics EO Standards: Chapter 2*)

Endangered species: A plant or animal species that is threatened with extinction throughout all or a significant portion of its range in Minnesota.

Endemic: An *endemic* population is a disease or insect constantly infecting a few plants throughout an area, occurring regularly in a locality or region but in low to moderate severity only.

Epidemic: An *epidemic* population is a disease or insect sporadically infecting a large number of plants in an area and causing considerable loss (e.g., an outbreak of an insect or disease).

Even-aged: A forest stand composed of trees of primarily the same age or age class. A stand is considered even-aged if the difference in age between the youngest and oldest trees does not exceed 20 percent of the rotation age (e.g., for a stand with a rotation age of 50 years, the difference in age between the youngest and oldest trees should be 10 years).

Even flow: Providing a relatively consistent amount of timber (or other products) in successive management periods.

Exotic species: Any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem, and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Extended rotation forests (ERF): Forest stands for which the harvest age is extended beyond the normal or economic harvest age. ERF provides larger trees, old forest wildlife habitat, and other nontimber values. Additional detail regarding management of ERF on DNR-administered lands is contained in the DNR Extended Rotation Forest Guidelines (1994). **Prescribed ERF** is the cover type acreage designated for management as ERF. Stands designated as ERF will be held beyond the recommended normal rotation (harvest) age out to the established ERF rotation age(s). A stand of any age can be prescribed as ERF. **Effective ERF** is defined as the portion of the prescribed ERF acreage that is actually over the normal rotation age for the cover type at any one time.

Extirpated: The species is no longer found in this portion of its historical range.

Fen: Peatlands that receive water both from precipitation and ground water that has percolated through mineral soil, are classified as *fens*. The water supply in a fen is only slightly acidic or nearly neutral, and it carries minerals and other nutrient content. Fens look like watery meadows with sedges, reeds, grass-like plants, occasional shrubs, and scattered, stunted trees.

Fine filter: Management that focuses on the welfare of a single or only a few species, rather than the broader habitat or ecosystem. For example, individual nests, colonies, and habitats are emphasized. A *fine filter* approach (Hunter, 1990) considers the specific habitat needs of selected individual species that may not be met by the broader coarse filter approach.

Forest inventory and analysis (FIA): A statewide forest survey of timber lands jointly conducted by the Minnesota Department of Natural Resources and the U.S. Department of Agriculture-Forest Service that periodically, through a system of permanent plots, assesses the current status of, and monitors recent trends in forest area, volume, growth, and removals.

Forest Inventory Module (FIM): The FIM provides a database and application through which field foresters can maintain an integrated and centralized inventory of the forests on publicly owned lands managed by the Division of Forestry and other divisions. In the field, foresters collect raw plot and tree data. Those data are summarized in stand-level data that are linked to a spatial representation of stand boundaries. Part of the DNR's **FOR**estry **IN**formation **Sys**TEM (FORIST).

Forest land: Consists of all lands included in the forest inventory, from aspen and pine cover types to stagnant conifers, muskeg, lowland brush, and lakes.

Forest management: The practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest. Note: forest management includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products, and other forest resource values. *From: The Dictionary of Forestry. 1998. The Society of American Foresters. J.A. Helms, ed.*

Forest road: A temporary or permanent road connecting the remote parts of the forest to existing public roads. Forest roads provide access to public land for timber management, fish and wildlife habitat improvement, fire control, and a variety of recreational activities. The Division of Forestry has three classifications for roads and access routes:

System roads - These roads are the major roads in the forest that provide forest management access and recreational access, and may be connected to the state, county, or township public road systems. These roads are used at least on a weekly basis and often used on a daily basis. The roads should be graveled and maintained to allow travel by highway vehicles; road bonding money can be used to fund construction and reconstruction of these types of roads. The level and frequency of maintenance will be at the discretion of the area forester and as budgets allow.

Minimum maintenance roads - These roads are used for forest management access on an intermittent, as-need basis. Recreational users may use them, but the roads are not promoted or maintained for recreation. The roads will be open to all motorized vehicles but not maintained to the level where low clearance licensed highway vehicles can travel routinely on them. The roads will be graded and graveled as needed for forest management purposes. Major damage such, as culvert washouts or other conditions that may pose a safety hazard to the public, will be repaired as reported and budgets allow.

Temporary access – If the access route does not fit into one of the first two options, the access route has to be abandoned and the site reclaimed so that evidence of a travel route is minimized. The level of effort to effectively abandon temporary accesses will vary from site to site depending on location of the access (e.g., swamp/winter vs. upland route), remoteness, and existing recreational use pressures.

Forest stand: A group of trees occupying a given area, and sufficiently uniform in species composition, age, structure, site quality, and condition so as to be distinguishable from the forest on adjoining areas.

FORIST: The **FOR**estry **Information SysT**em (FORIST) is a collection of integrated spatial applications and datasets supporting day-to-day operations across the Division of Forestry. The first two parts of the system are in operation: Forest Inventory Module (FIM) and Silviculture and Roads Module (SRM). A Timber Sales Module became operational in 2006.

Fragmentation: Breaking up of large and contiguous ecosystems into patches separated from each other by different ecosystem types. The breaking up of a contiguous, or homogeneous natural habitat through conversion to different vegetation types, age classes, or uses. ***Forest fragmentation*** occurs in landscapes with distinct contrasts between land uses, such as between woodlots and farms. ***Habitat fragmentation*** occurs where a contiguous or homogeneous forest area of a similar cover type and age is broken up into smaller dissimilar units. For example, a conifer-dominated forest (or portion of it) is fragmented by clearcutting if it is converted to another type, such as an aspen-dominated forest.

Fully stocked stand: A forest stand in which all the growing space is effectively occupied but having ample space for development of the crop trees.

Game Species: In this plan, *game* species include those terrestrial species that are hunted and trapped.

Gap: The space occurring in forest stands due to individual tree or groups of trees mortality or blowdown. *Gap management* uses timber harvest methods to emulate this type of forest spatial pattern.

Geographic information system (GIS): Computer software used to manipulate, analyze, and visually display inventory and other data and prepare maps of the same data.

Group selection: A process of harvesting patches of selected trees to create openings in the forest canopy and to encourage reproduction of uneven-aged stands.

Growth stage: Growth stages of native plant communities as presented in the *Field Guide to the Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province* are periods of stand maturation where the mixture of trees in the canopy is stable. Growth stages are separated by periods of transition where tree mortality is high and different among the species, usually involving the death of early successional species and replacement by shade-tolerant species or longer-lived species.

Habitat: An area in which a specific plant or animal normally lives, grows and reproduces; the area that provides a plant or animal with adequate food, water, shelter, and living space.

Herbivory: Plant communities resulting from the browsing and grazing of wildlife. A plant-animal interaction whereby an organism eats some, or all, of a plant, and the plant responds immediately (stress, decline or death) or over time (evolutionary adaptation). Herbivory occurs both above and below ground. As defined for the issues concerned with herbivory in the plan; the influence by dominant herbivores on forest composition, structure, forest dynamics, and spatial patterns. Dominant herbivores include beaver, deer, moose, hares, rabbits, small mammals, and forest tent caterpillars.

High quality native plant community: A community that has experienced relatively little human disturbance, has few exotic species, and supports the appropriate mix of native plant species for that community. A high quality native plant community may be unique or have a limited occurrence in the subsection, have a known association with rare species, or an exemplary representative of the native plant community diversity prior to European settlement.

High-risk, low-volume (HRLV): HRLV stands are identified based on one or more of the following: 1) stands coded as high risk in CSA forest inventory, 2) significant insect or disease damage to the main species in the stand, 3) stands over normal rotation age at time of survey with total stand volume eight cords per acre (low volume), or 4) very old stand (e.g., aspen over 80 years old).

Intensive management: Intensity of management refers to the degree of disturbance associated with silvicultural treatments. In this plan, references to it range from less intensive to more intensive management. Examples of more intensive management are: 1) Site preparation techniques, such as rock-raking (disrupts the soil profile and leaves coarse woody debris in piles); 2) broadcast herbicide use that eliminates or dramatically reduces herbaceous plant and shrub diversity; or 3) conversions of mixed forest stands through clearcutting and/or site preparation that result in the establishment of a more simplified monotypic stand such as mostly pure aspen regeneration or high-density pine plantations. Examples where more intensive management may be needed are: to regenerate a site successfully to a desired species, control of insect or disease problems, and wildlife habitat management (e.g., maintenance of wildlife openings).

Intermediate cut: The removal of immature trees from the forest sometime between

establishment and major harvest with the primary objective of improving the quality of the remaining forest stand.

Issue: A natural resource-related concern or conflict that is directly affected by, or directly affects, decisions about the management of vegetation on lands administered by the Minnesota Department of Natural Resources (DNR)—Divisions of Forestry and Wildlife. Relevant issues will likely be defined by current, anticipated, or desired resource conditions and trends, threats to resources, and vegetation management opportunities. The key factor in determining the importance of issues for SFRMP is whether vegetation management issues can address the issue in whole or substantial part on DNR-administered lands.

Landform: Any physical, recognizable form or feature of the earth's surface having a characteristic shape, and produced by natural causes. Examples of major landforms are plains, plateaus, and mountains. Examples of minor landforms are hills, valleys, slopes, eskers, and dunes. Together, landforms make up the surface configuration of the earth. The "landform" concept involves both empirical description of a terrain (land-surface form) class and interpretation of genetic factors ("natural causes"). (*An Ecological Land Classification Framework for the United States*. 1984. p. 40)

Landscape: A general term referring to geographic areas that are usually based on some sort of natural feature or combination of natural features. They can range in scale from very large to very small. Examples include watersheds (from large to small), the many levels of the Ecological Classification System (ECS), and Minnesota Forest Resources Council (MFRC) regional landscapes. The issue being addressed usually defines the type and size of landscape to be used.

Landscape region: A geographic region that is defined by similar landforms, soils, climatic factors, and potential native vegetation. The landscape region used for this planning effort is the subsection level of the Ecological Classification System.

Landscape study area (LSA): A large geographic area identified by the Minnesota County Biological Survey (MCBS) as a core area for the MCBS survey process in northern Minnesota. The LSA is intended to represent some of the landscapes within an ecological subsection (a unit in Minnesota's Ecological Classification System). A LSA 1) generally captures the range of environmental gradients and ecological conditions found in large landscapes, 2) generally encompasses the range of native plant community complexes which exhibit repeatable patterns at the landform or ecological landtype association (LTA) scale, 3) exhibits the potential for landscape-level processes to occur, 4) contains intact representative native plant communities, and 5) often contains habitat for rare species. An LSA area is typically thousands of acres and contains two to several MCBS sites. An LSA may encompass portions of one or more ecological landtype associations (LTAs) and lie in more than one county. LSAs are identified prior to MCBS field surveys and boundaries are modified during the survey process. At the completion of the MCBS surveys, an LSA becomes a macrosite, two or more sites, or a combination of macrosites and sites. In some cases an LSA is eliminated from further survey consideration during the MCBS survey process.

Leave trees: Live trees selected to remain on a site to provide present and future benefits, such as shelter, resting sites, cavities, perches, nest sites, foraging sites, mast, and coarse woody debris.

Legacy patch: An area within a harvest unit that is excluded from harvest; this area is representative of the site and is to maintain a source area for recolonization, gene pool maintenance, and establishment of microhabitats for organisms that can persist in small patches of mature forest.

Macrosite: A large area, generally thousands of acres, containing two or more sites that have some geographical and ecological connection relevant to conservation planning. MCBS sites within a macrosite are generally close to one another but are not necessarily contiguous. Thus, macrosites may contain some disturbed areas. In northern Minnesota, MCBS macrosites correspond to the final (post field-evaluation) boundaries of LSAs. (Areas less than 2000 acres formerly labeled "preserve designs " are also macrosites).

Managed acres: Timber land acres that are available for timber management purposes.

Management pool: Stands selected for treatment by the Remsoft harvest scheduling model, with review and adjustment by SFRMP team and field personnel.

Marketable timber: Merchantable timber that is accessible now.

Mast: Nuts, seeds, catkins, flower buds, and fruits of woody plants that provide food for wildlife.

Mature tree: A tree that has reached the desired size or age for its intended use. Size or age will vary considerably depending on the species and the intended use.

Maximum rotation age (MRA): In this plan, the maximum age at which a forest-cover type will retain its biological ability to regenerate to the same cover type and remain commercially viable as a marketable timber sale.

Mean annual increment (MAI): Average annual growth of a stand up to a particular age. It is calculated by dividing yield at that age by the age itself (e.g., the mean annual increment for a stand at age 50 with 25 cords per acre total volume: $25 \div 50$ years = 0.5 cords per year).

Merchantable timber: Trees or stands having the size, quality, and condition suitable for marketing under a given economic condition, even if not immediately accessible for logging.

Mesic: Moderately moist.

MCBS Sites: Areas of land identified by Minnesota County Biological Survey (MCBS) staff, ranging from tens to thousands of acres in size, selected for survey because they are likely to contain intact native plant communities, large populations and/or concentrations of rare species,

and/or critical animal habitat. The MCBS site provides a geographic framework for recording and storing data and compiling descriptive summaries.

Minnesota forest resources plan (MFRP): Statewide DNR strategic forest resources plan. Includes statewide vision, mission, preferred future, goals, strategies, and objectives. For each of the division's programs, it includes goals, statewide direction, and major strategies and objectives.

Minnesota TAXA: Minnesota Taxonomy Database maintained by the Division of Ecological Resources.

Minnesota Wildlife Resource Assessment Project (MNWRAP): A wildlife species database and related information system that provides the overall data management, framework, analysis functions, and long-term support for statewide, landscape, and site-level wildlife resource assessment efforts. It covers the spectrum of wildlife diversity and habitat associations in Minnesota.

Mixed forest or stand: A forest or stand composed of two or more prominent species.

Mixed forest conditions: In this plan, refers to vegetative composition and structure that is moving toward the mix and relative proportion (e.g., dominated by, common, occasional, or scattered) of species found in the native plant community for that site. Tree species mix and proportion depends not only on the targeted growth stage (based on the rotation age for the desired cover type) but also species found in older growth stages.

Mortality: Death or destruction of forest trees as a result of competition, disease, insect damage, drought, wind, fire, or other factors.

Multi-aged stand: A stand with two or more age classes.

Multiple use: Using and managing a forested area to provide more than one benefit simultaneously. Common uses may include wildlife, timber, recreation, and water.

Native plant community: A group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. These groups of native plants form recognizable units, such as an oak forest, prairie, or marsh that tend to recur over space and time. Native plant communities are classified and described by physiognomy, hydrology, landforms, soils, and natural disturbance regimes (e.g., wild fires, wind storms, normal flood cycles).

Natural Area: An area of land with significant native biodiversity, where a primary goal is to protect, enhance or restore ecological processes and Native Plant Community composition and structure. An MCBS *site* of Outstanding or High biodiversity significance is often recommended for nomination as a natural area. For these MCBS sites, an MCBS Ecological Evaluation is written to characterize the ecological significance of the MCBS site as a whole and to serve as a guide for conservation action by the various landowners. MCBS sites (or portions of MCBS

sites) that are recommended as natural areas may be identified by the landowner or land management agency for conservation activities such as designation as a park (city, county, state, or private), non-motorized recreation area, scientific and natural area, reserve, special vegetation management (e.g., natural disturbance based forest management for maintenance of mature growth stage), etc. (*Draft definition 3/24/2004*)

Natural Area Registry (NAR) Agreement: A memorandum of understanding between the Ecological Resources Division and another governmental unit. The other governmental unit can be Division of Forestry, Wildlife, or Parks, depending on who the land administrator is for the parcel in question. It can also be city, county, tribal, or federal government. The NAR generally identifies the site, explains its significance, sets a proposed management direction, and states that before any management contrary to that direction occurs, the parties will get together and talk about it first. It is not a binding agreement. Examples of NARs: an old-growth yellow birch stand in Crosby-Manitou State Park, the South Fowl Lake cliff community on Division of Forestry land in Cook County, and a ramshead orchid site on Hubbard County land.

Natural disturbances: Disruptions of existing conditions by natural events such as wildfires, windstorms, drought, flooding, insects, and disease. These may range in scale from one tree to thousands of acres.

Natural regeneration: The growth of new trees from one of the following: (a) seeds naturally dropped from trees or carried by wind or animals, (b) seeds stored on the forest floor, or (c) stumps that sprout or roots that sucker.

Natural spatial patterns: The size, shape, and arrangement of patches in forested landscapes as determined primarily by natural disturbance and physical factors.

Non-forest land: Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses such as crops, improved pasture, residential areas, city parks, improved roads, and power line clearings.

Nongame species: In this plan, *nongame species* include amphibians, reptiles, and those mammal and bird species that are not hunted or trapped.

Nontimber forest products: Nontimber Forest Products, also known as special forest products, can be categorized into five general areas: foods, herbs, medicinal materials, decorative materials, and other specialty items. Special forest products might include berries, mushrooms, boughs, bark, Christmas trees, lycopodium, rose hips and blossoms, diamond willow, birch tops, highbush cranberries, burls, conks, Laborador tea, seedlings, cones, nuts, aromatic oils, extractives.

Normal rotation age (NRA): For even-aged managed cover types, the rotation age set by the SFRMP Team for non-ERF timber land acres. It is based on the culmination of mean annual increment (CMAI), other available data related to forest productivity that also considers wood quality, and local knowledge.

Offsite: A tree species growing in a Native Plant Community better suited to a different species or suite of species. Offsite species may also be indicated by a low site index.

Old forest: A forest stand of any particular forest cover type is considered old forest whenever its age exceeds the normal rotation age established by the landscape team for that cover type. In this plan, it does not include designated old-growth, state park lands, etc.

Old forest conditions: Forest that has the age and structural conditions typically found in mature to very old forests, such as large diameter trees, large snags, downed logs, mixed species composition, and greater structural diversity. These older forest conditions typically develop at stand ages greater than the normal rotation ages identified for even-aged managed forest cover types.

Old forest management complex: An area of land made up of several to many stands that are managed for old-growth, special management zone (SMZ), and extended rotation forest (ERF) in the vicinity of designated old-growth stands.

Old-growth forests: Forests defined by age, structural characteristics, and relative lack of human disturbance. These forests are essentially free from catastrophic disturbances, contain old trees (generally over 120 years old), large snags, and downed trees. Additional details on the management of old-growth forests on DNR-administered lands are contained in *Old-Growth Forests Guidelines* (1994) and amendments.

Operational planning: What specifically will happen. The specific actions (i.e., projects, programs, etc.) that will be taken to move toward the desired future established by the various sources of strategic direction. Examples include stand examination lists, road projects, recreational trail/facilities projects, staffing, annual work plan targets, etc. Operational planning is also referred to as tactical planning.

Overmature: A tree or even-aged stand that has reached an age where it is declining in vigor and health and reaching the end of its natural life span, resulting in a reduced commercial value because of size, age, decay, and other factors.

Overstocked: The situation in which trees are so closely spaced that they are competing for resources, resulting in less than full growth potential for individual trees.

Overstory: The canopy in a stand of trees.

Partial cut: A cutting or harvest of trees where only some of the trees in a stand are removed.

Patch: An area of forest that is relatively homogenous in structure, primarily in height and stand density, and differs from the surrounding forest. It may be one stand or a group of stands.

Plantation: A stand composed primarily of trees established by planting or artificial seeding.

Prescribed burn: To deliberately burn wildlands (e.g., forests, prairie or savanna) in either their

natural or modified state, and under specified conditions within a predetermined area to meet management objectives for the site. A fire ignited under known conditions of fuel, weather, and topography to achieve specific objectives.

Prescription: A planned treatment (clear-cut, selective harvest, thin, reforest, reserve, etc.) designed to change current stand structure to one that meets management goals. A written statement that specifies the practices to be implemented in a forest stand to meet management objectives. These specifications reflect the desired future condition at the site and landscape level, and incorporate knowledge of the special attributes of the site.

Pulpwood: Wood cut or prepared primarily for manufacture into wood pulp or chips, for subsequent manufacture into paper, fiber board, or chip board. Generally, trees 5-12 inches in diameter at breast height are used.

Pure forest or stand is defined as composed principally of one species, conventionally at least 80 percent based on numbers, basal areas, or volumes.

Range of natural variation (RNV): Refers to the expected range of conditions (ecosystem structure and composition) to be found under naturally functioning ecosystem processes (natural climatic fluctuations and disturbance cycles such as fire and windstorms). RNV provides a benchmark (range of reference conditions) to compare with current and potential future ecosystem conditions.

Rare Features Database is maintained by the Natural Heritage and Nongame Research Program and is comprised of locational records of the following features:

- **Rare plants.** Rare plants tracked are all species that are listed as federally endangered, threatened or as candidates for federal listing; and all species that are listed as endangered, threatened or special concern at the state level. Several rare species are also tracked which currently have no legal status but need further monitoring to determine their status.
- **Rare animals.** All animal species that are listed as federally endangered or threatened (except the gray wolf) are tracked, as well as all birds, small mammals, reptiles, amphibians, mussels, and butterflies that are listed as endangered, threatened or special concern at the state level.
- **Natural communities.** Natural communities are functional units of landscape that are characterized and defined by their most prominent habitat features - a combination of vegetation, hydrology, landform, soil, and natural disturbance cycles. Although natural communities have no legal protection in Minnesota, the Natural Heritage and Nongame Research Program and the Minnesota County Biological Survey have evaluated and ranked community types according to their relative rarity and endangerment throughout their range. Locations of high quality examples are tracked in the Rare Features Database.
- **Geologic features.** Noteworthy examples of geologic features throughout Minnesota are tracked if they are unique or rare, extraordinarily well preserved, widely

documented, highly representative of a certain period of geologic history, or very useful in regional geologic correlation.

- **Animal aggregations.** Certain types of animal aggregations, such as nesting colonies of waterbirds (herons, egrets, grebes, gulls and terns), bat hibernacula, prairie chicken booming grounds, and winter bald eagle roosts are tracked regardless of the legal status of the species that comprise them. The tendency to aggregate makes these species vulnerable because a single catastrophic event could result in the loss of many individuals.

Rare species: A plant or animal species that is designated as *endangered*, *threatened*, or a species of *special concern* by the state of Minnesota (this includes all species designated as endangered or threatened at the federal level), or an uncommon species that does not (yet) have an official designation, but whose distribution and abundance need to be better understood.

Refuge/refugia: Area(s) where plants and animals can persist through a wind and/or fire event.

Regeneration: The act of renewing tree cover by establishing young trees naturally (e.g., stump sprouts, root suckers, natural seeding) or artificially (e.g., tree planting, seeding).

Regional landscapes (MFRC): The Minnesota Forest Resources Council (MFRC) established eight regional landscapes covering Minnesota, based on ecological, socio-economic, and administrative factors. These landscapes were established to undertake landscape based planning and coordination across all forest ownerships.

Release: Freeing a tree, or group of trees, from competition that is overtopping or closely surrounding it/them.

Relevé: Vegetation survey plot data.

Research natural area (RNA): Areas within national forests that the U.S. Forest Service has designated to be permanently protected and maintained in natural condition (e.g., unique ecosystems or ecological features, rare or sensitive species of plants and animals and their habitat, and high-quality examples of widespread ecosystems). A “c” RNA (cRNA) is a candidate RNA.

Reserved forest land: Forest land withdrawn from timber utilization through statute, administrative regulation, or designation.

Riparian area: The area of land and water forming a transition from aquatic to terrestrial ecosystems along streams, lakes, and open water wetlands.

Riparian management zone (RMZ): That portion of the riparian area where site conditions and landowner objectives are used to determine management activities that address riparian resource needs. It is the area where riparian guidelines apply.

Rotation age: The period of years between when a forest stand (i.e., primarily even-aged) is established (i.e., regeneration) and when it receives its final harvest. This time period is an administrative decision based on economics, site condition, growth rates, and other factors.

Salvage cut: A harvest made to remove trees killed or damaged by fire, wind, insects, disease, or other injurious agents. The purpose of salvage cuts is to use available wood fiber before further deterioration occurs to recover value that otherwise would be lost.

Sanitation cut: A cutting made to remove trees killed or injured by fire, insects, disease, or other injurious agents (and sometimes trees susceptible to such injuries), for the purpose of preventing the spread of insects or disease.

Sapling: A tree that is 1-5 inches in diameter at breast height (DBH).

Sawlog: A log large enough to produce lumber or other products that can be sawed. Its size and quality vary with the utilization practices of the region.

Sawtimber: Trees that yield logs suitable in size and quality for the production of lumber.

Scarify: To break up the forest floor and topsoil preparatory to natural regeneration or direct seeding.

Scientific and Natural Area (SNA): Area established by the Minnesota Department of Natural Resources, Division of Ecological Resources, to preserve natural features and rare resources of exceptional scientific and educational value.

Seedbed: The soil or forest floor on which seed falls.

Seed tree: Any tree that bears seed; specifically, a tree left standing to provide the seed for natural regeneration.

Selective harvest: Removal of single scattered trees or small groups of trees at relatively short intervals. The continuous establishment of reproduction is encouraged and an all-aged stand is maintained. A management option used for shade-tolerant species.

Shade tolerance: Relative ability of a tree species to reproduce and grow under shade. The capacity to withstand low light intensity caused by shading from surrounding vegetation. “Tolerant” species tolerate shade, while “intolerant” species require full sunlight.

Shelterwood harvest: A harvest cutting in which trees on the harvest area are removed in a series of two or more cuttings to allow the establishment and early growth of new seedlings under partial shade and protection of older trees. Produces an even-aged forest.

Silviculture: The art and science of establishing, growing, and tending stands of trees. The theory and practice of controlling the establishment, composition, growth, and quality of forest stands to achieve certain desired conditions or management objectives.

Silviculture and Roads Module (SRM): The SRM provides a database and application through which field foresters can record planned and actual forest development prescriptions (e.g., site preparation, tree planting projects, timber harvest, road maintenance, etc.) and follow-up surveys. SRM supports the geographic description of the extent of a development project separate from FIM stand boundaries. A variety of maps and other reports can be generated by the development system. SRM will also produce maps and reports that roll up forestry area data to the regional or statewide level. Part of the DNR's **FOR**estry **IN**formation **Sys**TEM (FORIST).

Site index (SI): A species-specific measure of actual or potential forest productivity or site quality, expressed in terms of the average height of dominant trees at specific key ages, usually 50 years in the eastern U.S.

Site preparation: Treatment of a site (e.g., hand or mechanical clearing, prescribed burning, or herbicide application), to prepare it for planting or seeding and to enhance the success of regeneration.

Site productivity: The relative capacity of a site to sustain a production level over time. The rate at which biomass is produced per unit area. For example, cords per acre growth of timber.

Size class: A category of trees based on diameter class. The DNR's forest inventory has size classes such as Size Class 1 = 0-0.9 inch diameter; 2 = 1-2.9 inches diameter; 3 = 3-4.9 inches; 4 = 5-8.9 inches; 5 = 9-14.9 inches, etc. Also, size class may be referred to as seedling, sapling, pole timber, and saw timber.

Slash: The non-utilized and generally unmarketable accumulation of woody material in the forest, such as limbs, tops, cull logs, and stumps, that remain in the forest as residue after timber harvesting.

Snag: A standing dead tree.

Soil productivity: The capacity of soils, in its normal environment, to support plant growth.

Special concern species: A plant or animal species that is extremely uncommon in Minnesota, or has a unique or highly specific habitat requirements and deserves careful monitoring. Species on the periphery of their ranges may be included in this category, as well as species that were once threatened or endangered but now have increasing, or stable and protected populations.

Special management zone (SMZ): A buffer immediately surrounding designated old-growth forest stands. It is intended to minimize edge effects and windthrow damage to old-growth stands. Minimum width is 330-feet from the edge of the old-growth stand. Timber harvest is allowed in the SMZ, but there are limitations on how much can be clearcut at any given time.

Stand: a contiguous group of trees similar in age, species composition, and structure, and growing on a site of similar quality to be a distinguishable forest unit. A forest is comprised of many stands. A *pure stand* is composed of essentially a single species, such as a red pine

plantation. A ***mixed stand*** is composed of a mixture of species, such as a northern hardwood stand consisting of maple, birch, basswood, and oak. An ***even-aged stand*** is one in which all of the trees present are essentially the same age, usually within 10 years of age for aspen and jack pine stands. An ***uneven-aged stand*** is one in which a variety of ages and sizes of trees are growing together on a uniform site, such as a northern hardwood stand with three or more age classes.

Stand age: In the DNR's forest inventory, the average age of the main species within a stand.

Stand density: The quantity of trees per unit area. Density usually is evaluated in terms of basal area, numbers of trees, volume, or percent crown cover.

Stand examination list: DNR forest stands to be considered for treatment (e.g., harvest, thinning, regeneration, prescribed burning, reinventory, etc.) over the planning period based on established criteria (e.g., rotation age, site index, basal area, desired future cover type composition, etc.). These stands will be assigned preliminary prescriptions and most will receive the prescribed treatment. However, based on field appraisal visit, prescriptions may change for some stands because of new information about the stand or its condition.

Stand selection criteria: Criteria used to help identify stands to be treated, as determined by the subsection team. Criteria will likely include rotation ages, site index, basal area, cover type composition, understory composition, location, etc. Factors considered in developing stand selection criteria will include 1) desired forest composition goals, 2) timber growth and harvesting, 3) old-growth forests, 4) extended and normal rotation forests, 5) riparian areas, 6) wildlife habitat, 7) age and cover type distributions, 8) regeneration, 9) thinning, and 10) prescribed burning needs, etc.

State forest road: Any permanent road constructed, maintained, or administered by the Minnesota Department of Natural Resources for the purposes of accessing or traversing state forest lands.

Stocking: An indication of the number of trees in a stand as compared to the desirable number for best growth and management, such as well stocked, overstocked, and partially stocked. A measure of the proportion of an area actually occupied by trees.

Strategic planning: A process to plan for desired future states, including aspects of a plan or planning process which provide statements and guides for future direction. The geographic, programmatic, and policy focus can range from very broad and general to more specific in providing tiers/levels of direction. Strategic planning is usually long-term (i.e., at least five years, often longer). Usually includes an assessment of current trends and conditions (e.g., social, natural resource, etc.), opportunities and threats; identification of key issues; and the resulting development of goals (e.g., desired future conditions), strategies, and objectives. Vision and mission statements may also be included.

Stumpage: The value of a tree as it stands in the forest uncut. Uncut trees standing in the forest.

Stumpage price: The value that a timber appraiser assigns to standing trees or the price a logger or other purchaser is willing to pay for timber as it is in the forest.

Subsection: A subsection is one level within the Ecological Classification System (ECS). From largest to smallest in terms of geographic area, the ECS is comprised of the following levels: Province --> Section --> **Subsection** --> Land Type Association --> Land Type --> Land Type Phase. Subsections areas are generally 1-4 million acres in Minnesota, with the average being 2.25 million acres. Seventeen subsections are scheduled for the SFRMP process.

Subsection forest resource management plan (SFRMP): A Department of Natural Resources (DNR) plan for vegetation management on forest lands administered by DNR Divisions of Forestry and Wildlife that uses ECS subsections as the basic unit of delineation. Initial focus will be to identify forest stands and road access needs for the duration of the 10-year plan. There is potential to be more comprehensive in the future.

Succession: The natural replacement, over time, of one plant community with another.

Sucker: A shoot arising from below ground level from a root. Aspen regenerates from suckers.

Suppressed: The condition of a tree characterized by low growth rate and low vigor due to competition from overtopping trees or shrubs.

Sustainability: Protecting and restoring the natural environment, while enhancing economic opportunity and community well-being. Sustainability addresses three related elements: the environment, the economy, and the community. The goal is to maintain all three elements in a healthy state indefinitely. Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable treatment level: A treatment level (e.g., harvest acres per year) that can be sustained over time at a given intensity of management without damaging the forest resource base or compromising the ability of future generations to meet their own needs. Treatment levels may need to be varied above and/or below the sustainable treatment level until the desired age-class structure or stocking level is reached.

Tactical planning: See operational planning.

Temporary access: A temporary access route for short-term use that will not be needed for foreseeable future forest management activities. It is usually a short, temporary, dead-end access route.

Thermal cover: Habitat component (e.g., conifer stands such as white cedar, balsam fir, and jack pine) that provides wildlife protection from the cold in the winter and heat in the summer. Vegetative cover used by animals against the weather.

Thinning: A silvicultural treatment made to reduce the density of trees within a forest stand primarily to improve growth, enhance forest health, or recover potential mortality. *Row*

thinning is where selected rows are harvested, usually the first thinning, which provides equipment operating room for future selective thinnings. **Selective thinning** is where individual trees are marked or specified (e.g., by diameter, spacing, or quality) for harvest. **Commercial thinning** is thinning after the trees are of merchantable size for timber markets. **Pre-commercial thinning** is done before the trees reach merchantable size, usually done in overstocked (very high stems per acre) stands to provide more growing space for crop trees that will be harvested in future years.

Threatened species: A plant or animal species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in Minnesota.

Timber land: Forest land capable of producing timber of a marketable size and volume at the normal harvest age for the cover type. It does not include lands withdrawn from timber utilization by statute (e.g., Boundary Waters Canoe Area Wilderness) or administrative regulation such as designated old-growth forest and state parks. On state forest lands this includes stands that can produce at least three cords per acre of merchantable timber at the normal harvest age for that cover type. It does not include very low productivity sites such as those classified as stagnant spruce, tamarack, cedar, offsite aspen, or non-forest land.

Timber management plan: If used with the SFRMP process, a timber management plan means the same thing as the vegetation management plan described below.

Timber management planning (TMP): Successor to the TMP information system (TMPIS), this kind of plan recognizes the entire timber management planning process as being more than just the computerized system. TMP incorporates GIS technology and an interactive process with other resource managers (other than Forestry).

Timber management planning information system (TMPIS): Circa mid-1980s. Original computerized system for developing 10-year stand treatment prescriptions by area.

Timber productivity: The quantity and quality of timber produced on a site. The rate at which timber volume is produced per unit area over a period of time (e.g., cords per acre per year). The relative capacity of a site to sustain a level of timber production over time.

Timber stand improvement (TSI): A practice in which the quality of a residual forest stand is improved by removing less desirable trees and large shrubs to achieve the desired stocking of the best quality trees, or to improve the reproduction, composition, structure, condition, and volume growth of a stand.

Tolerant: A plant capable of becoming established and growing beneath overtopping vegetation. A tree or seedling capable of growing in shaded conditions.

Two-aged stand: A forest stand with trees of two distinct age classes separated in age by more than 20 percent of the rotation age.

Underplant: To plant seedlings under an existing canopy or overstory.

Understocked: A stand of trees so widely spaced that, even with full growth potential realized, crown closure will not occur.

Understory: The shorter vegetation (shrubs, seedlings, saplings, small trees) within a forest stand that forms a layer between the overstory and the herbaceous plants of the forest floor.

Uneven-aged management: Forest management that results in forest stands comprised of intermingling trees or small groups that have three or more distinct age classes. Best suited for shade tolerant species.

Uneven-aged stand: A stand of trees of a variety of ages and sizes growing together on a uniform site. A stand of trees that has three or more distinct age classes.

Variable density: Thinning or planting in a clumped or dispersed pattern so that tree spacing more closely replicates patterns after natural disturbance (e.g., use gap management, vary the residual density within a stand when thinning, or plant seedlings at various densities within a plantation).

Variable retention: a harvest system based on the retention of structural elements or biological legacies (e.g., retain tree species and diameters present at older growth stages, snags, large downed logs, etc.) from the harvested stand for integration into the new stand to achieve various ecological objectives. *Aggregate retention* retains these structural elements in small patches or clumps within the harvest unit. *Dispersed retention* retains these structural elements as individual trees scattered throughout the harvest unit.

Vegetation growth stage: The vegetative condition of an ecosystem resulting from natural succession and natural disturbance, expressed as vegetative composition, structure, and years since disturbance. The vegetation growth stage describes both the successional changes (i.e., the change in the presence of different tree species over time) and developmental changes (i.e., the change in stand structure overtime due to the regeneration, growth, and mortality of trees). Vegetation growth stages express themselves along the successional pathways for a particular ecosystem depending on the type and level of natural disturbance that has occurred. Forest tree and other vegetation composition, habitat features, and wildlife species use change with the various growth stages.

Vegetation management plan: In the process of developing the 10-year stand examination list, many decisions and considerations go beyond identifying what timber will be cut (i.e., broader than timber management). This includes designation of old-growth forests, extended rotation forests, ecologically important lowland conifers, patches, special management areas, visually sensitive travel corridors, etc., all of which are intended to address wildlife habitat, biodiversity, aesthetic, and other concerns. Prescriptions assigned to stands reflect decisions based on these multiple considerations and are broader than decisions relative to final harvest (e.g., ERF designation, uneven-aged management, thinning, regeneration, underplanting, prescribed burning, etc.).

Viable populations: Populations with sufficient numbers of individuals to ensure the long-term existence of the species in natural, self-sustaining populations that are adequately distributed throughout their range.

Volume: The amount of wood in a tree or stand according to some unit of measurement (board feet, cubic feet, cords), or some standard of use (pulpwood, sawtimber, etc.).

Well stocked: The situation in which a forest stand contains trees spaced widely enough to prevent competition yet closely enough to utilize the entire site.

Wildlife management areas (WMA): Areas established by the Department of Natural Resources, Section of Wildlife, to manage, preserve and restore natural communities, perpetuate wildlife populations, and provide recreational and educational opportunities.

Windthrow: A tree pushed over by the wind. Windthrows are more common among shallow-rooted species.

Commonly Used Acronyms

AFRMP	Area Forest Resource Management Plan
BA	Basal area
CMAI	Culmination of Mean Annual Increment
CMT	Commissioner's Management Team
CSA	Cooperative Stand Assessment
DBH	Diameter at Breast Height
DFC	Desired Future Condition
DFFC	Desired Future Forest Composition
DMT	Director's Management Team
DNR	Department of Natural Resources
DOQ	Digital Orthophoto Quadrangle
DRG	Digital Raster Graphics
ECS	Ecological Classification System
EILC	Ecologically Important Lowland Conifers
ELCP	Ecological Land Classification Program
ERF	Extended Rotation Forest
ETS	Endangered, Threatened, or Special Concern
FIA	Forest Inventory and Analysis
FIM	Forest Inventory Module
FORIST	<i>Forest Information System</i>
FRIT	Forest Resource Issues Team
GAP	Gap Analysis Program
GDS	General Direction Statement
GEIS	Generic Environmental Impact Statement
GIS	Geographic Information System
HRLV	High-risk, low-volume
LSA	Landscape Study Area
LTA	Land Type Association
LU	Laurentian Uplands
MAI	Mean Annual Increment
MACLC	Minnesota Association of County Land Commissioners
MBF	Thousand Board Foot
MCBS	Minnesota County Biological Survey
MFRC	Minnesota Forest Resources Council
MFRP	Minnesota Forest Resources Plan
MnTAXA	Minnesota Taxonomy Database
MNWRAP	Minnesota Wildlife Resource Assessment Project
NAR	Natural Area Registry Agreement
NSH	North Shore Highlands
NTL	North Shore Highlands, Toimi Uplands, and Laurentian Uplands
OFMC	Old Forest Management Complex
OHV	Off-Highway Vehicles
NAPP	National Aerial Photography Program

NHNRP	Natural Heritage & Nongame Research Program
NPC	Native Plant Community
RMT	Regional Management Team
RMZ	Riparian Management Zone
RNA	Research Natural Area CRNA = candidate RNA
RNV	Range of Natural Variation
SFRMP	Subsection Forest Resource Management Plan
SI	Site Index
SMC	Special Management Complex
SMZ	Special Management Zone
SNA	Scientific and Natural Area
SNN	Shipstead-Newton-Nolan Act
SONAR	Statement of Need and Reasonableness
SFRMP	Subsection Forest Resource Management Plan
SRM	Silviculture and Roads Module
TMP	Timber Management Plan
TMPIS	Timber Management Plan Information System
TSM	Timber Sales Module
TSRS	Timber Sales Reporting System
TU	Toimi Uplands
WMA	Wildlife Management Area

Chapter 7: Appendices

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Note: Large color maps will be available for viewing at the open houses in Grand Rapids and St. Paul. The maps (in color) and this report are available on CD and also the DNR Web site at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html>

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APPENDIX A

Ecological Classification System (ECS)

Contents

- I. Definition
- II. Purpose
- III. End Products

I. Definition

The ECS is part of a nationwide mapping initiative developed to improve our ability to manage all natural resources on a sustainable basis.

Ecological Classification System is a method to identify, describe, and map units of land with different capabilities to support natural resources. This is done by integrating climatic, geologic, hydrologic, topographic, soil, and vegetation data.

In Minnesota, the classification and mapping is divided into six levels of detail. These levels are:

Province: Largest units representing the major climate zones in North America, each covering several states. Minnesota has three provinces: eastern broadleaf forest, northern boreal forest, and prairie.

Section: Divisions within provinces that often cross state lines. Sections are defined by the origin of glacial deposits, regional elevation, distribution of plants, and regional climate. Minnesota has 10 sections (e.g., Red River Valley).

Subsection: County-sized areas within sections that are defined by glacial land-forming processes, bedrock formations, local climate, topographic relief, and the distribution of plants. Minnesota has 24 subsections (e.g., Mille Lacs Uplands).

Land type association: Landscapes within subsections, characterized by glacial formations, bedrock types, topographic roughness, lake and stream patterns, depth to ground water table, and soil material (e.g., Alexandria Moraine).

Land type: The individual elements of land type associations, defined by recurring patterns of uplands and wetlands, soil types, plant communities, and fire history (e.g., fire-dependent xeric pine-hardwood association).

Community: Unique combinations of plants and soils within land types, defined by characteristic trees, shrubs and forbs, elevation, and soil moisture (e.g., sugar maple-basswood forest).

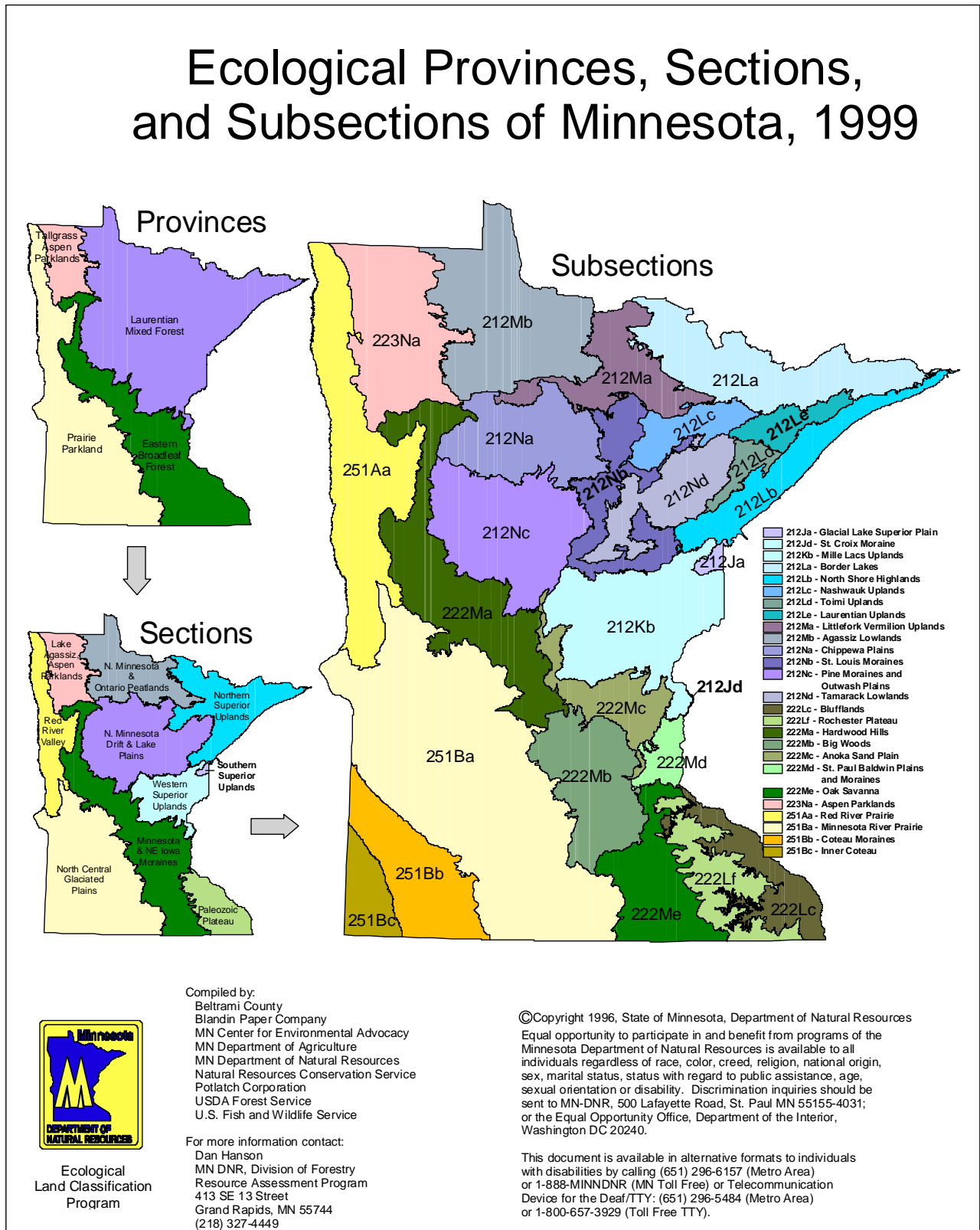
II. Purpose of an Ecological Classification System

- Define the units of Minnesota’s landscape using a consistent methodology.
- Provide a common means for communication among a variety of resource managers and with the public.
- Provide a framework to organize natural resource information.
- Improve predictions about how vegetation will change over time in response to various influences.
- Improve our understanding of the interrelationships between plant communities, wildlife habitat, timber production, and water quality.

III. End Products

- Maps and descriptions of ecological units for provinces through land types.
- Field keys and descriptions to determine which communities are present on a parcel of land.
- Applications for management for provinces through communities.
- Mapping of province, section, subsection, and land type association boundaries is complete throughout Minnesota.

Map 7.1: Ecological Provinces, Sections, and Subsections of Minnesota, 1999



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APPENDIX B

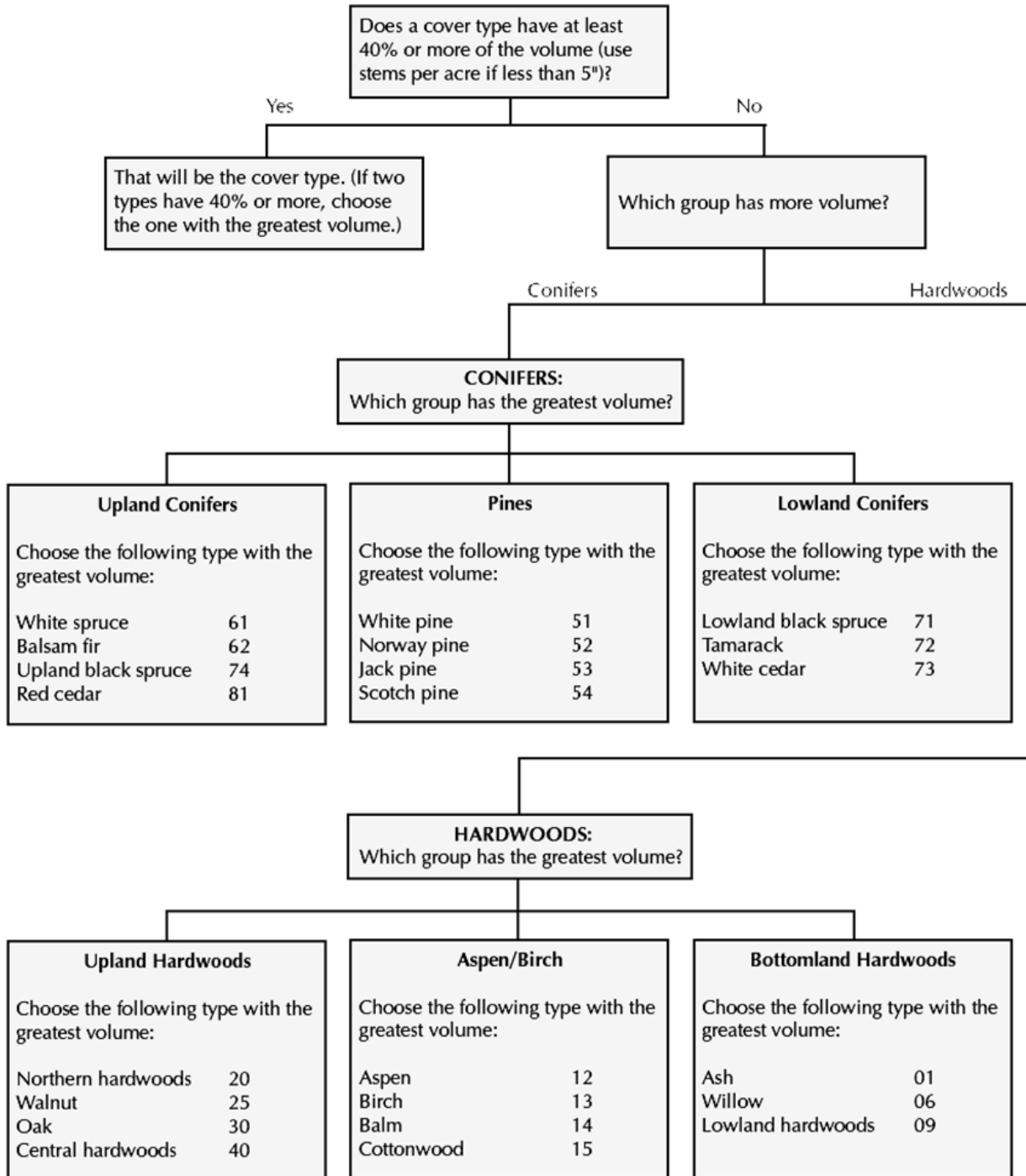
Tree Species in the St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, & Littlefork-Vermilion Uplands Subsections

Common name	Latin name	Cover Type Code
aspen		A
quaking aspen.....	<i>Populus tremuloides</i>	
bigtooth aspen	<i>Populus grandidentata</i>	
balm of gilead (balsam poplar)	<i>Populus balsamifera</i>	BG
balsam fir	<i>Abies balsamea</i>	BF
birch		Bi
paper birch	<i>Betula papyrifera</i>	
heartleaf birch	<i>Betula cordifolia</i>	
black spruce	<i>Picea mariana</i>	BSL (lowland)
.....		BSU (upland)
jack pine	<i>Pinus banksiana</i>	JP
lowland hardwoods		LH
black ash.....	<i>Fraxinus nigra</i>	Ash
green ash	<i>Fraxinus pennsylvanica</i>	Ash
american elm.....	<i>Ulmus americana</i>	
silver maple.....	<i>Acer saccharinum</i>	
box elder.....	<i>Acer negundo</i>	
northern hardwoods		NH
sugar maple	<i>Acer saccharum</i>	
red maple.....	<i>Acer rubrum</i>	
basswood.....	<i>Tilia americana</i>	
yellow birch	<i>Betula alleghaniensis</i>	
ironwood	<i>Ostrya virginiana</i>	
oak	(often included with NH)	O
northern red oak	<i>Quercus rubra</i>	
bur oak	<i>Quercus macrocarpa</i>	
red pine (Norway pine)	<i>Pinus resinosa</i>	NP
tamarack.....	<i>Larix laricina</i>	T
white cedar	<i>Thuja occidentalis</i>	C
white pine.....	<i>Pinus strobes</i>	WP
white spruce	<i>Picea glauca</i>	WS

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APPENDIX C

Key for Main Cover Type Determination



Some of the types may switch between groups depending on the physiographic class.

Number after cover type name is the cover type code.

From: Cooperative Stand Assessment (CSA) Users' Manual, DNR Division of Forestry, 2001.

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APPENDIX D

Ecologically Important Lowland Conifers: Acreage Goals and Rationale

Table 3.1f in Chapter 3 gives lowland conifer cover type acres and Ecologically Important Lowland Conifer (EILC) acres by subsection.

North 4 EILC selection references:

- SFRMP Guidebook IV
- NTL SFRMP
- Agassiz Lowlands SFRMP
- Brad Moore memo

Acreage Target Criteria

The SFRMP Guidebook provides direction for subsection planning teams regarding determining the appropriate amount of EILC acres that should be identified in a subsection. Teams use old-growth goals for the other forest types in the subsection that were addressed in the *DNR Old-growth Forest Guidelines* (1994) to help establish a starting point for team discussions about the appropriate amount of EILC in the subsection. General guidance suggests that EILC goals should be at least two times greater than the subsection’s upland old-growth percentage. The SFRMP Guidebook states that the starting point acres may be adjusted up or down if there are reasons to suspect that the old-growth goals for other forest types do not reflect a reasonable or realistic pool for old-growth lowland conifers on state-administered land. Based on this process, the North 4 Team defined the following EILC subsection acreage goals:

Table 7.1: Subsection EILC Acreage Goals

Subsection	EILC Acreage % Goal
St. Louis Moraines	13
Tamarack Lowlands	14
Nashwauk Uplands	13
Littlefork-Vermilion Uplands	10

The designated EILC stands are to be reserved from harvest for up to the 10-year planning period to provide time for further assessment and to provide a pool from which potential lowland conifer old-growth stands (or other designation) might be identified once the *DNR Old-growth Forest Guidelines* are amended to include lowland conifers. According to the SFRMP Guidebook, EILC acres should not be removed from the commercial timberland base for the purposes of identifying desired treatment levels. Therefore, EILC acres were included in treatment calculations for this 10-year plan, which avoids a reduction in the 10-year treatment level of lowland black spruce, tamarack, and white cedar cover types. This was done to address concerns regarding the availability of lowland conifers for timber sales. Because EILC stands are reserved from harvest for the 10-year period, the desired level of harvesting during this planning period will be shifted to other lowland conifer stands.

Selection Criteria

Stands selected as EILC should be examples of high quality native plant communities, represent the range of lowland conifer native plant communities found in the subsection, and be distributed in a representative fashion across Land Type Associations (LTAs) in the subsection; if a particular lowland conifer community type is found primarily in certain LTAs, then most of the EILC acres of that type should be in those LTAs.

Starting with a FIM snapshot (fim1c_03april2007.shp) provided to the North 4 team for planning purposes, the following selection criteria were used for identifying a baseline pool of potential EILC. The results of applying the first four criteria (see 1-4 below) provided the pool of lowland conifer stands that are available for EILC selection. This available set of stands was then reviewed for criteria 5-19 below to identify stands that have documented features or locations that suggest conservation value. The pool generated by the selection criteria served as a starting point to build the final North 4 EILC dataset. The pool was provided to affected Forestry and Wildlife administrative areas and designated Ecological Resources personnel for review and input. Potential EILC stands were added to, and dropped from the pool based on this input and the selection criteria.

1. Stands with FIM types: BSL, T, C, Sx, Cx, & Tx;
2. Stands not currently under development;
3. Stands that appear to be primary forest (i.e., no history of logging or other anthropogenic alterations);
4. Age criteria:
 - No age criteria for stagnant types (Sx, Cx, Tx)
 - Any BSL or T stand ≥ 85 years old and any C stand ≥ 75 and physiographic class ≥ 4 ;

NOTE: the result of applying #s 1-4 above is the available pool for EILC consideration. The remaining selection criteria (#s 5 – 19 below) highlighted stands within the available pool that have documented features and/or locations that suggest conservation value.

5. DNR recommendations:
 - Stands recommended by DNR personnel from Ecological Resources, Fish & Wildlife, and Forestry;
6. MCBS Sites of Biodiversity Significance:
 - Stands within MCBS Sites of Biodiversity Significance ranked High and Outstanding; includes data from Aitkin, Carlton, Crow Wing, and Cass counties;
7. MCBS preliminary Survey Priority Areas:
 - Stands within MCBS Survey Priority Areas ranked as High Priority for Survey; includes data from Itasca County, Littlefork-Vermilion subsection, and Nashwauk Uplands subsection. The Tamarack Lowlands subsection in St. Louis County did not have preliminary MCBS data at the time of this analysis;
8. Native Plant Community Element Occurrence Records:
 - Stands that contain and/or adjacent to lowland conifer native plant communities that have been identified in the Natural Heritage Information System (NHIS);
9. Rare Native Plant Communities:
 - Lowland conifer native plant communities with S-rank of S1, S2 or S3;

10. Rare Species:
 - Stands that contain and/or are adjacent to documented rare species populations per the NHIS;
11. Species of Greatest Conservation Need (SGCN):
 - Stands containing or adjacent to documented SGCN occurrences;
12. Key Habitats:
 - Stands containing or adjacent to documented occurrences of lowland conifer Key Habitats;
13. Old-growth:
 - Stands within 1 mile of DNR designated upland old-growth;
 - Stands within 330' were given added consideration since these are, by DNR old-growth policy, at least partially within the old-growth Special Management Zone;
14. Scientific and Natural Areas (SNAs):
 - Stands adjacent to SNAs;
15. Peatland SNA Watershed Protection Areas:
 - Stands within or adjacent to a SNA Watershed Protection Area. WPAs were delineated in the “Peatlands Management Plan.” They surround and act as a buffer to protect the hydrology within peatland SNAs designated by MS 84.035 and 84.036. They preclude some activities such as peat mining and ditching, but allow timber harvest;
16. Natural Area Registry (NAR) Sites:
 - Stand partially or wholly within or adjacent to a NAR;
17. Public Waters:
 - Stands bordering a lake, open-water wetland, or river/creek;
18. State Parks:
 - Stands adjacent to State Parks; and
19. Wildlife Management Areas:
 - Within or adjacent to a Wildlife Management Area.

Other Selection Criteria considerations:

- Insect and disease locations;
- Stands that have favorable locations for prescribed fire and/or for allowing natural processes to occur (e.g., mistletoe); and
- Stands that provide the primary access route to merchantable timber.

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APPENDIX E

Cover Type Conversion Goal Process

DNR wildlife personnel identified a need for landscape based information to help them: (1) prepare for forest planning efforts across all ownerships; (2) ensure division and department wildlife population and harvest goals could be met following implementation of forest planning goals; (3) provide general direction for use during day to day forest management operations and coordination; and (4) document current conditions and future goals for use by future managers.

To address this need, a Land Type Association (LTA)-specific template was developed for use by wildlife field personnel responsible for wildlife habitat management within the Littlefork Vermilion Uplands, Nashwauk Uplands, St. Louis Moraines, and Tamarack Lowlands subsections. The template data were filled out by personnel at the area (field) level.

Each LTA template incorporated a wide variety of current condition information, including: vegetative composition, ownership, an assessment of the DNR's ability to influence land management on lands not in state ownership, pre-settlement vegetation, key wildlife habitats, wildlife habitat projects, important recreational uses, and trends in forest management.

Using this information, along with personal knowledge of the conditions within the LTA, wildlife field personnel developed general direction goals for general forest cover type composition, general patch size desires, and general forest management style desires (e.g., typical stand treatment prescription for the LTA). Where personnel from different field offices shared a portion of the same LTA, coordination on common general direction goals occurred.

The North 4 SFRMP team agreed to use of the LTA-specific wildlife general direction product as a guide for development of draft cover type conversion goals in the North 4 plan. The team also agreed to specifically targeting opportunities for conversion within the 53 patches designated by the team and approved by field personnel.

Using information and goals from the wildlife LTA product and knowledge of cover types within designated patches, wildlife personnel on the team completed a draft cover type conversion product addressing the 10 years covered by the plan. This product listed: acres by LTA, cover type, and age class to be converted; and acres by LTA, cover type, and age class to be increased.

Work to assign cover type acres to be converted used suggested direction from the wildlife LTA product (e.g., suggestions to increase or decrease a cover type within an LTA), opportunities for conversion in designated patches in an LTA, and acreage in age classes the SFRMP team approved as having possible conversion potential.

Aspen, paper birch, and balm of gilead were targeted for cover type decreases, while northern hardwoods and oak, white pine, red pine, jack pine, white spruce, balsam fir, and white cedar were targeted for acreage increases. Northern hardwoods and oak were not separated in targets, with the assumption that field personnel would utilize information obtained from native plant community evaluation to determine which sites are best suited for conversion into each. White spruce and balsam fir were not separated for similar reasons; however more of the increase in them is assumed to occur in white spruce, due to spruce budworm influenced desires to decrease balsam fir in some landscapes.

Individual LTA cover type conversion acres were summarized by subsection and brought to the subsection team as a draft for review and approval.

Following review and discussion within the team and with regional managers, a decision was reached to change the targets slightly. The final decision consisted of: a total conversion for all four subsections of 4.5 percent of the aspen, birch, and balm of gilead acres within the first 10 years of the plan; and a future goal of converting a total of 15 percent of those cover types within 50 years.

The team then agreed to provide the Remsoft model with the conversion figures by subsection, cover type, and age class for the first 10 years, and ask that they be incorporated into the model for the first 10 years of the plan. The team also agreed to allow the model flexibility in assigning conversion for the remaining 40 years of the 50-year planning goal in decades and cover types where it best helped reach other plan goals (e.g., even flow of volume, age class balancing).

Area allocation of conversion goals was determined by finding the percentage of LTA aspen, birch, and balm of gilead acres that fell in each area. Those percentages were multiplied by the number of acres in those cover types in each LTA that *did not* fall in a designated patch. Those acres were area conversion allocations. Acres within a patch were identified by area and automatically targeted for conversion by that area. Table 7.2 shows patch, and non-patch conversions by area and LTA.

Table 7.2: Ten-Year Cover Type Conversion Goals by Subsection, LTA, Forestry Area, and Covertypes

Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
*Note table explanation below												
Littlefork Vermilion Uplands												
Cook Till Plain	4158	Goal	-356	0	0	0	97	90	169	0	0	356
Tower	4064	0.98	-356	0	0	0	97	90	169	0	0	356
Hibbing	94	0.02	0	0	0	0	0	0	0	0	0	0
Effie Till Plain	37974	Goal	-499	0	-27	0	92	37	37	360	0	526
Hibbing	4213	0.11	-126	0	-27	0	60	37	37	19	0	153
Deer River	17214	0.45	-373	0	0	0	32	0	0	341	0	373
Blackduck	16186		0	0	0	0	0	0	0	0	0	0
Littlefork	361		0	0	0	0	0	0	0	0	0	0
Ericsburg Till Plain		Goal	-125	0	0	0	0	0	0	125	0	125
Littlefork			-125	0	0	0	0	0	0	125	0	125
Haney Till Plain	1997	Goal	-75	-25	0	0	0	0	0	0	100	100
Littlefork	1313	0.66	-40	-25	0	0	0	0	0	0	65	65
Orr	684	0.34	-35	0	0	0	0	0	0	0	35	35
Koochiching Beach Ridges	6185	Goal	-275	0	0	0	0	40	135	100	0	275
Deer River	2148	0.35	-96	0	0	0	0	14	47	35	0	96
Littlefork	3936	0.64	-179	0	0	0	0	26	88	65	0	179
Blackduck	101	0.02	0	0	0	0	0	0	0	0	0	0
Koochiching Peatlands	8306	Goal	-364	0	0	0	0	0	0	364	0	364
Hibbing	773	0.09	0	0	0	0	0	0	0	0	0	0
Deer River	427	0.05	0	0	0	0	0	0	0	0	0	0
Littlefork	5770	0.69	-364	0	0	0	0	0	0	364	0	364

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Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
Tower	1336	0.16	0	0	0	0	0	0	0	0	0	0
Little-Big Fork Till Plain	19730	Goal	-800	0	0	0	0	0	0	800	0	800
Deer River	2185	0.11	-485	0	0	0	0	0	0	485	0	485
Littlefork	17501	0.89	-245	0	0	0	0	0	0	245	0	245
Littlefork			70	0	0	0	0	0	0	70	0	70
Lofgren Moraine	1080	Goal	-100	0	0	0	75	0	10	15	0	100
Hibbing	266	0.25	-25	0	0	0	10	0	0	15	0	25
Deer River	814	0.75	-75	0	0	0	65	0	10	0	0	75
Myrtle Lake Peatlands	1565	Goal	-100	0	0	0	50	0	0	50	0	100
Hibbing	517	0.33	-33	0	0	0	18	0	0	15	0	33
Deer River	363	0.23	-23	0	0	0	10	0	0	13	0	23
Littlefork	685	0.44	-44	0	0	0	22	0	0	22	0	44
Rauch Till Plain	16029	Goal	-450	0	0	0	55	25	320	50	0	450
Hibbing	10417	0.65	0	0	0	0	0	0	0	0	0	0
Littlefork	2828	0.18	-450	0	0	0	55	25	320	50	0	450
Tower	2191	0.14	0	0	0	0	0	0	0	0	0	0
Smith Road Till Plain	6269	Goal	-340	0	0	0	170	0	0	85	85	340
Orr	3763	0.60	-204	0	0	0	102	0	0	51	51	204
Tower	2312	0.37	-136	0	0	0	68	0	0	34	34	136
St. Louis Moraines												
Aitkin Moraine	10918	Goal	-188	0	-21	134	0	75	0	0	0	209
Backus			-52	0	0	0	0	52	0	0	0	52
Aitkin	8768	0.80	-116	0	-21	114	0	23	0	0	0	137
Brainerd	2150	0.20	-20	0	0	20	0	0	0	0	0	20

St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands,
and Littlefork-Vermilion Uplands SFRMP

Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
Automba Drumlin Plain	2244	Goal	-420	0	0	301	25	0	0	94	0	420
Aitkin	1661	0.74	-420	0	0	301	25	0	0	94	0	420
Cloquet	583	0.26	0	0	0	0	0	0	0	0	0	0
Buhl Till Plain		Goal	0	0	0	0	0	0	0	0	0	0
Hibbing			0	0	0	0	0	0	0	0	0	0
Coon Lake Till Plain	13422	Goal	-225	0	-14	0	82	119	0	38	0	239
Hibbing	3750	0.28	-141	0	0	0	42	75	0	24	0	141
Deer River	9672	0.72	-84	0	-14	0	40	44	0	14	0	98
Goodland Delta	2987	Goal	-450	0	-100	425	0	0	0	125	0	550
Hibbing			-248	0	-9	257	0	0	0	0	0	257
Deer River			-5	0	-33	38	0	0	0	0	0	38
Hibbing	1628	0.55	-20	0	-46	0	0	0	0	66	0	66
Deer River	1358	0.45	-177	0	-12	130	0	0	0	59	0	189
Hill City Till Plain	4482	Goal	-125	0	0	0	0	50	25	50	0	125
Aitkin	3020	0.67	-87	0	0	0	0	31	25	31	0	87
Brainerd	664	0.15	-18	0	0	0	0	9	0	9	0	18
Deer River	797	0.18	-20	0	0	0	0	10	0	10	0	20
Marcell Moraine		Goal	-1388	0	-214	395	507	650	50	0	0	1602
Deer River			-1388	0	-214	395	507	650	50	0	0	1602
Pokegama Moraine	2470	Goal	-75	0	0	0	30	25	0	20	0	75
Aitkin	545	0.22	-20	0	0	0	0	0	0	20	0	20
Deer River	1925	0.78	-55	0	0	0	30	25	0	0	0	55
Prairie River Lake Plain	3821	Goal	-390	0	-10	0	0	150	250	0	0	400
Hibbing	1942	0.51	-200	0	0	0	0	72	128	0	0	200

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Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
Deer River	1879	0.49	-190	0	-10	0	0	78	122	0	0	200
Rice Lake Moraine		Goal	-40	0	0	40	0	0	0	0	0	40
Aitkin			-40	0	0	40	0	0	0	0	0	40
Sandy Lake Moraine		Goal	-705	0	-67	708	44	20	0	0	0	772
Aitkin			-443	0	-45	468	20	0	0	0	0	488
Aitkin			-262	0	-22	240	24	20	0	0	0	284
Sugar Hills Moraine		Goal	-120	0	-58	143	35	0	0	0	0	178
Deer River			-120	0	-58	143	35	0	0	0	0	178
Wright Till Plain	2228	Goal	-40	0	0	40	0	0	0	0	0	40
Aitkin	1358	0.61	0	0	0	0	0	0	0	0	0	0
Cloquet	869	0.39	-40	0	0	40	0	0	0	0	0	40
Nashwauk Uplands												
Big Rice Moraine	1635	Goal	-45	0	-30	0	20	10	45	0	0	75
Tower	1397	0.85	-45	0	-30	0	20	10	45	0	0	75
Hibbing	238	0.15	0	0	0	0	0	0	0	0	0	0
Mesabi Range	3684	Goal	-167	0	-470	600	37	0	0	0	0	637
Tower	567	0.15	-20	0	-70	90	0	0	0	0	0	90
Hibbing	3117	0.85	-147	0	-400	510	37	0	0	0	0	547
Nashwauk Moraine	13161	Goal	0	0	0	0	0	0	0	0	0	0
Hibbing		0.99	0	0	0	0	0	0	0	0	0	0
Pengilly Till Plain	1109	Goal	-30	0	0	0	15	0	0	15	0	30
Hibbing		1.00	-30	0	0	0	15	0	0	15	0	30
Pike-Sandy River Sand	5175	Goal	-460	0	-215	0	155	280	240	0	0	675

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Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
Plain												
Tower	3539	0.68	-315	0	-147	0	106	191	165	0	0	462
Hibbing	1636	0.32	-145	0	-68	0	49	89	75	0	0	213
Whalsten Till Plain	2234	Goal	-130	0	-210	0	75	175	50	40	0	340
Tower		1.00	-130	0	-210	0	75	175	50	40	0	340
Tamarack Lowlands												
Aurora Till Plain	9798	Goal	-160	0	-40	0	0	0	0	200	0	200
Hibbing	2770	0.28	-45	0	-11	0	0	0	0	56	0	56
Cloquet	7028	0.72	-115	0	-29	0	0	0	0	144	0	144
Esquagama Sand Plain	704	Goal	-95	0	-39	0	0	54	80	0	0	134
Hibbing			-60	0	-14	0	0	54	20	0	0	74
Hibbing		1.00	-35	0	-25	0	0	0	60	0	0	60
Floodwood Peatlands	5331	Goal	-160	-7	-28	0	0	0	0	195	0	195
Aitkin	2456	0.46	-74	-7	-10	0	0	0	0	91	0	91
Hibbing	1010	0.19	-35	0	0	0	0	0	0	35	0	35
Cloquet	1865	0.35	-51	0	-18	0	0	0	0	69	0	69
Deer River		0.00	0	0	0	0	0	0	0	0	0	0
Moose-Willow Peatlands	20759	Goal	-850	-15	-50	495	139	45	0	236	0	915
Aitkin		1.00	-850	-15	-50	495	139	45	0	236	0	915
Palisade Lake Plain	4397	Goal	-50	0	0	50	0	0	0	0	0	50
Aitkin	4119	0.94	-50	0	0	50	0	0	0	0	0	50
Brainerd	278	0.06	0	0	0	0	0	0	0	0	0	0
South Rapids Lake Plain	3532	Goal	-385	0	0	0	185	140	60	0	0	385

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Subsection/LTA/ Forestry Area	Ac A/BG/Bi	% A/BG/Bi	Aspen	BG	BI	NH	WP	RP	JP	WS/BF	WC	Total conv.
Aitkin			-6	0	0	0	6	0	0	0	0	6
Aitkin	2349	0.67	-379	0	0	0	179	140	60	0	0	379
Deer River	1183	0.33	0	0	0	0	0	0	0	0	0	0
Warba Lake Plain	10294	Goal	-165	0	-10	0	0	0	0	175	0	175
Aitkin	415	0.04	-10	0	0	0	0	0	0	10	0	10
Hibbing	3941	0.38	-63	0	0	0	0	0	0	63	0	63
Cloquet	4843	0.47	-78	0	-10	0	0	0	0	88	0	88
Deer River	1095	0.11	-15	0	0	0	0	0	0	15	0	15

***SHADED CELLS** = acres from patches

" **A/BG/BI** " = aspen/balm of gilead/birch

acres A/BG/BI = total acres of aspen/balm of gilead/birch (LTA total followed by area portion w/in)

Total conv. = conversion acres for LTA (or area w/in LTA)

negative #'s are conversion out of cover type

positive #'s are conversion into cover type

APPENDIX F

Area Allocation of Stands Selected for Examination

Managed Cover Type Treatment Summary:

- This table summarizes total acres selected by Forestry area to be treated for even-aged and uneven-aged cover types over the 10-year plan implementation period.
- See discussion in Chapter 3 (GDS 3.9) of the North 4 SFRMP.
- Can be viewed at: <http://www.dnr.state.mn.us/forestry/subsection/north4/plan.html>

Table 7.3: Area Allocation of Stand Examination List

	Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment
	* Conversions	Harvest**	Pool***	Conversions	Harvest	Pool	Conversions	Harvest	Pool	Conversions	Harvest	Pool
Aitkin												
Ash/LH	0	0	0	0		285	0		0	0		807
Aspen/BG	0	0	0	-1,196	5,809	7,738	0	0	0	-1,192	6,319	7,512
Birch	0	0	0	-73	219	326	0	0	0	-25	122	147
NH	0	0	0	0		5,914	0		0	0		2,949
Oak	0	0	0	0		2,208	0		0	0		709
White Pine	0	0	0	0		83	0		0	0		134
Red Pine	0	0	0	0		1,143	0		0	0		1,613
Jack Pine	0	0	0	0		0	0		0	0		22
White Spruce	0	0	0	0		325	0		0	0		616
Balsam Fir	0	0	0	0		245	0		0	0		433
BSL	0	0	0	0		372	0		0	0		612
Tamarack	0	0	0	0		318	0		0	0		2,459
White Cedar	0	0	0	0		0	0		0	0		0
BSU	0	0	0	0			0		0	0		0
Brainerd												
Ash/LH	0		0	0		11	0		0	0		0
Aspen/BG	0	0	0	-78	364	505	0	0	0	0	109	109
Birch	0	0	0	0	42	82	0	0	0	0	0	0

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	Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
	* Conversions	Sustainable Harvest**	Treatment Pool***	Conversions	Sustainable Harvest	Treatment Pool	Conversions	Sustainable Harvest	Treatment Pool	Conversions	Sustainable Harvest	Treatment Pool
NH	0		0	0		0	0		0	0		0
Oak	0		0	0		0	0		0	0		0
White Pine	0		0	0		9	0		0	0		2
Red Pine	0		0	0		386	0		0	0		12
Jack Pine	0		0	0		243	0		0	0		0
White Spruce	0		0	0		94	0		0	0		0
Balsam Fir	0		0	0		37	0		0	0		0
BSL	0		0	0		0	0		0	0		0
Tamarack	0		0	0		16	0		0	0		0
White Cedar	0		0	0		0	0		0	0		0
BSU	0		0	0		0	0		0	0		0
Blackduck												
Ash/LH	0		104	0		0	0		0	0		0
Aspen/BG	0	3,166	3,166	0	0	0	0	0	0	0	0	0
Birch	0	83	83	0	0	0	0	0	0	0	0	0
NH	0		0	0		0	0		0	0		0
Oak	0		0	0		0	0		0	0		0
White Pine	0		0	0		0	0		0	0		0
Red Pine	0		58	0		0	0		0	0		0
Jack Pine	0		0	0		0	0		0	0		0
White Spruce	0		195	0		0	0		0	0		0
Balsam Fir	0		283	0		0	0		0	0		0
BSL	0		226	0		0	0		0	0		0
Tamarack	0		50	0		0	0		0	0		0
White Cedar	0		0	0		0	0		0	0		0
BSU	0		0	0		0	0		0	0		0
Cloquet												
Ash/LH	0		0	0		2	0		0	0		53

		Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
			Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment
		* Conversions	Harvest**	Pool***	Conversions	Harvest	Pool	Conversions	Harvest	Pool	Conversions	Harvest	Pool
	Aspen/BG	0	0	0	-34	436	467	0	0	0	-204	2,015	2,219
	Birch	0	0	0	0	30	30	0	0	0	-57	62	119
	NH	0		0	0		12	0		0	0		9
	Oak	0		0	0		0	0		0	0		0
	White Pine	0		0	0		0	0		0	0		27
	Red Pine	0		0	0		5	0		0	0		119
	Jack Pine	0		0	0		0	0		0	0		3
	White Spruce	0		0	0		16	0		0	0		282
	Balsam Fir	0		0	0		10	0		0	0		566
	BSL	0		0	0		10	0		0	0		777
	Tamarack	0		0	0		8	0		0	0		229
	White Cedar	0		0	0		0	0		0	0		0
	BSU	0		0	0		0	0		0	0		19
Deer River													
	Ash/LH	0		683	0		198	0		7	0		50
	Aspen/BG	-953	2,693	3,646	-1,758	4,192	7,021	0	86	86	-13	95	108
	Birch	0	128	128	-283	193	341	0	0	0	0	0	0
	NH	0		175	0		672	0		9	0		3
	Oak	0		0	0		23	0		0	0		0
	White Pine	0		23	0		21	0		0	0		4
	Red Pine	0		95	0		2,493	0		67	0		176
	Jack Pine	0		18	0		79	0		0	0		0
	White Spruce	0		270	0		478	0		10	0		0
	Balsam Fir	0		874	0		384	0		0	0		19
	BSL	0		543	0		800	0		0	0		51
	Tamarack	0		257	0		157	0		0	0		104
	White Cedar	0		0	0		0	0		0	0		0
	BSU	0		144	0		5	0		0	0		0

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	Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment
	* Conversions	Harvest**	Pool***	Conversions	Harvest	Pool	Conversions	Harvest	Pool	Conversions	Harvest	Pool
Hibbing												
Ash/LH	0		133	0		18	0		212	0		185
Aspen/BG	-167	2,409	2,576	-525	1,705	2,560	-258	2,481	2,739	-199	1,594	1,793
Birch	-27	108	135	-46	117	150	-468	275	743	-50	109	159
NH	0		0	0		42	0		423	0		10
Oak	0		0	0		0	0		105	0		0
White Pine	0		47	0		18	0		81	0		35
Red Pine	0		1,441	0		1,093	0		2,399	0		407
Jack Pine	0		159	0		258	0		116	0		217
White Spruce	0		554	0		277	0		712	0		267
Balsam Fir	0		333	0		238	0		331	0		224
BSL	0		751	0		112	0		130	0		533
Tamarack	0		445	0		55	0		37	0		54
White Cedar	0		0	0		0	0		0	0		0
BSU	0		0	0		0	0		51	0		26
Littlefork												
Ash/LH	0		291	0		0	0		0	0		0
Aspen/BG	-1,397	6,278	7,675	0	0	0	0	0	0	0	0	0
Birch	0	127	127	0	0	0	0	0	0	0	0	0
NH	0		0	0		0	0		0	0		0
Oak	0		0	0		0	0		0	0		0
White Pine	0		52	0		0	0		0	0		0
Red Pine	0		1,476	0		0	0		0	0		0
Jack Pine	0		660	0		0	0		0	0		0
White Spruce	0		1,885	0		0	0		0	0		0
Balsam Fir	0		3,379	0		0	0		0	0		0
BSL	0		7,534	0		0	0		0	0		0
Tamarack	0		1,353	0		0	0		0	0		0
*White Cedar	0		0	0		0	0		0	0		0

		Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
			Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment
		* Conversions	Harvest**	Pool***	Conversions	Harvest	Pool	Conversions	Harvest	Pool	Conversions	Harvest	Pool
	BSU	0		157	0		0		0		0		0
Orr													
	Ash/LH	0		21	0		0		0		0		0
	Aspen/BG	-217	451	667	0	0	0	0	0	0	0	0	0
	Birch	0	17	17	0	0	0	0	0	0	0	0	0
	NH	0		0	0		0		0		0		0
	Oak	0		0	0		0		0		0		0
	White Pine	0		5	0		0		0		0		0
	Red Pine	0		111	0		0		0		0		0
	Jack Pine	0		7	0		0		0		0		0
	White Spruce	0		562	0		0		0		0		0
	Balsam Fir	0		75	0		0		0		0		0
	BSL	0		86	0		0		0		0		0
	Tamarack	0		100	0		0		0		0		0
	White Cedar	0		0	0		0		0		0		0
	BSU	0		0	0		0		0		0		0
Tower													
	Ash/LH	0		47	0		0		99		0		0
	Aspen/BG	-446	2,437	2,883	0	0	0	-408	570	978	0	0	0
	Birch	0	39	39	0	0	0	-457	115	572	0	0	0
	NH	0		0	0		0		0		0		0
	Oak	0		0	0		0		0		0		0
	White Pine	0		69	0		0		27		0		0
	Red Pine	0		193	0		0		1,067		0		0
	Jack Pine	0		62	0		0		60		0		0
	White Spruce	0		423	0		0		315		0		0
	Balsam Fir	0		222	0		0		67		0		0
	BSL	0		748	0		0		258		0		0

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	Littlefork-Vermilion Uplands			St. Louis Moraines			Nashwauk Uplands			Tamarack Lowlands		
		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment		Sustainable	Treatment
	* Conversions	Harvest**	Pool***	Conversions	Harvest	Pool	Conversions	Harvest	Pool	Conversions	Harvest	Pool
Tamarack	0		77	0		0	0		136	0		0
White Cedar	0		0	0		0	0		0	0		0
BSU	0		34	0		0	0		0	0		0
Total												
Ash/LH	0		1,280	0		513	0		319	0		1,095
Aspen/BG	-3,179	17,434	20,613	-3,591	12,506	18,291	-666	3,137	3,803	-1,608	10,133	11,741
Birch	-27	502	529	-402	600	928	-925	391	1,316	-132	292	424
NH	0		175	0		6,641	0		432	0		2,971
Oak	0		0	0		2,232	0		105	0		709
White Pine	0		195	0		131	0		108	0		201
Red Pine	0		3,372	0		5,120	0		3,532	0		2,327
Jack Pine	0		906	0		361	0		176	0		241
White Spruce	0		3,889	0		1,190	0		1,036	0		1,165
Balsam Fir	0		5,165	0		914	0		399	0		1,240
BSL	0		9,887	0		1,294	0		388	0		1,973
Tamarack	0		2,281	0		554	0		173	0		2,846
White Cedar	0		0	0		0	0		0	0		0
BSU	0		335	0		5	0		51	0		45
Total all covertypes	-3,206	17,936	48,628	-3,993	13,106	38,174	-1,591	3,528	11,838	-1,740	10,425	26,978
*No cedar was selected during stand selection. Littlefork area will review approximately 80 acres of white cedar annually and consider for possible treatment.												

APPENDIX G

Stand Management Objectives in FORIST-SRM

Management Objective Coding in SRM

The purpose of recording management objectives on a SRM site is to enable the division to report on the intent or objective of stand treatments. In many cases, the objective of a stand treatment may not be reflected in the forest inventory for many years or at all. SRM reports, based on the management objectives assigned to sites during a fiscal year (FY), will provide information on the implementation of SFRMP plans [e.g., cover type conversion acres (Convert cover type), increase conifer component in hardwood stands (Increase desired species), etc.]. Objectives are to be entered into SRM after the stand examination is completed (see *SRM TIP #8, Data Entry Instructions for Annual Stand Exam Accomplishments – FY07 and Beyond*, pages 9-11, for instructions on recording management objectives in SRM). The Objective Type and Objective Code are on dropdown lists in SRM. All sites resulting from a FY annual stand examination list or an annual plan addition should have at least one management objective assigned to the SRM site. Multiple management objectives may be assigned to a stand or site.

Note: Management objectives may be assigned as preliminary objectives to some stands in the SFRMP ArcView shapefile during the stand selection step. (Various objective coding methods have been used on plans to date, so individual plans should be consulted for interpreting the coding used.) The preliminary objectives assigned to stands in SFRMPs will be provided to appraisers prior to completing the initial stand examination.

Table 7.4: Management Objective Codes in FORIST-SRM

OBJECTIVE TYPE	CODE	OBJECTIVE DESCRIPTION
Maintain current cover type with similar species composition and structure: the objective of the stand treatment is to maintain the current cover type with a similar species composition and structure.		
Maintain similar stand	MA1	Similar species mix and stand structure: The stand will be managed to retain the same cover type with similar species composition and structure. For example, an even-aged aspen or lowland black spruce stand will be harvested using a clearcut method and regenerated to an even-aged stand of similar species composition.
Maintain current cover type, but change within stand species composition: The objective is to maintain the current cover type, but increase the percentage of other species currently in the stand or add additional species to the stand through natural or artificial regeneration. For example, increase long-lived conifers in an aspen stand through scarification around white pine and/or white spruce seed trees or planting white pine and/or white spruce. Enter all species that will be significantly increased.		
Increase desired species	INC01	Black Ash
Increase desired species	INC02	American Elm
Increase desired species	INC03	Silver Maple
Increase desired species	INC04	Red Elm
Increase desired species	INC05	Rock Elm
Increase desired species	INC06	Willow

Increase desired species	INC12	Trembling Aspen
Increase desired species	INC13	Paper Birch
Increase desired species	INC14	Balm of gilead
Increase desired species	INC15	Cottonwood
Increase desired species	INC16	Largetooth Aspen
Increase desired species	INC21	Red Maple
Increase desired species	INC22	Sugar Maple
Increase desired species	INC23	Basswood
Increase desired species	INC24	Yellow Birch
Increase desired species	INC25	Walnut
Increase desired species	INC26	Butternut
Increase desired species	INC27	Cherry
Increase desired species	INC31	Northern Red Oak
Increase desired species	INC32	Black Oak
Increase desired species	INC33	Northern Pin Oak
Increase desired species	INC34	White Oak
Increase desired species	INC35	Burr Oak
Increase desired species	INC38	White Ash
Increase desired species	INC39	Green Ash
Increase desired species	INC41	Bitternut Hickory
Increase desired species	INC42	Shagbark Hickory
Increase desired species	INC43	Hackberry
Increase desired species	INC45	Box Elder
Increase desired species	INC51	White Pine
Increase desired species	INC52	Norway Pine
Increase desired species	INC53	Jack Pine
Increase desired species	INC61	White Spruce
Increase desired species	INC62	Balsam Fir
Increase desired species	INC71	Black Spruce
Increase desired species	INC72	Tamarack
Increase desired species	INC73	White Cedar
Increase desired species	INC81	Red Cedar
Increase desired species	INC82	Eastern Hemlock
Increase desired species	INC91	Locust
Increase desired species	INC92	Ironwood
Increase desired species	INC93	River Birch
Increase desired species	INC94	Blue Beech

Maintain current cover type, but change within stand structural composition: The objective is to maintain the same cover type, but the within stand structural composition will change.		
Change stand structure	CHG1	Multi-aged stand: For example, an <i>even-aged</i> stand will be managed to become a stand with <i>two or more age classes</i> . For example, an even-aged white pine stand is harvested through a selective, shelterwood, or seed tree harvest method and white pine regeneration will be established. Some or all of the overstory will be retained until or beyond the maximum rotation age.
Change stand structure	CHG2	Uneven-aged stand: For example, an <i>even-aged</i> northern hardwood stand will be managed to move the stand towards an <i>uneven-aged</i> hardwood stand.
Change stand structure	CHG3	Even-aged stand: For example, a poorly stocked or poor quality, <i>uneven-aged</i> , northern hardwood stand will be harvested through a clearcut method resulting in an <i>even-aged</i> hardwood stand.
Change stand structure	CHG4	Vary BA distribution: <i>Variable density:</i> thin in clumped or dispersed pattern so residual trees more closely replicate a pattern after natural disturbance (e.g., gap management or vary BA distribution within a thinning).
Change stand structure	CHG5	Increase coarse woody debris (> 6 inches diameter): Large, downed logs will be retained on the site.
Change stand structure	CHG6	Retain legacy patches: Islands of residual vegetation that include tree species present at older growth stages will be retained. Includes <i>variable retention:</i> retain tree species and diameters present at older growth stages, in clumps or dispersed, to more closely replicate pattern after natural disturbance. Include retention of large, downed logs.
Convert stand to another cover type: The objective is to convert the stand to another cover type appropriate to the NPC of the site to meet SFRMP conversion goals. Enter the cover type that the stand will be converted to directly after harvest treatment or will move towards based on stand treatments over a longer time period. If a relatively equal mix of conifer/hardwood stand is the goal, enter multiple cover type codes.		
Convert cover type	COV01	Ash
Convert cover type	COV06	Willow
Convert cover type	COV09	Lowland hardwoods
Convert cover type	COV12	Aspen
Convert cover type	COV13	Birch
Convert cover type	COV14	Balm of gilead
Convert cover type	COV15	Cottonwood
Convert cover type	COV20	Northern hardwoods
Convert cover type	COV25	Walnut
Convert cover type	COV30	Oak

Convert cover type	COV40	Central hardwoods
Convert cover type	COV51	White pine
Convert cover type	COV52	Norway pine
Convert cover type	COV53	Jack pine
Convert cover type	COV61	White spruce
Convert cover type	COV62	Balsam fir
Convert cover type	COV70	Upland larch
Convert cover type	COV71	Black spruce, lowland
Convert cover type	COV72	Tamarack
Convert cover type	COV73	Norther white cedar
Convert cover type	COV74	Black spruce, upland
Convert cover type	COV81	Red cedar
Convert cover type	COV83	Lowland Grass
Convert cover type	COV84	Upland Grass
Convert cover type	COV85	Lowland Brush
Convert cover type	COV86	Upland Brush
Patch Management: Management action will meet or move toward patch management goals.		
Patch management	PAT1	Maintain large patch: Maintain the size of a designated large patch.
Patch management	PAT2	Increase patch size: Increase the size of a designated patch.
Patch management	PAT3	Manage for smaller patches: For example, small harvest blocks in an area managed for ruffed grouse.
Riparian Management: Management action within RMZ that provides or moves toward desired future forest composition goals adjacent to stream or water body.		
Riparian management	RIP1	Increase long-lived conifers: Long-lived conifers will be increased by planting or naturally regenerating desired conifers.
Riparian management	RIP2	Maintain shade to a trout stream: Harvest prescription will maintain adequate shade to a designated trout stream.
Conserve Biodiversity: Management action will sustain or minimize the loss of the mix and proportion of species appropriate to the NPC of the site (and desired growth stage), protect rare species or rare NPC, or special management guidelines or recommendations will be followed.		
Conserve biodiversity	CON1	Maintain existing NPC composition and structure: Management action will maintain or minimize the loss of the mix and proportion of species found in the NPC appropriate to the site for the desired growth stage.
Conserve biodiversity	CON2	Protect rare plant or animal location: Stand has a rare plant or rare animal location. Strategies will be applied to protect rare plant(s) or animal(s). Include species name in Comment Field.

Conserve biodiversity	CON3	Special management consideration for species or habitat: Special management guidelines or recommendations will be applied to protect species or habit (e.g., guidelines or recommendations for goshawk, wood turtle, four-toed salamander, or seasonal ponds ([See Forest Guideline Matrix])). Include species or habitat in Comment Field.
Conserve biodiversity	CON4	Protect a known rare native plant community: Stand has a known rare native plant community and strategies will be applied to protect it. Include rare NPC code in Comment Field.
Conserve biodiversity	CON5	Use prescribed fire: Prescribed fire will be used as a silvicultural technique in managing fire-dependent NPCs.
Conserve biodiversity	CON6	Use less intensive TSI or site preparation: A less intensive site preparation or less intensive tsi will be used to retain or minimize the loss of NPC composition appropriate to the site when creating or maintaing a plantation.
Conserve biodiversity	CON7	Retain NPC older growth stage components: Using the applicable <i>NPC Field Guide</i> and other ECS tools as a guide, reserve components of older growth stages to retain the option of moving the stand to older growth stages in the future. For example, in an aspen stand in a northern mesic mixed forest (FDn43), retain a white spruce, white pine, and/or white cedar component in legacy patches.
Cultural Resources: The site contains a known cultural resource and strategies will be used to protect it during the management activity.		
Cultural resources	CULT1	Apply strategies to protect a known cultural resource
Maintain Corridors: An identified corridor will be managed to retain a desirable amount of forest canopy cover.		
Maintain corridors	MNT1	Retain adequate residual BA within corridor

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APPENDIX H

Rare Native Plant Communities

Table 7.5: Statewide Heritage Conservation Ranks (S-Ranks) for Native Plant Community Types

NPC Type S-Rank ¹	Definition
S1	Critically imperiled
S2	Imperiled
S3	Rare or uncommon
S4	Widespread, abundant, and apparently secure, but with cause for long-term concern
S5	Demonstrably widespread, abundant and secure

Table 7.6 lists all Native Plant Community (NPC) types and their associated S-ranks that are known or likely to occur in these subsections. A complete list of the Statewide S-Ranks for NPC types in Minnesota is available from the Natural Heritage and Nongame Research Program.¹

Table 7.6: NPC Types and Subtypes and associated Conservation Status Ranks for Minnesota known or likely to occur in the North 4 subsections.²

Type Code	Subtype Code	Type Name	Subtype Name	State Rank
FDc24a	FDc24a1	Jack Pine - (Bush Honeysuckle) Woodland	<i>Bracken Subtype</i>	1
<i>LKi32a</i>		<i>Sand Beach (Inland Lake)</i>		1
<i>CTn12b</i>		<i>Mesic Open Talus (Northern)</i>		2
<i>CTn32b</i>		<i>Mesic Felsic Cliff (Northern)</i>		2
FDc25b		Oak - Aspen Woodland		2
FDn12a		Jack Pine Woodland (Sand)		2
<i>LKi32b</i>		<i>Gravel/Cobble Beach (Inland Lake)</i>		2
MRn83b		Cattail Marsh (Northern)		2
OPn91b	OPn91b2	Graminoid Rich Fen (Water Track)	<i>Flark Subtype</i>	2
FDc34a		Red Pine - White Pine Forest		2
FDn12b		Red Pine Woodland (Sand)		2
FDn32c	FDn32c1	Black Spruce - Jack Pine Woodland	<i>Jack Pine - Balsam Fir Subtype</i>	2
FDn43a		White Pine - Red Pine Forest		2
MHn44b		White Pine - White Spruce - Paper Birch Forest		2
OPn93a		Spring Fen		2
APn91c	APn91c2	Graminoid Poor Fen (Water Track)	<i>Flark Subtype</i>	3
<i>CTn11d</i>		<i>Dry Felsic Cliff (Northern)</i>		3
<i>CTn12a</i>		<i>Dry Open Talus (Northern)</i>		3
<i>CTn24a</i>		<i>Dry Scrub Talus (Northern)</i>		3

¹ Minn. DNR 2008. Conservation Status Ranks for Minnesota Native Plant Communities (October 2008). Minnesota Department of Natural Resources – Division of Ecological Resources. St. Paul, MN 55155. St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermillion Uplands SFRMP

Type Code	Subtype Code	Type Name	Subtype Name	State Rank
CTn24b		Mesic Scrub Talus (Northern)		3
CTn32a		Mesic Mafic Cliff (Northern)		3
FPn62a		Rich Black Spruce Swamp (Basin)		3
FPn71a		Rich Black Spruce Swamp (Water Track)		3
FPn72a		Rich Tamarack Swamp (Eastcentral)		3
LKi54b	LKi54b2	Mud Flat (Inland Lake)	Non-Saline Subtype	3
OPn91b	OPn91b1	Graminoid Rich Fen (Water Track)	Featureless Water Track Subtype	3
RVx32b	RVx32b1	Sand Beach/Sandbar (River)	Intermittent Streambed Subtype	3
RVx32b	RVx32b2	Sand Beach/Sandbar (River)	Permanent Stream Subtype	3
RVx32c	RVx32c1	Gravel/Cobble Beach (River)	Intermittent Streambed Subtype	3
RVx32c	RVx32c2	Gravel/Cobble Beach (River)	Permanent Stream Subtype	3
RVx54b	RVx54b1	Clay/Mud Shore (River)	Intermittent Streambed Subtype	3
RVx54b	RVx54b2	Clay/Mud Shore (River)	Permanent Stream Subtype	3
WFn74a		Alder - (Red Currant - Meadow-Rue) Swamp		3
APn91b		Graminoid Poor Fen (Basin)		3
FDc34b		Oak - Aspen Forest		3
FDn22a		Jack Pine Woodland (Bedrock)		3
FDn33a	FDn33a1	Red Pine - White Pine Woodland	Balsam Fir Subtype	3
FFn57a		Black Ash - Silver Maple Terrace Forest		3
FFn67a		Silver Maple - (Sensitive Fern) Floodplain Forest		3
MHc47a		Basswood - Black Ash Forest		3
MHn47a		Sugar Maple - Basswood - (Bluebead Lily) Forest		3
MHn47b		Sugar Maple - Basswood - (Horsetail) Forest		3
WFn53b		Lowland White Cedar Forest (Northern)		3
WFn55b		Black Ash - Yellow Birch - Red Maple - Basswood Swamp (Eastcentral)		3
APn80a	APn80a1	Black Spruce Bog	Treed Subtype	4
APn80a	APn80a2	Black Spruce Bog	Semi-Treed Subtype	4
APn80a		Black Spruce Bog		4
CTn11a		Dry Mafic Cliff (Northern)		4
FPn82b		Extremely Rich Tamarack Swamp		4
LKi54a		Clay/Mud Shore (Inland Lake)		4
MHc36a		Red Oak - Basswood Forest (Noncalcareous Till)		4
ROn12b		Crystalline Bedrock Outcrop (Northern)		4
RVx32a		Willow Sandbar Shrubland (River)		4
APn81b	APn81b1	Poor Tamarack - Black Spruce Swamp	Black Spruce Subtype	4

Type Code	Subtype Code	Type Name	Subtype Name	State Rank
APn81b	APn81b2	Poor Tamarack - Black Spruce Swamp	<i>Tamarack Subtype</i>	4
APn90b	APn90b1	Graminoid Bog	<i>Typic Subtype</i>	4
APn91c	APn91c1	Graminoid Poor Fen (Water Track)	<i>Featureless Water Track Subtype</i>	4
FPn63b		White Cedar Swamp (Northcentral)		4
FPn81a		Rich Tamarack (Sundew - Pitcher Plant) Swamp		4
MHc26a		Oak - Aspen - Red Maple Forest		4
MHc26b		Red Oak - Sugar Maple - Basswood - (Large-Flowered Trillium) Forest		4
MHc36b		Red Oak - Basswood Forest (Calcareous Till)		4
MHn35a		Aspen - Birch - Basswood Forest		4
MHn35b		Red Oak - Sugar Maple - Basswood - (Bluebead Lily) Forest		4
MHn44a		Aspen - Birch - Red Maple Forest		4
MHn44c		Aspen - Fir Forest		4
MHn46a		Aspen - Ash Forest		4
MHn46b		Black Ash - Basswood Forest		4
OPn92a		Graminoid Rich Fen (Basin)		4
OPn92b		Graminoid - Sphagnum Rich Fen (Basin)		4
WFn55a		Black Ash - Aspen - Balsam Poplar Swamp (Northeastern)		4
WFn55c		Black Ash - Mountain Maple Swamp (Northern)		4
WFn64a		Black Ash - Conifer Swamp (Northeastern)		4
WFn64c		Black Ash - Alder Swamp (Northern)		4
WMn82b	WMn82b2	Sedge Meadow	<i>Tussock Sedge Subtype</i>	4
WMn82b	WMn82b3	Sedge Meadow	<i>Beaked Sedge Subtype</i>	4
APn90a		Low Shrub Bog		S4S5
APn81a		Poor Black Spruce Swamp		5
FDn43b	FDn43b1	Aspen - Birch Forest	<i>Balsam Fir Subtype</i>	5
WMn82a		Willow - Dogwood Shrub Swamp		5
WMn82b	WMn82b4	Sedge Meadow	<i>Lake Sedge Subtype</i>	5
APn91a		Low Shrub Poor Fen		5
FPn73a		Alder - (Maple - Loosestrife) Swamp		5
FPn82a		Rich Tamarack - (Alder) Swamp		5
OPn81a		Bog Birch - Alder Shore Fen		5
OPn81b		Leatherleaf - Sweet Gale Shore Fen		5
WMn82b	WMn82b1	Sedge Meadow	<i>Bluejoint Subtype</i>	5

²NPCs listed in regular font have been documented in the North 4 subsections; those NPCs in italics are likely to occur as estimated from the MN DNR *Field Guide to the Native Plant Communities of Minnesota: The Laurentian Mixed Forest Province* and from personal communication with MCBS plant ecologists.

When NPC types or subtypes are documented they may be assigned a relative rank for the quality of the NPC occurrence. Specifications for ranking the quality of NPCs are currently being revised by the MN DNR Division of Ecological Resources to complement the MN DNR’s three-volume *Field Guide to the Native Plant Communities of Minnesota* (version 2.0). Generally, NPCs are ranked for quality based on factors associated with size, condition, and landscape context. The relative quality of the NPC is assigned on a continuum from “A” through “D,” with an “A” rank indicating an excellent quality NPC, and a “D” rank indicating a poor quality NPC. The Conservation Status Ranks for Minnesota do not imply anything about relative quality, although it is generally true that “A” quality examples are rarer than lower quality examples for any given NPC type or subtype.

APPENDIX I

Stand Selection Process Using Remsoft Woodstock-Stanley Harvest Scheduling Model

A. Goal and Objectives

The goal of this project is to incorporate landscape-level information about existing spatial patterns and forest conditions into stand designation decisions for patch management, extended rotation forests (ERF), ecologically important lowland conifers (EILC), and old forest management complexes (OFMC). Information across ownerships on the spatial patterns of forest composition, age structure, and areas with special management considerations will inform area team recommendations for stands selected for patch management, ERF, EILC, and OFMC on state forestry, fisheries, wildlife, and trails and waterways administered lands.

B. Process

The stand section lists were generated using Remsoft Spatial Planning System (RSPS, Fredericton, NB, Canada), a forest estate and harvest schedule model based on linear programming (LP). LP is an optimization technique where an algorithm searches for the "best" solution – "best" being that solution that satisfies a mathematical objective. For subsection planning the objective is to maximize total cordwood volume harvested relative to a set of management constraints or goals at the *subsection* level. In the SFRMP a 50-yr planning horizon, consisting of 10, 5-yr planning periods, was used throughout. Only the initial 10 years were used to create the stand selection list and the remaining 40 years served as a check on longer-term goals and sustainability.

RSPS was initialized using a subset of FIM variables and stands: Only age, cover type, and site index were used. Growth and yield were determined using published volume equations from Walters and Ek (1993, Whole Stand Yield and Density Equations for Fourteen Forest Types in Minnesota, *Northern Journal of Applied Forestry*, 10:75-85). These stand-level equations allow for the calculation of merchantable gross volume, basal area, and quadratic mean diameter at any age. By way of exception, in northern and lowland hardwoods as well as ash FIM data was used to judge operability. Only productive, commercial FIM stands eligible for management were included in RSPS (e.g., old-growth complexes as well as off-site or stagnant types were not modeled). For this planning area, northern white cedar and red pine final harvest were not modeled either.

As the modeled system evolved through time, stands were subject to operability criteria in the context of management goals to determine harvest level and stand selection. These were implemented simultaneously and were based on volume maximization relative to the following constraints: rotation ages and base operability thresholds; ERF status; volume trajectories; treatment type (even-aged vs. uneven-aged management, commercial thinning, or no entry); liquidation of overmature stands (stand age > MRA) within 10-yr, mandatory thinning of all plantations on a 10-yr reentry schedule; explicit age class distribution goals (for ERF and overall); even flow both overall and for key species (primarily aspen); conversions from aspen, balm, and birch into other hardwood and upland conifer types; patch creation and maintenance; accelerated harvest ages in open landscape and ruffed grouse management areas; and consideration of stands currently under development. Conversions are tracked merely as a

bookkeeping device to promote age class distribution goals, but are intended to be mapped to a specific stand and prescription only after field review. This generated stand selection list was then re-processed spatially to promote clumping of management entries and sensible blocking of harvest areas.

It is noteworthy that the stand selection list is optimized relative to a set of *subsection* goals, not *area* goals. Secondly, the modeled system does not perform area (or volume) regulation but finds the optimal solution relative to the set of subsection-wide constraints imposed on volume maximization.

APPENDIX J

SFRMP Additional Field Names and Codes

Table 7.7: Non-standard FIM Field Names and Codes Used in the North 4 Subsections FIM Shapefile.

Field Name and Codes	Description
UNIQUE_ID	Unique identifier for each polygon in the shapefile
AD	Land Administrator
1	Division of Forestry
2	Division of Fish and Wildlife
4	Division of Trails & Waterways
ECS_NAME	“Working” Subsection stand is assigned to
NEW_AGE_08	Stand age modeled forward to 2008
NAGE_CLASS	NEW_AGE_08 grouped into 10 year age periods
INOPERABLE	Not used in this plan
MAN_ACRES	Stand Acres available for management
PAT_NOM	Not used in this plan
PAT_NAME	<p>Provides a name to identify each patch in the shapefile. All stands within a patch have the same name. A null value indicates stand is not managed as a patch. The type of patch can be determined from the codes used in the name.</p> <p>F = future patch, P = patch, XD = Northern Hardwoods, UC = Upland Conifers, UD = Upland Deciduous, LD = Lowland Deciduous, WW = Undefined direction to be determined by field evaluation. Followed by number – Unique to each patch.</p>
SMA	Special Management Areas – Codes may be used in combination
RGMA	Ruffed Grouse Management Areas
OLA	Open Landscape Areas
ERF	Extended Rotation Forest (ERF). Value of 9 = ERF
ERF_LOC	Not used in this plan
EILC	Ecologically important lowland conifers – Reserve during this 10-year plan. Value of 9 = EILC

Field Name and Codes	Description
OG_SMZ	Old Growth Special Management Zone. Value of 9 = OG_SMZ
OFMC	Old Forest Management Complex. Value of 9 = OFMC
CRITERIA	Not used in this plan
PRESCRIP	Preliminary assigned stand prescription
1111	Even-aged Harvest
1300	Uneven-aged Harvest
1810	Thinning
9100	Stand treatment pool for aspen, birch and balm of gilead.
T_ACRES	Treatment acres. If stand has a valid PRESCRIP field, then this is the number of acres in the stand to be treated. May be less than MAN_ACRES do to only a partial stand treatment.
SE_YEAR	Planned year (FY) to complete the stand examination/appraisal
MGMT_CT	Not used in this plan
OBJECTIVE	Not used in this plan
FOR_COM	Forestry comments regarding the stand management
WLD_COM	Wildlife comments regarding the stand management
ECO_COM	Ecological Services comments regarding the stand management
FSH_COM	Fisheries comments regarding the stand management
COMMENT	General comments assigned to a stand during the planning process
JT_VISIT	If coded, joint field visit desired by personnel from other divisions. Stands may be tagged during the 10-year stand selection process or during annual harvest plan reviews.
FSH	Contact Area Fisheries personnel prior to the field visit. All stands on fisheries lands will receive a field visit designation of FSH, other stands that fisheries personnel want to field visit with the appraiser will be tagged during the 10-year selection or annual reviews.
WLD	Contact Area Wildlife personnel prior to the field visit. Wildlife personnel will tag stands with WLD that they want to do a joint site visit.
ECO	Contact Ecological Services representative prior to the field visit. Eco Services personnel will tag stands with ECO that they want to do a joint site visit.
NEW ACCESS NEEDS	Coding for new access needs in SFRMP. Only assigned to stands where new access is needed.
NA_TYPE	Type of new access
System Road	System Roads are the major roads in the forest that provide forest management access, recreational access, and may be connected to the

Field Name and Codes	Description
	state, county, or township public road systems.
Min. Maintenance Road	Minimum Maintenance Roads are used for forest management access on an intermittent, as-need basis. These roads are not promoted or maintained for recreation. The roads will be open to all motorized vehicles but not maintained to the level where low clearance licensed highway vehicles can travel routinely on them.
Res. Mgmt. Access Route	Resource Management Access Routes are not immediately needed after the cessation of the management activity, but may be needed in the future for management activity and the corridor needs to be preserved. These routes will be closed to all motorized recreation users.
Temporary Access Route	If the access route does not fit into one of the first three options, the temporary access route will be abandoned and the site reclaimed so that evidence of a travel route is minimized.
NA_MILE	New access miles only (estimate to nearest 0.1 mile)
NA_SW	New access season of use. S = summer; W = winter
NA_POST	Post management activity road treatment
M	Maintain open
L	Leave open/minimal maintenance
C	Close with barrier; open only for management
A	Abandon (applies to all new temporary access routes)
RD_PERMIT	New access requires a USFS permit or crosses a peatland SNA
F	USFS Road Use Permit (i.e., use of NF System Road)
G	USFS Special Use Permit (i.e., crossing USFS land via a NF non-system road or new access route)
S	SNA Winter Road (notification)
Z	Access information assigned to another near-by stand

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APPENDIX K

Terrestrial, Vertebrate Species List for St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands

Information Source: The following information has been summarized from ongoing efforts of the Minnesota Gap Analysis Project (MN-GAP), a project to provide a statewide assessment on the conservation status of native vertebrate species and natural land cover types.

Species Criteria: Species criteria for MN-GAP includes the following: 1) Be known to breed in Minnesota (evidence of breeding 5 of the past 10 years) and be a regularly occurring non-accidental; 2) Be listed as state endangered, threatened, or special concern or as federally endangered or threatened; 3) Be listed as a furbearer, big game, small game, or migratory bird in Minnesota; and 4) Be an exotic species in Minnesota that impacts native species or is of management interest.

Species Group: Notes one of four major species groups - Amphibians, Birds, Mammals, and, Reptiles.

Species Common and Scientific Names: Notes standard MN-GAP protocol based on NatureServe and its related searchable plant, animal, and ecological database called NatureServe Explorer located at www.natureserveexplorer.org.

Minnesota Legal Status: E = State Endangered; T = State Threatened; SC = State Species of Special Concern; BG = Big Game; SG = Small Game; F = Furbearer; MW = Migratory Waterfowl; UB = Unprotected Bird; PB = Protected Bird; PWA = Protected Wild Animal; UWA = Unprotected Wild Animal. Note: A species may have more than one Minnesota Legal Status notation.

Federal Legal Status: T = Federal Threatened; E = Federal Endangered; P = Federal Protection by the Migratory Bird Treaty Act or Bald Eagle Protection Act or CITES.

Species Range: For all ECS Subsections, the following codes note a species specific range modifier: B = Breeding; PR = Permanent Resident; a = absent; m = migrant; m/sv = migrant/summer visitor; wv = winter visitor. Also, an (L) may be listed with these range codes if the species has a limited distribution in the Subsection due to specific habitat needs. Note: These range notations by ECS subsections represent the current occurrence of these wildlife species based on ECS subsections. Animal distributions are dynamic and revisions may be made as new information becomes available.

DISCLAIMER: Information and data listed in these tables has been produced by ongoing wildlife species assessment efforts conducted under the MNDNR Division of Wildlife's Minnesota Wildlife Resource Assessment Project (MN-WRAP) and Minnesota Gap Analysis Project (MN-GAP). These efforts and related tables noted here are initial products that are currently in various stages of literature and expert review. Review and comments on these tables and contents is encouraged. Please contact the MNDNR Division of Wildlife at 218-833-8620 for comments or suggestions.

Common Name	Scientific Name	MN legal status	Federal legal status	Species Occurrence in ECS subsection			
				St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
AMPHIBIANS (n=13)							
Blue-spotted Salamander	<i>Ambystoma laterale</i>			PR	PR	PR	PR
Tiger Salamander	<i>Ambystoma tigrinum</i>			PR	PR	PR	a
Four-toed Salamander	<i>Hemidactylium scutatum</i>	SC		PR	a	a	a
Redback Salamander	<i>Plethodon cinereus</i>			PR	PR	PR	PR
Eastern Newt	<i>Notophthalmus viridescens</i>			PR	PR	PR	PR
American Toad	<i>Bufo americanus</i>	PWA		PR	PR	PR	PR
Gray Treefrog	<i>Hyla versicolor</i>	PWA		PR	PR	PR	PR
Western Chorus Frog	<i>Pseudacris triseriata</i>	PWA		PR	PR	PR	PR
Spring Peeper	<i>Pseudacris crucifer</i>	PWA		PR	PR	PR	PR
Green Frog	<i>Rana clamitans</i>	PWA		PR	PR	PR	PR
Northern Leopard Frog	<i>Rana pipiens</i>	PWA		PR	PR	PR	PR
Mink Frog	<i>Rana septentrionalis</i>	PWA		PR	PR	PR	PR
Wood Frog	<i>Rana sylvatica</i>	PWA		PR	PR	PR	PR
REPTILES (n=6)							
Snapping Turtle	<i>Chelydra serpentina</i>	PWA, SC		PR	PR	PR	PR
Painted Turtle	<i>Chrysemys picta</i>	PWA		PR	PR	PR	PR
Wood Turtle	<i>Clemmys insculpta</i>	PWA, T		a	PR	a	a
Blanding's Turtle	<i>Emydoidea blandingii</i>	PWA, T		PR	a	a	a
Redbelly Snake	<i>Storeria occipitomaculata</i>			PR	PR	PR	PR
Common Garter Snake	<i>Thamnophis sirtalis</i>			PR	PR	PR	PR
BIRDS (n=181)							
Common Loon	<i>Gavia immer</i>	PB	P	B	B	B	B
Pied-billed Grebe	<i>Podilymbus podiceps</i>	PB	P	B	B	B	B

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Red-necked Grebe	<i>Podiceps grisegena</i>	PB	P	B	B	B	B
American White Pelican	<i>Pelecanus erythrorhynchos</i>	PB, SC	P	m/sv	B	m/sv	m/sv
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	UB	P	B	B	B	B
American Bittern	<i>Botaurus lentiginosus</i>	PB	P	B	B	B	B
Least Bittern	<i>Ixobrychus exilis</i>	PB	P	a	B	a	a
Great Blue Heron	<i>Ardea herodias</i>	PB	P	B	B	B	B
Green Heron	<i>Butorides virescens</i>	PB	P	B	m	a	a
Trumpeter Swan	<i>Cygnus buccinator</i>	PB, MW, T	P	B	B	B	B
Canada Goose	<i>Branta canadensis</i>	PB, MW	P	B	B	B	B
Wood Duck	<i>Aix sponsa</i>	PB, MW	P	B	B	B	B
Green-winged Teal	<i>Anas crecca</i>	PB, MW	P	B	m	m	B
American Black Duck	<i>Anas rubripes</i>	PB, MW	P	B	B	B	B
Mallard	<i>Anas platyrhynchos</i>	PB, MW	P	B	B	B	B
Blue-winged Teal	<i>Anas discors</i>	PB, MW	P	B	B	B	B
American Wigeon	<i>Anas americana</i>	PB, MW	P	B	B	B	m
Redhead	<i>Aythya americana</i>	PB, MW	P	m	B	m	m
Ring-necked Duck	<i>Aythya collaris</i>	PB, MW	P	B	B	B	B
Common Goldeneye	<i>Bucephala clangula</i>	PB, MW	P	B	B	B	B
Hooded Merganser	<i>Lophodytes cucullatus</i>	PB, MW	P	B	B	B	B
Common Merganser	<i>Mergus merganser</i>	PB, MW	P	B	B	B	B
Turkey Vulture	<i>Cathartes aura</i>	PB	P	B	B	B	B
Osprey	<i>Pandion haliaetus</i>	PB	P	B	B	B	B
Bald Eagle	<i>Haliaeetus leucocephalus</i>	PB, SC	P/T	B	B	B	B
Northern Harrier	<i>Circus cyaneus</i>	PB		B	B	B	B
Sharp-shinned Hawk	<i>Accipiter striatus</i>	PB		B	B	B	B
Northern Goshawk	<i>Accipiter gentilis</i>	PB		B	B	B	B
Red-shouldered Hawk	<i>Buteo lineatus</i>	PB, SC		B	a	a	a
Broad-winged Hawk	<i>Buteo platypterus</i>	PB		B	B	B	B
Red-tailed Hawk	<i>Buteo jamaicensis</i>	PB		B	B	B	B
American Kestrel	<i>Falco sparverius</i>	PB		B	B	B	B
Merlin	<i>Falco columbarius</i>	PB		B	B	B	B

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Peregrine Falcon	<i>Falco peregrinus</i>	PB, T		m	m	B	m
Spruce Grouse	<i>Falcipennis canadensis</i>	PB, SG		a	PR	a	PR
Ruffed Grouse	<i>Bonasa umbellus</i>	PB, SG		PR	PR	PR	PR
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	PB, SG		PR (L)	PR (L)	a	a
Yellow Rail	<i>Coturnicops noveboracensis</i>	PB, SC		B	B	m	a
Virginia Rail	<i>Rallus limicola</i>	PB, SG		B	B	B	a
Sora	<i>Porzana carolina</i>	PB, SG		B	B	B	B
American Coot	<i>Fulica americana</i>	PB, SG		B	B	m	m
Sandhill Crane	<i>Grus canadensis</i>	PB		B	B	m	m
Piping Plover	<i>Charadrius melodus</i>	PB, E	E&T	m	m / B (L)	m	a
Killdeer	<i>Charadrius vociferus</i>	PB		B	B	B	B
Spotted Sandpiper	<i>Actitis macularia</i>	PB		B	B	B	B
Upland Sandpiper	<i>Bartramia longicauda</i>	PB		B	B	a	a
Wilson's Snipe				B	B	B	B
American Woodcock	<i>Scolopax minor</i>	PB, SG		B	B	B	B
Wilson's Phalarope	<i>Phalaropus tricolor</i>	PB, T		m	B	a	a
Ring-billed Gull	<i>Larus delawarensis</i>	PB		m	B	m	m
Herring Gull	<i>Larus argentatus</i>	PB		B	B	B	B
Common Tern	<i>Sterna hirundo</i>	PB, T		m	B	m	m
Forster's Tern	<i>Sterna forsteri</i>	PB, SC		m	B	a	a
Black Tern	<i>Chlidonias niger</i>	PB		B	B	m	m
Rock Dove	<i>Columba livia</i>	PB		PR	PR	PR	PR
Mourning Dove	<i>Zenaida macroura</i>	PB		B	B	B	m
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	PB		B	B	B	B
Great Horned Owl	<i>Bubo virginianus</i>	UB		PR	PR	PR	PR
Northern Hawk Owl	<i>Surnia ulula</i>	PB		wv	PR	PR	PR
Barred Owl	<i>Strix varia</i>	PB		PR	PR	PR	PR
Great Gray Owl	<i>Strix nebulosa</i>	PB		PR	PR	PR	PR
Long-eared Owl	<i>Asio otus</i>	PB		B	B	B	B
Short-eared Owl	<i>Asio flammeus</i>	PB, SC		m	B	m	a

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Boreal Owl	<i>Aegolius funereus</i>	PB		wv	PR	wv	PR
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	PB		B	B	B	B
Common Nighthawk	<i>Chordeiles minor</i>	PB		B	B	B	B
Whip-poor-will	<i>Caprimulgus vociferus</i>	PB		B	B	B	B
Chimney Swift	<i>Chaetura pelagica</i>	PB		B	B	B	B
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	PB		B	B	B	B
Belted Kingfisher	<i>Ceryle alcyon</i>	PB		B	B	B	B
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	PB		B	B	B	a
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	PB		B	B	B	B
Downy Woodpecker	<i>Picoides pubescens</i>	PB		PR	PR	PR	PR
Hairy Woodpecker	<i>Picoides villosus</i>	PB		PR	PR	PR	PR
Three-toed Woodpecker	<i>Picoides tridactylus</i>	PB		wv	PR	wv	PR
Black-backed Woodpecker	<i>Picoides arcticus</i>	PB		PR	PR	PR	PR
Northern Flicker	<i>Colaptes auratus</i>	PB		B	B	B	B
Pileated Woodpecker	<i>Dryocopus pileatus</i>	PB		PR	PR	PR	PR
Olive-sided Flycatcher	<i>Contopus cooperi</i>	PB		B	B	B	B
Eastern Wood-Pewee	<i>Contopus virens</i>	PB		B	B	B	B
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	PB		B	B	B	B
Alder Flycatcher	<i>Empidonax alnorum</i>	PB		B	B	B	B
Least Flycatcher	<i>Empidonax minimus</i>	PB		B	B	B	B
Eastern Phoebe	<i>Sayornis phoebe</i>	PB		B	B	B	B
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	PB		B	B	B	B
Eastern Kingbird	<i>Tyrannus tyrannus</i>	PB		B	B	B	B
Horned Lark	<i>Eremophila alpestris</i>	PB		B	m	m	m
Purple Martin	<i>Progne subis</i>	PB		B	B	B	B
Tree Swallow	<i>Tachycineta bicolor</i>	PB		B	B	B	B
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	PB		B	B	B	B
Bank Swallow	<i>Riparia riparia</i>	PB		B	B	B	B
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	PB		B	B	B	B
Barn Swallow	<i>Hirundo rustica</i>	PB		B	B	B	B

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Gray Jay	<i>Perisoreus canadensis</i>	PB		PR	PR	PR	PR
Blue Jay	<i>Cyanocitta cristata</i>	PB		PR	PR	PR	PR
Black-billed Magpie	<i>Pica pica</i>	UB		a	PR	a	a
American Crow	<i>Corvus brachyrhynchos</i>	PB		PR	PR	PR	B
Common Raven	<i>Corvus corax</i>	PB		PR	PR	PR	PR
Black-capped Chickadee	<i>Poecile atricapillus</i>	PB		PR	PR	PR	PR
Boreal Chickadee	<i>Poecile hudsonicus</i>	PB		PR	PR	PR	PR
Red-breasted Nuthatch	<i>Sitta canadensis</i>	PB		PR	PR	PR	PR
White-breasted Nuthatch	<i>Sitta carolinensis</i>	PB		PR	PR	PR	PR
Brown Creeper	<i>Certhia americana</i>	PB		B	B	B	B
House Wren	<i>Troglodytes aedon</i>	PB		B	B	B	B
Winter Wren	<i>Troglodytes troglodytes</i>	PB		B	B	B	B
Sedge Wren	<i>Cistothorus platensis</i>	PB		B	B	B	B
Marsh Wren	<i>Cistothorus palustris</i>	PB		B	B	a	a
Golden-crowned Kinglet	<i>Regulus satrapa</i>	PB		B	B	B	B
Ruby-crowned Kinglet	<i>Regulus calendula</i>	PB		B	B	B	B
Eastern Bluebird	<i>Sialia sialis</i>	PB		B	B	B	B
Veery	<i>Catharus fuscescens</i>	PB		B	B	B	B
Swainson's Thrush	<i>Catharus ustulatus</i>	PB		B	B	B	B
Hermit Thrush	<i>Catharus guttatus</i>	PB		B	B	B	B
Wood Thrush	<i>Hylocichla mustelina</i>	PB		B	m	B	B
American Robin	<i>Turdus migratorius</i>	PB		B	B	B	B
Gray Catbird	<i>Dumetella carolinensis</i>	PB		B	B	B	B
Brown Thrasher	<i>Toxostoma rufum</i>	PB		B	B	B	B
European Starling	<i>Sturnus vulgaris</i>	UB		PR	PR	PR	PR
Cedar Waxwing	<i>Bombycilla cedrorum</i>	PB		B	B	B	B
Blue-headed Vireo	<i>Vireo solitarius</i>	PB		B	B	B	B
Yellow-throated Vireo	<i>Vireo flavifrons</i>	PB		B	B	a	a
Warbling Vireo	<i>Vireo gilvus</i>	PB		B	B	a	a
Philadelphia Vireo	<i>Vireo philadelphicus</i>	PB		m	B	B	B
Red-eyed Vireo	<i>Vireo olivaceus</i>	PB		B	B	B	B

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	PB		B	B	B	B
Tennessee Warbler	<i>Vermivora peregrina</i>	PB		m	B	B	B
Nashville Warbler	<i>Vermivora ruficapilla</i>	PB		B	B	B	B
Northern Parula	<i>Parula americana</i>	PB		B	B	B	B
Yellow Warbler	<i>Dendroica petechia</i>	PB		B	B	B	B
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	PB		B	B	B	B
Magnolia Warbler	<i>Dendroica magnolia</i>	PB		B	B	B	B
Cape May Warbler	<i>Dendroica tigrina</i>	PB		m	B	B	B
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	PB		m/sv	m	m	B
Yellow-rumped Warbler	<i>Dendroica coronata</i>	PB		B	B	B	B
Black-throated Green Warbler	<i>Dendroica virens</i>	PB		B	B	B	B
Blackburnian Warbler	<i>Dendroica fusca</i>	PB		B	B	B	B
Pine Warbler	<i>Dendroica pinus</i>	PB		B	B	m	m
Palm Warbler	<i>Dendroica palmarum</i>	PB		m	B	B	m
Bay-breasted Warbler	<i>Dendroica castanea</i>	PB		m	B	m	B
Black-and-white Warbler	<i>Mniotilta varia</i>	PB		B	B	B	B
American Redstart	<i>Setophaga ruticilla</i>	PB		B	B	B	B
Ovenbird	<i>Seiurus aurocapillus</i>	PB		B	B	B	B
Northern Waterthrush	<i>Seiurus noveboracensis</i>	PB		B	B	B	B
Connecticut Warbler	<i>Oporornis agilis</i>	PB		B	B	B	B
Mourning Warbler	<i>Oporornis philadelphia</i>	PB		B	B	B	B
Common Yellowthroat	<i>Geothlypis trichas</i>	PB		B	B	B	B
Wilson's Warbler	<i>Wilsonia pusilla</i>	PB		m	m	m	B
Canada Warbler	<i>Wilsonia canadensis</i>	PB		B	B	B	B
Scarlet Tanager	<i>Piranga olivacea</i>	PB		B	B	B	B
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	PB		B	B	B	B
Indigo Bunting	<i>Passerina cyanea</i>	PB		B	B	B	B
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	PB		m	B	m	m
Chipping Sparrow	<i>Spizella passerina</i>	PB		B	B	B	B
Clay-colored Sparrow	<i>Spizella pallida</i>	PB		B	B	B	B

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Vesper Sparrow	<i>Pooecetes gramineus</i>	PB		B	B	a	a
Savannah Sparrow	<i>Passerculus sandwichensis</i>	PB		B	B	B	B
Le Conte's Sparrow	<i>Ammodramus leconteii</i>	PB		B	B	B	B
Nelson's Sharp-tailed Sparrow+A178	<i>Ammodramus nelsoni</i>	PB, SC		B	B	a	a
Song Sparrow	<i>Melospiza melodia</i>	PB		B	B	B	B
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	PB		B	B	B	B
Swamp Sparrow	<i>Melospiza georgiana</i>	PB		B	B	B	B
White-throated Sparrow	<i>Zonotrichia albicollis</i>	PB		B	B	B	B
Dark-eyed Junco	<i>Junco hyemalis</i>	PB		B	B	B	B
Bobolink	<i>Dolichonyx oryzivorus</i>	PB		B	B	B	B
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	UB		B	B	B	B
Eastern Meadowlark	<i>Sturnella magna</i>	PB		B	a	B	B
Western Meadowlark	<i>Sturnella neglecta</i>	PB		B	B	a	a
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	UB		B	B	a	a
Rusty Blackbird	<i>Euphagus carolinus</i>	UB		m	m	m	B
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	UB		B	B	B	a
Common Grackle	<i>Quiscalus quiscula</i>	UB		B	B	B	B
Brown-headed Cowbird	<i>Molothrus ater</i>	PB		B	B	B	B
Baltimore Oriole	<i>Icterus galbula</i>	PB		B	B	B	B
Purple Finch	<i>Carpodacus purpureus</i>	PB		B	B	B	B
House Finch	<i>Carpodacus mexicanus</i>	PB		PR	PR	PR	a
Red Crossbill	<i>Loxia curvirostra</i>	PB		wv	wv	wv	B
White-winged Crossbill	<i>Loxia leucoptera</i>	PB		wv	wv	wv	B
Pine Siskin	<i>Carduelis pinus</i>	PB		PR	PR	PR	PR
American Goldfinch	<i>Carduelis tristis</i>	PB		B	B	B	B
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	PB		PR	PR	PR	PR
House Sparrow	<i>Passer domesticus</i>	UB		PR	PR	PR	PR

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
MAMMALS (n=56)							
Cinereus Shrew	<i>Sorex cinereus</i>			PR	PR	PR	PR
Water Shrew	<i>Sorex palustris</i>			PR	PR	PR	PR
Smoky Shrew	<i>Sorex fumeus</i>	SC		a	a	a	PR
Arctic Shrew	<i>Sorex arcticus</i>			PR	PR	PR	PR
Pygmy Shrew	<i>Sorex hoyi</i>			PR	PR	PR	PR
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>			PR	PR	PR	PR
Star-nosed Mole	<i>Condylura cristata</i>			PR	PR	PR	PR
Little Brown Bat	<i>Myotis lucifugus</i>			B	B	PR	B
Northern Myotis	<i>Myotis septentrionalis</i>	SC		B	a	B	PR
Silver-haired Bat	<i>Lasionycteris noctivagans</i>			B	B	B	B
Eastern Pipistrelle	<i>Pipistrellus subflavus</i>	SC		a	a	a	PR
Big Brown Bat	<i>Eptesicus fuscus</i>			B	B	PR	B
Eastern Red Bat	<i>Lasiurus borealis</i>			B	B	B	B
Hoary Bat	<i>Lasiurus cinereus</i>			B	B	B	B
Eastern Cottontail	<i>Sylvilagus floridanus</i>	PWA, SG		PR	a	PR	a
Snowshoe Hare	<i>Lepus americanus</i>	PWA, SG		PR	PR	PR	PR
Least Chipmunk	<i>Tamias minimus</i>			PR	PR	PR	PR
Eastern Chipmunk	<i>Tamias striatus</i>			PR	PR	PR	PR
Woodchuck	<i>Marmota monax</i>			PR	PR	PR	PR
Thirteen-lined Ground Squirrel	<i>Spermophilus tridecemlineatus</i>			PR	PR	PR	a
Franklin's Ground Squirrel	<i>Spermophilus franklinii</i>			PR	PR	PR	a
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	PWA, SG		PR	a	PR	a
Eastern Fox Squirrel	<i>Sciurus niger</i>	PWA, SG		PR	a	a	a
Red Squirrel	<i>Tamiasciurus hudsonicus</i>			PR	PR	PR	PR
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>			PR	PR	PR	PR
American Beaver	<i>Castor canadensis</i>	PWA, SG, F		PR	PR	PR	PR
Woodland Deer Mouse	<i>Peromyscus maniculatus gracilis</i>			PR	PR	PR	PR
White-footed Mouse	<i>Peromyscus leucopus</i>			PR	PR	a	a
Southern Red-backed Vole	<i>Clethrionomys gapperi</i>			PR	PR	PR	PR

Common Name	Scientific Name	MN legal status	Federal legal status	St. Louis Moraines	Tamarack Lowlands	Nashwauk Uplands	Littlefork-Vermilion Uplands
Eastern Heather Vole	<i>Phenacomys ungava</i>	SC		a	a	a	PR
Meadow Vole	<i>Microtus pennsylvanicus</i>			PR	PR	PR	PR
Rock Vole	<i>Microtus chrotorrhinus</i>			a	a	a	PR
Muskrat	<i>Ondatra zibethicus</i>	PWA, SG, F		PR	PR	PR	PR
Southern Bog Lemming	<i>Synaptomys cooperi</i>			PR	PR	PR	PR
Northern Bog Lemming	<i>Synaptomys borealis</i>	SC		PR (L)	PR	a	a
Meadow Jumping Mouse	<i>Zapus hudsonius</i>			PR	PR	PR	PR
Woodland Jumping Mouse	<i>Napaeozapus insignis</i>			PR	PR	PR	PR
North American Porcupine	<i>Erethizon dorsatum</i>	UWA		PR	PR	PR	PR
Coyote	<i>Canis latrans</i>	UWA		PR	PR	PR	PR
Gray Wolf	<i>Canis lupus</i>	SC	T	PR	PR	PR	PR
Red Fox	<i>Vulpes vulpes</i>	PWA, SG, F		PR	PR	PR	PR
Gray Fox	<i>Urocyon cinereoargenteus</i>	PWA, SG, F		PR	PR	a	a
American Black Bear	<i>Ursus americanus</i>	PWA, BG		PR	PR	PR	PR
Northern Raccoon	<i>Procyon lotor</i>	PWA, SG, F		PR	PR	PR	PR
American Marten	<i>Martes americana</i>	PWA, SG, F		PR	PR	PR	PR
Fisher	<i>Martes pennanti</i>	PWA, SG, F		PR	PR	PR	PR
Ermine	<i>Mustela erminea</i>	UWA		PR	PR	PR	PR
Least Weasel	<i>Mustela nivalis</i>	UWA, SC		a	PR	a	a
American Mink	<i>Mustela vison</i>	PWA, SG, F		PR	PR	PR	PR
American Badger	<i>Taxidea taxus</i>	PWA, SG, F		PR	PR	PR	a
Striped Skunk	<i>Mephitis mephitis</i>	UWA		PR	PR	PR	PR
Northern River Otter	<i>Lontra canadensis</i>	PWA, SG, F		PR	PR	PR	PR
Canada Lynx	<i>Lynx canadensis</i>	PWA, SG, F	T	PR	PR	PR	PR
Bobcat	<i>Lynx rufus</i>	PWA, SG, F		PR	PR	PR	a
White-tailed Deer	<i>Odocoileus virginianus</i>	PWA, BG		PR	PR	PR	PR
Moose	<i>Alces alces</i>	PWA, BG		a	PR	PR	PR

Appendix L

Terrestrial Vertebrate Habitat Relationships in the North 4 Subsections

Table 7.9: Terrestrial Vertebrate Habitat Relationships by Minnesota Gap Analysis Project (MN-GAP) Land Cover Type

SPECIES GROUP Species common name	Habitat feature	Non-Forest land cover types>>>					Forest land cover types>>>										Forest size class											
		Urban/ Dev.	Ag./Gras s	Shrub	Aquatic	Upland Coniferous Forest	Lowland Coniferous Forest					Upland Deciduous Forest			Lowland Deciduous Forest		Forest size class											
		High intensity urban Low intensity urban Transportation	Cropland Grassland Prairie	Upland shrub Lowland deciduous shrub Lowland evergreen shrub	Water Floating aquatic Sedge Meadow Broadleaf sedge/Cattail		Lowland Black Spruce Stagnant black spruce Tamarack Stagnant tamarack Low. N. White Cedar Stagnant N. White Cedar Stagnant conifer	Upland Deciduous Forest			Lowland Deciduous Forest																	
MAMMALS																												
INSECTIVORES																												
Shrew	D	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Arctic Shrew	R			Y	Y	Y	Y																				Y	
Cinereus Shrew	D		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Pygmy Shrew	D		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Water Shrew	DR				Y	Y	Y	Y																			Y	
Smoky Shrew	D	Y								Y	Y			Y												Y	Y	
Star-nosed Mole	DR				Y	Y	Y																				Y	
BATS																												
Big Brown Bat	CR S	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	
Silver-haired Bat	CR S					Y		Y	Y	Y		Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	
Eastern Pipistrelle	MC ER	Y	Y	Y	Y	Y	Y											Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Eastern Red Bat	CR	Y	Y	Y	Y	Y	Y			Y	Y							Y	Y	Y	Y	Y	Y	Y	Y		Y	
Hoary Bat	R	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	
Little Brown Bat	CR S		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Northern Myotis	CR S	Y	Y					Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
CARNIVORES																												
Coyote	M	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gray Wolf	M		Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gray Fox	CD M		Y	Y	Y	Y												Y	Y	Y	Y	Y	Y	Y	Y		Y	
Red Fox		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Bobcat	CD				Y	Y				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Canada Lynx				Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Northern River Otter					Y	Y	Y	Y																				
American Marten	CD S								Y	Y	Y	Y	Y	Y	Y	Y	Y									Y	Y	
Fisher	CD RS				Y					Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Ermine	DR			Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Least Weasel		Y		Y	Y	Y	Y	Y	Y	Y								Y										

SPECIES GROUP Species common name	Habitat feature	Non-Forest land cover types>>>							Forest land cover types>>>										Forest size class																																		
		Urban/ Dev.	Ag./Grass	Shrub	Aquatic	Upland Coniferous Forest	Lowland Coniferous Forest	Upland Deciduous Forest	Lowland Deciduous Forest	Upland Coniferous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest	Upland Deciduous Forest																												
SWIFTS																																																					
Chimney Swift	CS	Y	Y	Y																									Y	Y	Y	Y																					
HIMMINGBIRDS																																																					
Ruby-throated Hummingbird	R		Y		Y	Y																							Y				Y	Y	Y						Y	Y											
KINGFISHERS																																																					
Belted Kingfisher	B	Y						Y	Y	Y																																											
WOODPECKERS																																																					
Red-headed Woodpecker	CM S																																												Y	Y							
Yellow-bellied Sapsucker	CM S																									Y																											
Downy Woodpecker	CD S																								Y																												
Hairy Woodpecker	CD S																	Y	Y	Y																																	
Three-toed Woodpecker	CD S																		Y			Y	Y																														
Black-backed Woodpecker	CD S																																																				
Northern Flicker	CS																																																				
Pileated Woodpecker	CD MS																																																				
FLYCATCHERS																																																					
Eastern Kingbird	MR S		Y			Y	Y	Y	Y											Y	Y	Y	Y																														
Olive-sided Flycatcher	RS																																																				
Eastern Wood-Pewee			Y																																																		
Yellow-bellied Flycatcher	D																																																				
Alder Flycatcher	R																																																				
Least Flycatcher																																																					
Eastern Phoebe	R		Y	Y																																																	
Great Crested Flycatcher	CS		Y																																																		
VIREOS																																																					
Yellow-throated Vireo	R		Y																																																		
Blue-headed Vireo																																																					
Warbling Vireo	R		Y																																																		
Philadelphia Vireo	ER																																																				
Red-eyed Vireo																																																					
JAYS, CROWS AND RAVENS																																																					
Gray Jay	M																																																				
Blue Jay	M																																																				
Black-billed Magpie																																																					
American Crow	M		Y																																																		
Common Raven	M																																																				
LARKS																																																					
Horned Lark		Y		Y	Y	Y	Y																																														

APPENDIX M

Species of Greatest Conservation Need in the North 4 Subsections

Table 7.10: Species With Greatest Conservation Need by Subsection

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland
Littlefork-Vermillion Uplands	<i>Acipenser fulvescens</i>	Lake Sturgeon	SPC	2									1					1			
Littlefork-Vermillion Uplands	<i>Ammodramus leconteii</i>	Le Conte's Sparrow	NL	4								1			1					1	
Littlefork-Vermillion Uplands	<i>Anas rubripes</i>	American Black Duck	NL	9			1	1	1	1	1		1								1
Littlefork-Vermillion Uplands	<i>Arenaria interpres</i>	Ruddy Turnstone	NL	3															1		
Littlefork-Vermillion Uplands	<i>Botaurus lentiginosus</i>	American Bittern	NL	6			1				1				1	1				1	
Littlefork-Vermillion Uplands	<i>Calidris alpina</i>	Dunlin	NL	3															1		
Littlefork-Vermillion Uplands	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NL	2															1		
Littlefork-Vermillion Uplands	<i>Canis lupus</i>	Gray Wolf	SPC	11	1		1		1	1	1	1			1				1	1	1
Littlefork-Vermillion Uplands	<i>Caprimulgus vociferus</i>	Whip-poor-will	NL	2					1	1											
Littlefork-Vermillion Uplands	<i>Catharus fuscescens</i>	Veery	NL	5			1	1	1	1	1										
Littlefork-Vermillion Uplands	<i>Chelydra serpentina</i>	Common Snapping Turtle	SPC	5									1	1			1	1			
Littlefork-Vermillion Uplands	<i>Chordeiles minor</i>	Common Nighthawk	NL	2		1													1		
Littlefork-Vermillion Uplands	<i>Cicindela denikei</i>	A Tiger Beetle	THR	4		1			1	1									1		
Littlefork-Vermillion Uplands	<i>Circus cyaneus</i>	Northern Harrier	NL	6			1					1			1					1	1
Littlefork-Vermillion Uplands	<i>Cistothorus platensis</i>	Sedge Wren	NL	5			1				1				1					1	
Littlefork-Vermillion Uplands	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	NL	6				1	1	1	1									1	1
Littlefork-Vermillion Uplands	<i>Contopus cooperi</i>	Olive-sided Flycatcher	NL	4			1		1											1	1
Littlefork-Vermillion Uplands	<i>Contopus virens</i>	Eastern Wood-pewee	NL	5				1	1	1	1				1						

St. Louis Moraines, Littlefork-Vermilion Uplands, Tamarack Lowlands, and Nashwauk Uplands SFRMP

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
Littlefork-Vermillion Uplands	<i>Coturnicops noveboracensis</i>	Yellow Rail	SPC	3			1														1	
Littlefork-Vermillion Uplands	<i>Cygnus buccinator</i>	Trumpeter Swan	THR	2										1								
Littlefork-Vermillion Uplands	<i>Dendroica castanea</i>	Bay-breasted Warbler	NL	2			1		1													
Littlefork-Vermillion Uplands	<i>Dendroica tigrina</i>	Cape May Warbler	NL	2			1		1													
Littlefork-Vermillion Uplands	<i>Dolichonyx oryzivorus</i>	Bobolink	NL	6	1							1			1						1	1
Littlefork-Vermillion Uplands	<i>Empidonax minimus</i>	Least Flycatcher	NL	4				1	1	1	1											
Littlefork-Vermillion Uplands	<i>Epidemia epixanthe michiganensis</i>	Bog Copper	NL	2			1														1	
Littlefork-Vermillion Uplands	<i>Erebia disa mancinus</i>	Disa Alpine	SPC	1			1															
Littlefork-Vermillion Uplands	<i>Falciennis canadensis</i>	Spruce Grouse	NL	4			1		1												1	1
Littlefork-Vermillion Uplands	<i>Gavia immer</i>	Common Loon	NL	1									1									
Littlefork-Vermillion Uplands	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SPC	7				1	1	1	1		1				1					1
Littlefork-Vermillion Uplands	<i>Hylocichla mustelina</i>	Wood Thrush	NL	3					1	1	1											
Littlefork-Vermillion Uplands	<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	SPC	1													1					
Littlefork-Vermillion Uplands	<i>Lasmigona compressa</i>	Creek Heelsplitter	SPC	1													1					
Littlefork-Vermillion Uplands	<i>Ligumia recta</i>	Black Sandshell	SPC	2													1	1				
Littlefork-Vermillion Uplands	<i>Limnodromus griseus</i>	Short-billed Dowitcher	NL	2																		
Littlefork-Vermillion Uplands	<i>Lycaeides idas nabokovi</i>	Nabokov's Blue	SPC	2					1													1
Littlefork-Vermillion Uplands	<i>Lynx canadensis</i>	Canada lynx	NL	7			1	1	1	1	1										1	1
Littlefork-Vermillion Uplands	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	NL	8	1	1		1		1	1	1			1							1
Littlefork-Vermillion Uplands	<i>Melospiza georgiana</i>	Swamp Sparrow	NL	3			1														1	
Littlefork-Vermillion Uplands	<i>Moxostoma valenciennesi</i>	Greater Redhorse	NL	1													1					
Littlefork-Vermillion Uplands	<i>Oeneis macounii</i>	Macoun's Arctic	NL	1					1													
Littlefork-Vermillion Uplands	<i>Oporornis agilis</i>	Connecticut Warbler	NL	2			1		1													
Littlefork-Vermillion Uplands	<i>Oxyethira itascaae</i>	A Caddisfly	SPC	1													1					

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
Littlefork-Vermillion Uplands	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NL	5			1	1	1	1					1							
Littlefork-Vermillion Uplands	<i>Phyciodes batesii</i>	Tawny Crescent	NL	2					1													1
Littlefork-Vermillion Uplands	<i>Picoides arcticus</i>	Black-backed Woodpecker	NL	3			1		1													1
Littlefork-Vermillion Uplands	<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	NL	3					1	1	1											
Littlefork-Vermillion Uplands	<i>Pluvialis dominica</i>	American Golden-plover	NL	3																1		
Littlefork-Vermillion Uplands	<i>Podiceps grisegena</i>	Red-necked Grebe	NL	2										1								
Littlefork-Vermillion Uplands	<i>Poecile hudsonica</i>	Boreal Chickadee	NL	2			1		1													
Littlefork-Vermillion Uplands	<i>Pyrgus centaureae freija</i>	Grizzled Skipper	SPC	1																		1
Littlefork-Vermillion Uplands	<i>Rallus limicola</i>	Virginia Rail	NL	3										1							1	
Littlefork-Vermillion Uplands	<i>Scolopax minor</i>	American Woodcock	NL	4						1		1									1	1
Littlefork-Vermillion Uplands	<i>Seiurus aurocapillus</i>	Ovenbird	NL	4				1	1	1	1											
Littlefork-Vermillion Uplands	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	NL	4				1	1	1	1											
Littlefork-Vermillion Uplands	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	NL	3									1				1		1			
Littlefork-Vermillion Uplands	<i>Sturnella magna</i>	Eastern Meadowlark	NL	2									1			1						
Littlefork-Vermillion Uplands	<i>Synaptomys borealis</i>	Northern Bog Lemming	SPC	3			1														1	
Littlefork-Vermillion Uplands	<i>Taxidea taxus</i>	American Badger	NL	7	1	1			1		1	1				1						1
Littlefork-Vermillion Uplands	<i>Toxostoma rufum</i>	Brown Thrasher	NL	2		1																1
Littlefork-Vermillion Uplands	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NL	3																1		
Littlefork-Vermillion Uplands	<i>Troglodytes troglodytes</i>	Winter Wren	NL	3			1	1	1													
Littlefork-Vermillion Uplands	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	NL	4	1	1							1			1						
Littlefork-Vermillion Uplands	<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse	NL	6	1								1			1					1	1
Littlefork-Vermillion Uplands	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	NL	3			1			1											1	
Littlefork-Vermillion Uplands	<i>Wilsonia canadensis</i>	Canada Warbler	NL	4			1		1	1	1											
Littlefork-Vermillion Uplands	<i>Zonotrichia albicollis</i>	White-throated Sparrow	NL	7			1	1	1	1	1										1	1

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland
Nashwauk Uplands	<i>Accipiter gentilis</i>	Northern Goshawk	NL	3					1	1	1										
Nashwauk Uplands	<i>Ammodramus leconteii</i>	Le Conte's Sparrow	NL	4								1			1					1	
Nashwauk Uplands	<i>Anas rubripes</i>	American Black Duck	NL	9			1	1	1	1	1	1		1							1
Nashwauk Uplands	<i>Botaurus lentiginosus</i>	American Bittern	NL	6			1					1			1	1				1	
Nashwauk Uplands	<i>Calidris alpina</i>	Dunlin	NL	3															1		
Nashwauk Uplands	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NL	2															1		
Nashwauk Uplands	<i>Canis lupus</i>	Gray Wolf	SPC	11	1		1		1	1	1	1			1				1	1	1
Nashwauk Uplands	<i>Caprimulgus vociferus</i>	Whip-poor-will	NL	2					1		1										
Nashwauk Uplands	<i>Catharus fuscescens</i>	Veery	NL	5			1	1	1	1	1										
Nashwauk Uplands	<i>Chelydra serpentina</i>	Common Snapping Turtle	SPC	5									1	1			1	1			
Nashwauk Uplands	<i>Chordeiles minor</i>	Common Nighthawk	NL	2		1													1		
Nashwauk Uplands	<i>Circus cyaneus</i>	Northern Harrier	NL	6			1					1			1					1	1
Nashwauk Uplands	<i>Cistothorus platensis</i>	Sedge Wren	NL	5			1					1			1					1	
Nashwauk Uplands	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	NL	6				1	1	1	1									1	1
Nashwauk Uplands	<i>Contopus cooperi</i>	Olive-sided Flycatcher	NL	4			1		1											1	1
Nashwauk Uplands	<i>Contopus virens</i>	Eastern Wood-pewee	NL	5				1	1	1	1				1						
Nashwauk Uplands	<i>Dendroica tigrina</i>	Cape May Warbler	NL	2			1		1												
Nashwauk Uplands	<i>Dolichonyx oryzivorus</i>	Bobolink	NL	6	1							1			1					1	1
Nashwauk Uplands	<i>Empidonax minimus</i>	Least Flycatcher	NL	4				1	1	1	1										
Nashwauk Uplands	<i>Epidemia epixanthe michiganensis</i>	Bog Copper	NL	2			1													1	
Nashwauk Uplands	<i>Erebia disa mancinus</i>	Disa Alpine	SPC	1			1														
Nashwauk Uplands	<i>Falcapennis canadensis</i>	Spruce Grouse	NL	4			1		1											1	1
Nashwauk Uplands	<i>Falco peregrinus</i>	Peregrine Falcon	THR	11		1	1					1		1	1			1	1	1	1
Nashwauk Uplands	<i>Gavia immer</i>	Common Loon	NL	1									1								

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
Nashwauk Uplands	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SPC	7				1	1	1	1		1									1
Nashwauk Uplands	<i>Hylocichla mustelina</i>	Wood Thrush	NL	3					1	1	1											
Nashwauk Uplands	<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	SPC	1													1					
Nashwauk Uplands	<i>Lasmigona compressa</i>	Creek Heelsplitter	SPC	1													1					
Nashwauk Uplands	<i>Ligumia recta</i>	Black Sandshell	SPC	2													1	1				
Nashwauk Uplands	<i>Limnodromus griseus</i>	Short-billed Dowitcher	NL	2																		
Nashwauk Uplands	<i>Lycaeides idas nabokovi</i>	Nabokov's Blue	SPC	2					1													1
Nashwauk Uplands	<i>Lynx canadensis</i>	Canada lynx	NL	7			1	1	1	1	1										1	1
Nashwauk Uplands	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	NL	8	1	1		1		1	1	1			1							1
Nashwauk Uplands	<i>Melospiza georgiana</i>	Swamp Sparrow	NL	3			1														1	
Nashwauk Uplands	<i>Oeneis macounii</i>	Macoun's Arctic	NL	1					1													
Nashwauk Uplands	<i>Oporomis agilis</i>	Connecticut Warbler	NL	2			1		1													
Nashwauk Uplands	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NL	5				1	1	1	1				1							
Nashwauk Uplands	<i>Phyciodes batesii</i>	Tawny Crescent	NL	2					1													1
Nashwauk Uplands	<i>Picoides arcticus</i>	Black-backed Woodpecker	NL	3			1		1													1
Nashwauk Uplands	<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	NL	3					1	1	1											
Nashwauk Uplands	<i>Pluvialis dominica</i>	American Golden-plover	NL	3																1		
Nashwauk Uplands	<i>Podiceps grisegena</i>	Red-necked Grebe	NL	2										1								
Nashwauk Uplands	<i>Poecile hudsonica</i>	Boreal Chickadee	NL	2			1		1													
Nashwauk Uplands	<i>Pyrgus centaureae freija</i>	Grizzled Skipper	SPC	1																		1
Nashwauk Uplands	<i>Rallus limicola</i>	Virginia Rail	NL	3										1							1	
Nashwauk Uplands	<i>Scolopax minor</i>	American Woodcock	NL	4						1		1									1	1
Nashwauk Uplands	<i>Seiurus aurocapillus</i>	Ovenbird	NL	4				1	1	1	1											
Nashwauk Uplands	<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel	NL	5								1			1						1	1

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
Nashwauk Uplands	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	NL	4			1		1	1	1											
Nashwauk Uplands	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	NL	3								1					1		1			
Nashwauk Uplands	<i>Sturnella magna</i>	Eastern Meadowlark	NL	2								1			1							
Nashwauk Uplands	<i>Taxidea taxus</i>	American Badger	NL	7	1	1			1		1	1			1							1
Nashwauk Uplands	<i>Toxostoma rufum</i>	Brown Thrasher	NL	2		1																1
Nashwauk Uplands	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NL	3															1			
Nashwauk Uplands	<i>Troglodytes troglodytes</i>	Winter Wren	NL	3			1	1	1													
Nashwauk Uplands	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	NL	4	1	1						1			1							
Nashwauk Uplands	<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse	NL	6	1							1			1					1		1
Nashwauk Uplands	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	NL	3			1			1											1	
Nashwauk Uplands	<i>Wilsonia canadensis</i>	Canada Warbler	NL	4			1		1	1	1											
Nashwauk Uplands	<i>Zonotrichia albicollis</i>	White-throated Sparrow	NL	7			1	1	1	1	1										1	1
St. Louis Moraines	<i>Accipiter gentilis</i>	Northern Goshawk	NL	3					1	1	1											
St. Louis Moraines	<i>Acipenser fulvescens</i>	Lake Sturgeon	SPC	2									1					1				
St. Louis Moraines	<i>Ammodramus leconteii</i>	Le Conte's Sparrow	NL	4								1			1						1	
St. Louis Moraines	<i>Ammodramus nelsoni</i>	Nelson's Sharp-tailed Sparrow	SPC	5			1					1			1						1	
St. Louis Moraines	<i>Anas rubripes</i>	American Black Duck	NL	9			1	1	1	1	1	1		1								1
St. Louis Moraines	<i>Arenaria interpres</i>	Ruddy Turnstone	NL	3															1			
St. Louis Moraines	<i>Bartramia longicauda</i>	Upland Sandpiper	NL	6	1							1			1					1		1
St. Louis Moraines	<i>Botaurus lentiginosus</i>	American Bittern	NL	6			1					1			1	1				1		
St. Louis Moraines	<i>Buteo lineatus</i>	Red-shouldered Hawk	SPC	3				1		1	1											
St. Louis Moraines	<i>Calidris alpina</i>	Dunlin	NL	3																1		
St. Louis Moraines	<i>Calidris fuscicollis</i>	White-rumped Sandpiper	NL	3																1		
St. Louis Moraines	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NL	2																1		

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
St. Louis Moraines	<i>Canis lupus</i>	Gray Wolf	SPC	11	1		1		1	1	1	1				1				1	1	1
St. Louis Moraines	<i>Caprimulgus vociferus</i>	Whip-poor-will	NL	2						1		1										
St. Louis Moraines	<i>Catharus fuscescens</i>	Veery	NL	5			1	1	1	1	1											
St. Louis Moraines	<i>Chelydra serpentina</i>	Common Snapping Turtle	SPC	5									1	1			1	1				
St. Louis Moraines	<i>Chlidonias niger</i>	Black Tern	NL	3										1								
St. Louis Moraines	<i>Chordeiles minor</i>	Common Nighthawk	NL	2		1														1		
St. Louis Moraines	<i>Circus cyaneus</i>	Northern Harrier	NL	6			1					1				1					1	1
St. Louis Moraines	<i>Cistothorus palustris</i>	Marsh Wren	NL	4			1							1							1	
St. Louis Moraines	<i>Cistothorus platensis</i>	Sedge Wren	NL	5			1					1				1					1	
St. Louis Moraines	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	NL	6				1	1	1	1										1	1
St. Louis Moraines	<i>Contopus cooperi</i>	Olive-sided Flycatcher	NL	4			1		1												1	1
St. Louis Moraines	<i>Contopus virens</i>	Eastern Wood-pewee	NL	5				1	1	1	1					1						
St. Louis Moraines	<i>Coturnicops noveboracensis</i>	Yellow Rail	SPC	3			1														1	
St. Louis Moraines	<i>Cygnus buccinator</i>	Trumpeter Swan	THR	2										1								
St. Louis Moraines	<i>Dolichonyx oryzivorus</i>	Bobolink	NL	6	1							1				1					1	1
St. Louis Moraines	<i>Empidonax minimus</i>	Least Flycatcher	NL	4				1	1	1	1											
St. Louis Moraines	<i>Epidemia epixanthe michiganensis</i>	Bog Copper	NL	2			1														1	
St. Louis Moraines	<i>Etheostoma microperca</i>	Least Darter	SPC	2									1				1					
St. Louis Moraines	<i>Gavia immer</i>	Common Loon	NL	1									1									
St. Louis Moraines	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SPC	7				1	1	1	1		1				1					1
St. Louis Moraines	<i>Hemidactylium scutatum</i>	Four-toed Salamander	SPC	5						1	1	1									1	1
St. Louis Moraines	<i>Hylocichla mustelina</i>	Wood Thrush	NL	3						1	1	1										
St. Louis Moraines	<i>Ichthyomyzon fossor</i>	Northern Brook Lamprey	SPC	1														1				
St. Louis Moraines	<i>Lasmigona compressa</i>	Creek Heelsplitter	SPC	1													1					

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland
St. Louis Moraines	<i>Lepomis megalotis</i>	Longear Sunfish	NL	2									1				1				
St. Louis Moraines	<i>Ligumia recta</i>	Black Sandshell	SPC	2													1	1			
St. Louis Moraines	<i>Limnodromus griseus</i>	Short-billed Dowitcher	NL	2																	
St. Louis Moraines	<i>Lynx canadensis</i>	Canada lynx	NL	7			1	1	1	1	1									1	1
St. Louis Moraines	<i>Marpissa grata</i>	A Jumping Spider	SPC	3								1			1						
St. Louis Moraines	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	NL	8	1	1		1		1	1	1			1						1
St. Louis Moraines	<i>Melospiza georgiana</i>	Swamp Sparrow	NL	3			1													1	
St. Louis Moraines	<i>Moxostoma valenciennesi</i>	Greater Redhorse	NL	1													1				
St. Louis Moraines	<i>Notropis anogenus</i>	Pugnose Shiner	SPC	2									1				1				
St. Louis Moraines	<i>Oeneis macounii</i>	Macoun's Arctic	NL	1					1												
St. Louis Moraines	<i>Oporornis agilis</i>	Connecticut Warbler	NL	2			1		1												
St. Louis Moraines	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NL	5				1	1	1	1				1						
St. Louis Moraines	<i>Phyciodes batesii</i>	Tawny Crescent	NL	2					1												1
St. Louis Moraines	<i>Picoides arcticus</i>	Black-backed Woodpecker	NL	3			1		1												1
St. Louis Moraines	<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	NL	3					1	1	1										
St. Louis Moraines	<i>Pluvialis dominica</i>	American Golden-plover	NL	3																1	
St. Louis Moraines	<i>Podiceps grisegena</i>	Red-necked Grebe	NL	2										1							
St. Louis Moraines	<i>Poecile hudsonica</i>	Boreal Chickadee	NL	2			1		1												
St. Louis Moraines	<i>Polycentropus milaca</i>	A Caddisfly	SPC	1									1								
St. Louis Moraines	<i>Pyrgus centaureae freija</i>	Grizzled Skipper	SPC	1																	1
St. Louis Moraines	<i>Rallus limicola</i>	Virginia Rail	NL	3										1						1	
St. Louis Moraines	<i>Scolopax minor</i>	American Woodcock	NL	4						1	1									1	1
St. Louis Moraines	<i>Seiurus aurocapillus</i>	Ovenbird	NL	4			1	1	1	1											
St. Louis Moraines	<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel	NL	5								1			1					1	1

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
St. Louis Moraines	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	NL	4			1		1	1	1											
St. Louis Moraines	<i>Spilogale putorius</i>	Eastern Spotted Skunk	THR	8		1		1		1	1	1				1					1	1
St. Louis Moraines	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	NL	3								1					1		1			
St. Louis Moraines	<i>Sturnella magna</i>	Eastern Meadowlark	NL	2								1			1							
St. Louis Moraines	<i>Synaptomys borealis</i>	Northern Bog Lemming	SPC	3			1													1		
St. Louis Moraines	<i>Taxidea taxus</i>	American Badger	NL	7	1	1			1		1	1			1							1
St. Louis Moraines	<i>Toxostoma rufum</i>	Brown Thrasher	NL	2		1																1
St. Louis Moraines	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NL	3															1			
St. Louis Moraines	<i>Troglodytes troglodytes</i>	Winter Wren	NL	3			1	1	1													
St. Louis Moraines	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	NL	4	1	1						1			1							
St. Louis Moraines	<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse	NL	6	1							1			1						1	1
St. Louis Moraines	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	NL	3			1			1											1	
St. Louis Moraines	<i>Wilsonia canadensis</i>	Canada Warbler	NL	4			1		1	1	1											
St. Louis Moraines	<i>Zonotrichia albicollis</i>	White-throated Sparrow	NL	7			1	1	1	1	1										1	1
Tamarack Lowlands	<i>Accipiter gentilis</i>	Northern Goshawk	NL	3					1	1	1											
Tamarack Lowlands	<i>Acipenser fulvescens</i>	Lake Sturgeon	SPC	2									1					1				
Tamarack Lowlands	<i>Ammodramus leconteii</i>	Le Conte's Sparrow	NL	4								1			1						1	
Tamarack Lowlands	<i>Ammodramus nelsoni</i>	Nelson's Sharp-tailed Sparrow	SPC	5			1					1			1						1	
Tamarack Lowlands	<i>Anas rubripes</i>	American Black Duck	NL	9			1	1	1	1	1	1		1								1
Tamarack Lowlands	<i>Asio flammeus</i>	Short-eared Owl	SPC	5			1					1			1						1	
Tamarack Lowlands	<i>Bartramia longicauda</i>	Upland Sandpiper	NL	6	1							1			1						1	1
Tamarack Lowlands	<i>Botaurus lentiginosus</i>	American Bittern	NL	6			1					1			1	1					1	
Tamarack Lowlands	<i>Calidris alpina</i>	Dunlin	NL	3																1		
Tamarack Lowlands	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NL	2																1		

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland	
Tamarack Lowlands	<i>Canis lupus</i>	Gray Wolf	SPC	11	1		1		1	1	1	1				1				1	1	1
Tamarack Lowlands	<i>Caprimulgus vociferus</i>	Whip-poor-will	NL	2						1		1										
Tamarack Lowlands	<i>Catharus fuscescens</i>	Veery	NL	5			1	1	1	1	1											
Tamarack Lowlands	<i>Chelydra serpentina</i>	Common Snapping Turtle	SPC	5									1	1				1	1			
Tamarack Lowlands	<i>Chlidonias niger</i>	Black Tern	NL	3										1								
Tamarack Lowlands	<i>Chordeiles minor</i>	Common Nighthawk	NL	2		1														1		
Tamarack Lowlands	<i>Circus cyaneus</i>	Northern Harrier	NL	6			1					1				1					1	1
Tamarack Lowlands	<i>Cistothorus palustris</i>	Marsh Wren	NL	4			1							1							1	
Tamarack Lowlands	<i>Cistothorus platensis</i>	Sedge Wren	NL	5			1					1				1					1	
Tamarack Lowlands	<i>Clemmys insculpta</i>	Wood Turtle	THR	2														1				
Tamarack Lowlands	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	NL	6				1	1	1	1										1	1
Tamarack Lowlands	<i>Contopus cooperi</i>	Olive-sided Flycatcher	NL	4			1		1												1	1
Tamarack Lowlands	<i>Contopus virens</i>	Eastern Wood-pewee	NL	5				1	1	1	1					1						
Tamarack Lowlands	<i>Coturnicops noveboracensis</i>	Yellow Rail	SPC	3			1														1	
Tamarack Lowlands	<i>Couesius plumbeus</i>	Lake Chub	NL	2									1					1				
Tamarack Lowlands	<i>Cygnus buccinator</i>	Trumpeter Swan	THR	2										1								
Tamarack Lowlands	<i>Dendroica tigrina</i>	Cape May Warbler	NL	2			1		1													
Tamarack Lowlands	<i>Dolichonyx oryzivorus</i>	Bobolink	NL	6	1							1				1					1	1
Tamarack Lowlands	<i>Empidonax minimus</i>	Least Flycatcher	NL	4				1	1	1	1											
Tamarack Lowlands	<i>Epidemia epixanthe michiganensis</i>	Bog Copper	NL	2			1														1	
Tamarack Lowlands	<i>Erebia disa mancinus</i>	Disa Alpine	SPC	1			1															
Tamarack Lowlands	<i>Gavia immer</i>	Common Loon	NL	1									1									
Tamarack Lowlands	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SPC	7				1	1	1	1		1					1				1
Tamarack Lowlands	<i>Hylocichla mustelina</i>	Wood Thrush	NL	3					1	1	1											

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland
Tamarack Lowlands	<i>Lasmigona compressa</i>	Creek Heelsplitter	SPC	1													1				
Tamarack Lowlands	<i>Ligumia recta</i>	Black Sandshell	SPC	2													1	1			
Tamarack Lowlands	<i>Limnodromus griseus</i>	Short-billed Dowitcher	NL	2																	
Tamarack Lowlands	<i>Marpissa grata</i>	A Jumping Spider	SPC	3								1			1						
Tamarack Lowlands	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	NL	8	1	1		1		1	1	1				1					1
Tamarack Lowlands	<i>Melospiza georgiana</i>	Swamp Sparrow	NL	3			1													1	
Tamarack Lowlands	<i>Moxostoma valenciennesi</i>	Greater Redhorse	NL	1													1				
Tamarack Lowlands	<i>Oeneis macounii</i>	Macoun's Arctic	NL	1					1												
Tamarack Lowlands	<i>Oporomis agilis</i>	Connecticut Warbler	NL	2			1		1												
Tamarack Lowlands	<i>Phalaropus tricolor</i>	Wilson's Phalarope	THR	3										1							
Tamarack Lowlands	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NL	5				1	1	1	1				1						
Tamarack Lowlands	<i>Phyciodes batesii</i>	Tawny Crescent	NL	2					1												1
Tamarack Lowlands	<i>Picoides arcticus</i>	Black-backed Woodpecker	NL	3			1		1												1
Tamarack Lowlands	<i>Plethodon cinereus</i>	Eastern Red-backed Salamander	NL	3					1	1	1										
Tamarack Lowlands	<i>Pluvialis dominica</i>	American Golden-plover	NL	3																1	
Tamarack Lowlands	<i>Podiceps grisegena</i>	Red-necked Grebe	NL	2										1							
Tamarack Lowlands	<i>Poecile hudsonica</i>	Boreal Chickadee	NL	2			1		1												
Tamarack Lowlands	<i>Pyrgus centaureae freija</i>	Grizzled Skipper	SPC	1																	1
Tamarack Lowlands	<i>Rallus limicola</i>	Virginia Rail	NL	3										1						1	
Tamarack Lowlands	<i>Scolopax minor</i>	American Woodcock	NL	4						1		1								1	1
Tamarack Lowlands	<i>Seiurus aurocapillus</i>	Ovenbird	NL	4				1	1	1	1										
Tamarack Lowlands	<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel	NL	5								1			1					1	1
Tamarack Lowlands	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	NL	4				1	1	1	1										
Tamarack Lowlands	<i>Spilogale putorius</i>	Eastern Spotted Skunk	THR	8		1		1		1	1	1				1				1	1

SubsectionName	Scientific Name	Common Name	State Legal	Tot	Cropland	Developed	Forest- Lowland Conifer	Forest- Lowland Deciduous	Forest- Upland Conifer	Forest- Upland Deciduous (Aspen)	Forest- Upland Deciduous (Hardwood)	Grassland	Lake- Deep	Lake- Shallow	Prairie	Prairie/grassland-wetland complex	River- Headwater to large	River- Very Large	Shoreline-dunes-cliff/talus	Shrub- Lowland	Shrub/woodland- Upland
Tamarack Lowlands	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	NL	3								1					1		1		
Tamarack Lowlands	<i>Sturnella magna</i>	Eastern Meadowlark	NL	2								1			1						
Tamarack Lowlands	<i>Taxidea taxus</i>	American Badger	NL	7	1	1			1		1	1			1						1
Tamarack Lowlands	<i>Toxostoma rufum</i>	Brown Thrasher	NL	2		1															1
Tamarack Lowlands	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NL	3															1		
Tamarack Lowlands	<i>Troglodytes troglodytes</i>	Winter Wren	NL	3			1	1	1												
Tamarack Lowlands	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	NL	4	1	1						1			1						
Tamarack Lowlands	<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse	NL	6	1							1			1					1	1
Tamarack Lowlands	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	NL	3			1			1										1	
Tamarack Lowlands	<i>Wilsonia canadensis</i>	Canada Warbler	NL	4			1		1	1	1										
Tamarack Lowlands	<i>Zonotrichia albicollis</i>	White-throated Sparrow	NL	7			1	1	1	1	1									1	1

APPENDIX N

North 4 Subsections Patch Management

Table 7.11: Designated Patches in the North 4 Subsections, by Area and Size Class

Patch Name	Acres	Size Class	Forestry Area
FPXD10	777	Class 1	Aitkin
FPXD11	904	Class 1	Aitkin
PXD3	917	Class 1	Aitkin
FPXD2	976	Class 1	Aitkin
PXD2	1,200	Class 1	Aitkin
FPXD1	1,513	Class 1	Aitkin
PXD4	1,750	Class 1	Aitkin
FPUD1	326	Class 2	Aitkin
FPWW10	398	Class 2	Aitkin
PUD1	419	Class 2	Aitkin
FPWW12	547	Class 2	Aitkin
FPWW9	559	Class 2	Aitkin
FPUC9	358	Class 2	Backus
FPUC10	409	Class 2	Backus
FPWW19	284	Class 2	Cloquet
FPWW4	646	Class 1	Deer River
FPWW11	341	Class 2	Deer River
FPWW14	389	Class 2	Deer River
FPWW2	458	Class 2	Deer River
FPWW18	496	Class 2	Deer River
FPWW3	497	Class 2	Deer River
PUD3	508	Class 2	Deer River
FPWW16	529	Class 2	Deer River
FPWW13	541	Class 2	Deer River
PUM2	549	Class 2	Deer River
PXD5	557	Class 2	Deer River
FPWW1	587	Class 2	Deer River
PUM1	607	Class 2	Deer River
FPUC13	610	Class 2	Deer River

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Patch Name	Acres	Size Class	Forestry Area
FPWW17	227	Class 3	Deer River
FPXD7	656	Class 1	Hibbing
PXD6	732	Class 1	Hibbing
FPUC8	350	Class 2	Hibbing
FPUC3	365	Class 2	Hibbing
FPUC41	395	Class 2	Hibbing
FPUC1	483	Class 2	Hibbing
FPUC5	597	Class 2	Hibbing
FPXD5	622	Class 2	Hibbing
FPUC2	635	Class 2	Hibbing
FPUC14	106	Class 3	Hibbing
FPUC11	165	Class 3	Hibbing
FPXD9	196	Class 3	Hibbing
FPUC7	202	Class 3	Hibbing
FPUC18	216	Class 3	Hibbing
FPUC15	57	Class 4	Hibbing
FPUC16	26	Class 5	Hibbing
PLD1	34	Class 5	Hibbing
FPXD8	791	Class 1	Hibbing/Deer River
FPUC12	795	Class 1	Littlefork
FPWW8	454	Class 2	Littlefork
PUC4	528	Class 2	Littlefork
FPWW15	580	Class 2	Tower
FPXD4	640	Class 2	Tower

Maps 7.6 and 7.7 on pages 7.124 and 7.125 show the locations of designated patches in the planning area.

APPENDIX O

Special Management Areas and Priority Open Landscapes Available or Considered During Selection of the 10-Year Stand Exam Lists

Special Management Areas for Specific Wildlife Species

Ruffed Grouse Management Areas

Bear River	2,008 acres
Mud Hole	215 acres
Mooseline	614 acres
McNiven	3,557 acres
Peloquin	2,760 acres
Shannon River	988 acres
Stoney Ridge	3,354 acres
Shoe Pack	633 acres
White Corner	875 acres
Whiteface River	3,905 acres

Priority Open Landscape Areas

Table 7.12.a : Littlefork-Vermilion Uplands Subsection

LTA	% LTA in Open Lands (JH)	LTA or Sp. Mgmt. Unit (SMU)	% Open Landscape in Brushland Assessment
Koochiching Peatlands (212Ma01)	7%	SMU	72%
Cook Till Plain (212Ma21)	30%	SMU	54%
Rausch Till Plain (212Ma19)	1%	SMU	35%
Effie Till Plain (212Ma18)	35%	SMU	38%
Little-Big Fork Till Plain (212Ma03)	33%	SMU	37%
Ericsburg Till Plain (212Ma02)	23%	SMU	36%

Table 7.12.b:Tamarack Lowlands Subsection

LTA	% LTA in Open Lands	LTA or Sp. Mgmt. Unit (SMU)	% Open Landscape in Brushland Assessment
Warba Lake Plain (212Nd04)	21%	SMU	63%
Floodwood Peatlands (212Nd03)	25%	SMU	88%
Esquagama Sand Plain (212Nd06)	14%	SMU	52%
Aurora Till Plain (212Nd05)	1%	SMU	43%
Moose-Willow Peatlands (212Nd01)	53%	LTA	77%
Palisade Lake Plain (212Nd08)	67%	LTA	73%

Table 7.12.c: St. Louis Moraines Subsection

LTA	% LTA in Open Lands	LTA or Sp. Mgmt. Unit (SMU)	% Open Landscape in Brushland Assessment
Wright Till Plain (212Nb11)	66%	LTA	56%
Rice Lake Moraine (212Nb13)	34%	SMU	48%
Automba Drumlin Plain (212Nb19)	58%	LTA	54%

APPENDIX P

Tree Suitability Tables

Table 7.13: Tree Species’ Ability to Compete in North 4 Native Plant Communities

<p>Row shading: Ability of tree species to compete with all vascular plants within NPC class (GREEN=excellent, BLUE=good, YELLOW=fair, SHADED=poor, WHITE=not suitable)</p>
<p>Column numbers: Rank of tree species in order of competitive ability within each NPC class; 1=most suited; -- indicates trace presence .</p>
<p>Row shading and column numbers are based upon the importance value (IV) of a tree in each NPC Class, which is the product of percent presence and percent cover when present (IV=% presence x mean % cover when present). Row shading (not suited to excellent) is based upon the rank order of a tree's IV compared to the full range of IVs expressed by all plants - a rough estimate of absolute suitability. Column numbers (1,2,3, ...) are the rank order of a tree's IV compared to other trees - a rough estimate of relative suitability.</p>
<p>PLS and FIA numbers in red should be used with caution as they are based on a relatively small dataset.</p>
<p>Suitability - based on analysis of modern relevés.</p>
<p>PLS - based on analysis of bearing trees at the time of the Public Land Survey (1847-1908).</p>
<p>FIA - based on analysis of modern US Forest Service Forest Inventory & Analysis plots within Minnesota.</p>

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDC12		FDC23		FDC24		FDC25		FDC34	
Tree Species	NPC Growth Stage	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)
Quaking aspen	Suitability -->	4		-		4		4		3		-		2		2		3		3	
	Young	<4%*	<28%*	<8%*	<61%*	24%	74%	40%	79%	60%	76%	4%	61%	1%	81%	4%	87%	<28%*	<77%*	<31%*	<71%*
	T1	-		v		v v		v v		v v		v		^		v		v v		v v	
	Mature	<4%*	<22%*	<7%*	<48%*	7%	43%	9%	48%	12%	52%	3%	40%	2%	81%	3%	81%	<6%*	<68%*	<5%*	<29%*
	T2	-		v		x	x	v		v		x	x	^		^		^		^	
* Includes big-toothed aspen	Old	<4%*	0%*	<4%*	<29%*	x	x	7%	37%	5%	23%	x	x	3%	0%	6%	76%	<8%*	-	<7%*	0%*
Big-toothed aspen	Suitability -->	-		5		-		7		-		-		-		-		5		8	
	Young	<4%*	<28%*	<8%*	<61%*			n/a	n/a									<28%*	<77%*	<31%*	<71%*
	T1	-		v				n/a	n/a									v v		v v	
	Mature	<4%*	<22%*	<7%*	<48%*			n/a	n/a									<6%*	<68%*	<5%*	<29%*
	T2	-		v				n/a	n/a									^		^	
* Includes quaking aspen	Old	<4%*	0%*	<4%*	<29%*			n/a	n/a									<8%*	-	<7%*	0%*
Balsam poplar	Suitability -->																				

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
	Young									-	4%										
	T1									-											
	Mature									-	2%										
	T2									-											
	* includes quaking aspen									-	2%										
	Old									-	2%										
	Suitability -->																				
Paper birch				4		6		2		1				3		4		7		5	
	Young	3%	6%	7%	10%	19%	8%	16%	5%	15%	5%	1%	3%	1%	5%	1%	2%	2%	9%	6%	10%
	T1	^		-		v		^		^ ^		v								v	
	Mature	6%	15%	7%	21%	17%	16%	19%	26%	31%	20%	-	0%	-	1%	1%	3%	1%	13%	4%	7%
	T2	^		v		x	x	v		v v		x	x							^	
	Old	9%	0%	4%	18%	x	x	14%	18%	18%	18%	x	x	2%	0%	2%	1%	1%	43%	6%	0%
	Suitability -->																				
Yellow birch																					
	Young																				
	T1																				
	Mature																				
	T2																				
	Old																				

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern								Central											
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
Black ash	Suitability -->																				
	Young																				
	T1																				
	Mature																				
	T2																				
* Includes green ash	Old																				
Green ash	Suitability -->																				
	Young																				
	T1																				
	Mature																				
	T2																				
* Includes black ash	Old																				
Silver maple	Suitability -->																				
	Young																				
	T1																				
	Mature																				

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
Tree Species		Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)
Basswood	Suitability -->																			10	
	Young															0%	1%			n/a	n/a
	T1																			n/a	n/a
	Mature															0%	0%			n/a	n/a
	T2																			n/a	n/a
Sugar maple	Old															0%	3%			n/a	n/a
	Suitability -->																				
	Young																				
	T1																				
	Mature																				
* includes red maple	T2																				
	Old																				
Red maple	Suitability -->		6					8	8									8		6	

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
	Young			1%	9%			-	4%	-	3%	-	1%			-	2%	1%	6%	1%	8%
	T1			~				^		~											
	Mature			1%	5%			1%	9%	1%	4%	0%	10%			0%	3%	-	8%	1%	8%
	T2			~				v		x	x										
	* includes sugar maple			1%	1%			2%	0%	-	1%	x	x			0%	0%	0%	43%	1%	0%
Northern red oak	Suitability -->			7				11						6		6		4		4	
	Young	-	1%	n/a	n/a			n/a	n/a			-	4%	n/a	n/a	n/a	n/a	n/a	n/a	7%	2%
	T1	-		n/a	n/a			n/a	n/a			~		n/a	n/a	n/a	n/a	n/a	n/a	v	
	Mature	1%	5%	n/a	n/a			n/a	n/a			-	0%	n/a	n/a	n/a	n/a	n/a	n/a	3%	12%
	T2	-		n/a	n/a			n/a	n/a			x	x	n/a	n/a	n/a	n/a	n/a	n/a	^	
	Old	1%	0%	n/a	n/a			n/a	n/a			x	x	n/a	n/a	n/a	n/a	n/a	n/a	4%	0%
Northern pin oak	Suitability -->																	2			
	Young																	14%	-		

Ecological System		Fire Dependent Forests & Woodlands																				
Floristic Region		Northern										Central										
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34		
	T1																					
	Mature																		18%	-		
	T2																		v			
	Old																		8%	-		
Bur oak	Suitability -->														5		5		9		7	
	Young		2%									1%	16%	-	2%	-	2%	35%	1%	1%	2%	
	T1											v						^^				
	Mature		6%									0%	10%	2%	5%	1%	3%	69%	1%	1%	25%	
	T2											x	x					v				
	Old		0%									x	x	1%	0%	2%	6%	34%	-	2%	0%	
White oak	Suitability -->																					
	Young																					
	T1																					
	Mature																					
	T2																					
	Old																					
Tree Species	NPC Growth	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
Stage																					
White pine	Suitability -->			3		5		3		2										2	
	Young	3%	0%	3%	0%	5%	-	-	0%	2%	0%	1%	0%	-	0%	1%	0%			14%	0%
	T1	^		^		^		^^		^^		^		^		^				^	
	Mature	5%	3%	11%	2%	10%	2%	19%	1%	24%	1%	4%	0%	1%	0%	2%	0%			22%	2%
	T2	^^		^		x	x	^^		^		x	x	^^		^^				^^	
	Old	15%	0%	7%	13%	x	x	30%	19%	28%	3%	x	x	7%	0%	24%	0%			54%	0%
Red pine	Suitability -->	2		1		3		1		4		2		4		3		6		1	
	Young	16%	5%	11%	3%	3%	-	17%	1%	3%	0%	5%	5%	4%	2%	4%	1%	1%	0%	25%	0%
	T1	^^		^^		^		^		^		^^		^^		v		~		^^	
	Mature	50%	4%	35%	3%	5%	-	27%	1%	9%	1%	37%	0%	33%	4%	3%	1%	1%	1%	50%	10%
	T2	v v		v		x	x	v v		v		x	x	v v		^		~		v v	
	Old	24%	0%	27%	4%	x	x	16%	1%	5%	1%	x	x	20%	0%	6%	5%	1%	14%	15%	0%
Jack pine	Suitability -->	1		2		1		6		10		1		1		1		1		9	
	Young	71%	36%	66%	3%	40%	1%	15%	-	19%	0%	88%	0%	91%	5%	88%	1%	15%	-	11%	1%
	T1	v v		v v		v v		v		v v		v v		v v		v v		v		v	

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern										Central									
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
	Mature	22%	16%	21%	1%	10%	0%	7%	-	3%	0%	47%	0%	60%	3%	58%	7%	4%	1%	9%	1%
	T2	-		^		x	x	v		-		x	x	v		v		^^		v	v
	Old	22%	0%	25%	0%	x	x	2%	-	3%	0%	x	x	56%	0%	51%	3%	41%	-	1%	0%
Black spruce	Suitability -->					2		9		9											
	Young					<1%*	<1%*	n/a	n/a	0%	0%										
	T1					^^		n/a	n/a	-											
	Mature					<31%*	<10%*	n/a	n/a	0%	1%										
	T2					x	x	n/a	n/a	-											
*black or white spruce	Old					x	x	n/a	n/a	0%	6%										
White spruce	Suitability -->	3						10		7											
	Young	-	4%	1%	1%	<1%*	<1%*	-	1%	-	1%									1%	0%
	T1	^^		^		^^		^		^										^	
	Mature	7%	4%	13%	4%	<31%*	<10%*	5%	1%	4%	2%									3%	1%
	T2	^^		^^		x	x	^		^^										-	
*Includes black spruce	Old	14%	0%	23%	3%	x	x	13%	1%	28%	2%									3%	0%
Tree Species	NPC Growth Stage	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern									Central										
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
Balsam fir	Suitability -->	5		-		7		5		6		-		-		-		-		-	
	Young	1%	16%	2%	9%	6%	15%	1%	7%	1%	7%	-	8%	-	1%						
	T1	-		^		^		^		^		^									
	Mature	1%	19%	3%	13%	13%	27%	4%	11%	10%	13%	4%	30%	-	2%						
	T2	^		^		x	x	^		^		x	x								
	Old	3%	0%	4%	26%	x	x	5%	15%	13%	25%	x	x		0%	3%					
Black spruce	Suitability -->					2		9		9											
	Young					<1%*	<1%*	n/a	n/a	0%	0%										
	T1					^	^	n/a	n/a	-											
	Mature					<31%*	<10%*	n/a	n/a	0%	1%										
	T2					x	x	n/a	n/a	-											
*black or white spruce	Old					x	x	n/a	n/a	0%	6%										
Tamarack	Suitability -->																				
	Young																				
	T1																				
	Mature																				

Ecological System		Fire Dependent Forests & Woodlands																			
Floristic Region		Northern							Central												
Native Plant Community Class		FDn12		FDn22		FDn32		FDn33		FDn43		FDc12		FDc23		FDc24		FDc25		FDc34	
	T2																				
	Old																				
White cedar	Suitability -->			-				-		5											
	Young			-	0%			-	0%	-	0%										
	T1			^				^		^											
	Mature			1%	1%			2%	1%	3%	0%										
	T2			~				^		v											
	Old			1%	4%			2%	8%	-	14%										
Black spruce	Suitability -->					2		9		9											
	Young					<1%*	<1%*	n/a	n/a	0%	0%										
	T1					^ ^		n/a	n/a	~											
	Mature					<31%*	<10%*	n/a	n/a	0%	1%										
	T2					x	x	n/a	n/a	~											
*black or white spruce	Old					x	x	n/a	n/a	0%	6%										

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
Tree Species	NPC Growth Stage	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)
Quaking aspen	Suitability -->	5		1		6		3		-		3		4		9	
	Young	20%	22%	86%	78%	2%	19%	83%	44%	8%	8%	<76%*	<50%*	<10%*	<18%*	11%	39%
	T1	v v		v v				v v		v		v v		v		v	
	Mature	6%	4%	24%	40%	-	7%	29%	5%	3%	4%	<22%*	<19%*	<1%*	<3%*	6%	18%
	T2	v		^				x	x	v		^		x	x	v	
* Includes big-toothed aspen	Old	4%	0%	28%	43%	0%	0%	x	x	-	0%	<26%*	<1%*	x	x	5%	0%
Big-toothed aspen	Suitability -->	7						15				7		10			
	Young	n/a	n/a					n/a	n/a			<76%*	<50%*	<10%*	<18%*		
	T1	n/a	n/a					n/a	n/a			v v		v			
	Mature	n/a	n/a					n/a	n/a			<22%*	<19%*	<1%*	<3%*		
	T2	n/a	n/a					x	x			^		x	x		
Includes quaking aspen	Old	n/a	n/a					x	x			<26%	<1%*	x	x		
Balsam poplar	Suitability -->			8				11									
	Young			1%	6%			n/a	n/a								

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
	T1							n/a	n/a								
	Mature			-	3%			n/a	n/a								
	T2							x	x								
	* includes quaking aspen Old			1%	2%			x	x								
Paper birch	Suitability -->	4		3		3		9		4		2		8		10	
	Young	38%	9%	5%	3%	13%	21%	5%	2%	21%	3%	13%	4%	5%	4%	11%	5%
	T1	v v		^		v		^		v		^^		v		v	
	Mature	28%	7%	18%	14%	6%	14%	9%	2%	13%	5%	40%	11%	2%	4%	10%	6%
	T2	v v		v		v		x	x	v		v v		x	x	v v	
	Old	12%	0%	12%	14%	-	12%	x	x	5%	11%	20%	2%	x	x	2%	0%
Yellow birch	Suitability -->	9				2		13		3							
	Young	n/a	n/a			22%	0%	n/a	n/a	-	0%						
	T1	n/a	n/a			v		n/a	n/a	^^							
	Mature	n/a	n/a			11%	1%	n/a	n/a	15%	1%						
	T2	n/a	n/a			^		x	x	v							
	Old	n/a	n/a			15%	0%	x	x	9%	0%						
Black ash	Suitability -->			6		-		1		9		-		14		2	
	Young			1%	2%	-	1%	2%	4%	<1%*	<6%*	-	0%	<3%*	<4%*	9%	1%

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Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
	T1							^								~	
	Mature			1%	2%	1%	1%	4%	5%	<1%*	<3%*	1%	1%	<3%*	<3%*	9%	2%
	T2							x	x					x	x	v	
* Includes green ash	Old			-	5%	0%	12%	x	x	<2%*	<0%*	0%	3%	x	x	3%	0%
Green ash	Suitability -->			14				7		10		13		7		8	
	Young			n/a	n/a			0%	2%	<1%*	<6%*	n/a	n/a	<3%*	<4%*	n/a	n/a
	T1			n/a	n/a							n/a	n/a			n/a	n/a
	Mature			n/a	n/a			0%	3%	<1%*	<3%*	n/a	n/a	<3%*	<3%*	n/a	n/a
	T2			n/a	n/a			x	x			n/a	n/a	x	x	n/a	n/a
* Includes black ash	Old			n/a	n/a			x	x	<2%*	<0%*	n/a	n/a	x	x	n/a	n/a
Silver maple	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
	Old																
Basswood	Suitability -->	2		9		5		2		2		5		3		1	

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
	Young	6%	9%	n/a	n/a	2%	4%	2%	9%	13%	20%	1%	6%	14%	10%	24%	11%
	T1	^		n/a	n/a			^		v				^		v	
	Mature	9%	19%	n/a	n/a	2%	6%	8%	31%	9%	26%	3%	10%	18%	20%	21%	12%
	T2	v		n/a	n/a			x	x	v				x	x	^	
	Old	6%	0%	n/a	n/a	1%	0%	x	x	5%	47%	3%	14%	x	x	25%	0%
Sugar maple	Suitability -->	1		13		1		5		1		8		2		3	
	Young	11%	24%	n/a	n/a	<33%*	<20%*	0%	10%	38%	35%	0%	13%	4%	30%	10%	8%
	T1	^		n/a	n/a	v v				v				^^		^	
	Mature	14%	32%	n/a	n/a	<12%*	<39%*	0%	21%	35%	32%	0%	14%	36%	33%	15%	21%
	T2	^^		n/a	n/a	v		x	x	^				x	x	v	
* includes red maple	Old	29%	50%	n/a	n/a	<11%*	<38%*	x	x	43%	11%	0%	17%	x	x	12%	0%
Red maple	Suitability -->	6		4		8		4		8		4		6		6	
	Young	-	9%	1%	3%	<33%*	<20%*	1%	13%	0%	4%	1%	12%	0%	3%	-	6%
	T1					v v						^					
	Mature	-	4%	1%	2%	<12%*	<39%*	1%	5%	-	3%	5%	11%	-	3%	-	4%
	T2					v		x	x			v		x	x		
* includes sugar maple	Old	0%	0%	1%	0%	<11%*	<38%*	x	x	0%	0%	2%	4%	x	x	0%	0%
Northern red oak	Suitability -->	3		11				10		5		1		1		5	

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
	Young	10%	6%	n/a	n/a			-	1%	2%	3%	4%	5%	50%	8%	3%	8%
	T1	v		n/a	n/a							^		v v			
	Mature	5%	11%	n/a	n/a			3%	7%	2%	7%	12%	22%	9%	14%	2%	18%
	T2	v		n/a	n/a			x	x			v		x	x		
	Old	1%	0%	n/a	n/a			x	x	0%	0%	11%	29%	x	x	1%	0%
Northern pin oak	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
	Old																
Bur oak	Suitability -->	10		12				6				6		5		4	
	Young	1%	1%	n/a	n/a			1%	4%	-	1%	-	1%	-	1%	17%	8%
	T1			n/a	n/a							^		^		^	
	Mature	2%	3%	n/a	n/a			3%	7%	1%	2%	5%	3%	5%	5%	19%	5%
	T2			n/a	n/a			x	x			v		x	x	^	
	Old	0%	50%	n/a	n/a			x	x	0%	10%	4%	5%	x	x	20%	0%

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
White oak	Suitability -->											9		12			
	Young											0%	0%	n/a	n/a		
	T1													n/a	n/a		
	Mature											0%	1%	n/a	n/a		
	T2													x	x		
	Old											0%	9%	x	x		
White pine	Suitability -->			7		9						10		9		7	
	Young	1%	0%	-	0%	n/a	n/a	-	0%	1%	0%	-	0%	1%	0%	6%	0%
	T1	^		^		n/a	n/a	^		^		^		^		v	
	Mature	7%	1%	1%	4%	n/a	n/a	6%	1%	6%	0%	2%	0%	3%	0%	5%	0%
	T2	^^		^		n/a	n/a	x	x	^^		^		x	x	^^	
	Old	31%	0%	4%	2%	n/a	n/a	x	x	32%	0%	10%	0%	x	x	20%	0%
Red pine	Suitability -->											11					
	Young											n/a	n/a				
	T1											n/a	n/a				
	Mature											n/a	n/a				
	T2											n/a	n/a				
	Old											n/a	n/a				

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Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHC26		MHC36		MHC47	
Jack pine	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
	Old																
Black spruce	Suitability -->																
	Young					<6%*	<3%*										
	T1					^^											
	Mature					<37%*	<5%*										
	T2					^^											
black or white spruce	Old					<54%	<12%*										
White spruce	Suitability -->			5		7		14									
	Young	1%	1%	1%	0%	<6%*	<3%*	-	1%	1%	3%	-	1%				
	T1	^^		^^		^^		^^		^		^					
	Mature	13%	0%	34%	1%	<37%*	<5%*	21%	1%	3%	0%	2%	0%				
	T2	v		v		^^		x	x	v		^					

Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		MHc26		MHc36		MHc47	
Includes black spruce	Old	-	0%	33%	0%	<54%	<12%*	x	x	-	0%	12%	0%				
Balsam fir	Suitability -->	11		2		10		12		-							
	Young	5%	4%	3%	5%	11%	29%	1%	2%	5%	1%						
	T1	v		^		v				~							
	Mature	3%	2%	10%	17%	4%	17%	4%	3%	5%	2%						
	T2	v		~		v		x	x	v							
	Old	1%	0%	10%	16%	2%	0%	x	x	2%	21%						
Black spruce	Suitability -->					-											
	Young					<6%*	<3%*										
	T1					^^											
	Mature					<37%*	<5%*										
	T2					^^											
black or white spruce	Old					<54%	<12%*										
Tamarack	Suitability -->																
	Young																
	T1																
	Mature																
	T2																

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Ecological System		Mesic Hardwood Forests															
Floristic Region		Northern										Central					
Native Plant Community Class		MHn35		MHn44		MHn45		MHn46		MHn47		Mhc26		Mhc36		Mhc47	
	Old																
White cedar	Suitability -->			10		4		8		7							
	Young			-	0%	6%	0%	n/a	n/a	n/a	n/a						
	T1					^^		n/a	n/a	n/a	n/a						
	Mature			1%	4%	25%	5%	n/a	n/a	n/a	n/a						
	T2					v v		x	x	n/a	n/a						
	Old			1%	18%	8%	25%	x	x	n/a	n/a						
Black spruce	Suitability -->					-											
	Young					<6%*	<3%*										
	T1					^^											
	Mature					<37%*	<5%*										
	T2					^^											
black or white spruce	Old					<54%	<12%*										

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
Tree Species	NPC Growth Stage	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)
Quaking aspen	Suitability -->	-		-		10		3		-	
	Young	9%	11%	6%	10%	0%*	<9%*	3%	8%	2%	6%
	T1	v		v				v			
	Mature	2%	1%	1%	0%	0%*	<4%*	1%	4%	1%	4%
	T2	x	x	x	x			^			
* Includes big-toothed aspen	Old	x	x	x	x	0%*	<3%*	2%	0%	-	3%
Big-toothed aspen	Suitability -->										
	Young										
	T1										
	Mature										
	T2										
*Includes quaking aspen	Old										
Balsam poplar	Suitability -->	-		-		-		6		-	
	Young	0%	7%			0%*	<9%*	1%	10%	1%	8%
	T1										
	Mature	-	2%			0%*	<4%*	-	4%	-	4%
	T2	x	x								

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
* includes quaking aspen	Old	x	x			0%*	<3%*	0%	3%	0%	1%
Paper birch	Suitability -->					5		7		7	
	Young					8%	7%	6%	5%	4%	4%
	T1					~		v		v	
	Mature					8%	5%	4%	4%	3%	5%
	T2					v		v		~	
	Old					5%	6%	3%	8%	3%	4%
Yellow birch	Suitability -->					3		2		3	
	Young					n/a	n/a	6%	0%	n/a	n/a
	T1					n/a	n/a	v		n/a	n/a
	Mature					n/a	n/a	5%	1%	n/a	n/a
	T2					n/a	n/a	v		n/a	n/a
	Old					n/a	n/a	-	1%	n/a	n/a
Black ash	Suitability -->	2		3		2		1		1	
	Young	<18%*	<52%*	<37%*	<68%*	7%	45%	53%	47%	72%	55%
	T1	^^		^^		v		~		v	
	Mature	<27%*	<52%*	<44%*	<73%*	4%	20%	53%	48%	71%	56%

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	T2	x	x	x	x	v		v		vv	
* Includes green ash	Old	x	x	x	x	3%	12%	40%	48%	56%	36%
Green ash	Suitability -->	6		2				9		9	
	Young	<18%*	<52%*	<37%*	<68%*			n/a	n/a	n/a	n/a
	T1	v v		^^				n/a	n/a	n/a	n/a
	Mature	<27%*	<52%*	<44%*	<44%*			n/a	n/a	n/a	n/a
	T2	x	x	x	x			n/a	n/a	n/a	n/a
* Includes black ash	Old	x	x	x	x			n/a	n/a	n/a	n/a
Silver maple	Suitability -->	1		1							
	Young	2%	3%	10%	5%						
	T1			v							
	Mature	1%	3%	2%	9%						
	T2	x	x	x	x						
	Old	x	x	x	x						
Basswood	Suitability -->	3		-				12			
	Young	13%	1%	12%	0%			1%	1%		
	T1	v		v							
	Mature	8%	2%	6%	0%			-	2%		
	T2	x	x	x	x						

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	Old	x	x	x	x			0%	5%		
Sugar maple	Suitability -->										
	Young										
	T1										
	Mature										
	T2										
* includes red maple	Old										
Red maple	Suitability -->							4		4	
	Young							n/a	n/a	n/a	n/a
	T1							n/a	n/a	n/a	n/a
	Mature							n/a	n/a	n/a	n/a
	T2							n/a	n/a	n/a	n/a
* includes sugar maple	Old							n/a	n/a	n/a	n/a
Northern red oak	Suitability -->										
	Young										
	T1										
	Mature										

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	T2										
	Old										
Northern pin oak	Suitability -->										
	Young										
	T1										
	Mature										
	T2										
	Old										
Bur oak	Suitability -->	5		6				15			
	Young	19%	2%	11%	5%			n/a	n/a		
	T1	v		v				n/a	n/a		
	Mature	10%	2%	3%	5%			n/a	n/a		
	T2	x	x	x	x			n/a	n/a		
	Old	x	x	x	x			n/a	n/a		
White oak	Suitability -->										
	Young										
	T1										
	Mature										
	T2										

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	Old										
White pine	Suitability -->					7		11			
	Young					n/a	n/a	n/a	n/a		
	T1					n/a	n/a	n/a	n/a		
	Mature					n/a	n/a	n/a	n/a		
	T2					n/a	n/a	n/a	n/a		
	Old					n/a	n/a	n/a	n/a		
Jack pine	Suitability -->										
	Young										
	T1										
	Mature										
	T2										
	Old										
Black spruce	Suitability -->					6		13			
	Young					<3%*	<2%*	n/a	n/a		
	T1							n/a	n/a		
	Mature					<7%*	<4%*	n/a	n/a		

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	T2							n/a	n/a		
black or white spruce	Old					<23%	<2%*	n/a	n/a		
White spruce	Suitability -->					9		14			
	Young				0%	<3%*	<2%*	2%	1%	1%	1%
	T1										
	Mature	6%		6%	0%	<7%*	<4%*	9%	1%	5%	1%
	T2	x	x	x	x			^^		^^	
Includes Black Spruce	Old	x	x	x	x	<23%	<2%*	15%	0%	13%	1%
Balsam fir	Suitability -->					4		10		5	
	Young	2%	5%			52%	24%	8%	16%	6%	16%
	T1					v v		v		v	
	Mature		8%			7%	17%	2%	11%	1%	12%
	T2	x	x			^^		^		^	
	Old	x	x			21%	18%	7%	7%	2%	16%
Black spruce	Suitability -->					6		13			
	Young					<3%*	<2%*	n/a	n/a		
	T1							n/a	n/a		
	Mature					<7%*	<4%*	n/a	n/a		

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	T2							n/a	n/a		
black or white spruce	Old					<23%	<2%*	n/a	n/a		
Tamarack	Suitability -->					11		-		6	
	Young					2%	0%	2%	0%	1%	0%
	T1					v		^		^	
	Mature					1%	2%	6%	1%	2%	0%
	T2					^^		^		^^	
	Old					11%	0%	18%	0%	12%	0%
White cedar	Suitability -->					1		5		2	
	Young	1%	3%			18%	11%	3%	1%	1%	1%
	T1					^^		^		^	
	Mature	0%	12%			67%	46%	9%	13%	8%	7%
	T2	x	x			v v		v		v	
	Old	x	x			26%	55%	4%	26%	4%	31%
Black spruce	Suitability -->					6		13			
	Young					<3%*	<2%*	n/a	n/a		
	T1							n/a	n/a		

Ecological System		Floodplain Forests				Wet Forests					
Floristic Region		Northern				Northern					
Native Plant Community Class		FFn57		FFn67		WFn53		WFn55		WFn64	
	Mature					<7%*	<4%*	n/a	n/a		
	T2							n/a	n/a		
black or white spruce	Old					<23%	<2%*	n/a	n/a		

Ecological System		Rich Forested Peatland												Acid Peatland			
Floristic Region		Northern												Northern			
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
Tree Species	NPC Growth Stage	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)	Historic (PLS)	Modern (FIA)
Quaking aspen	Suitability -->	4															
	Young	n/a	n/a														
	T1	n/a	n/a														
	Mature	n/a	n/a														
	T2	x	x														
* Includes big-toothed aspen	Old	x	x														
Big-toothed aspen	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
*Includes quaking aspen	Old																
Balsam poplar	Suitability -->																
	Young																

Ecological System		Rich Forested Peatland										Acid Peatland					
Floristic Region		Northern										Northern					
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
	T1																
	Mature																
	T2																
* includes quaking aspen	Old																
Paper birch	Suitability -->	3		5				3									
	Young	4%	3%	5%	3%			3%	2%								
	T1	v															
	Mature	3%	2%	2%	3%			2%	5%								
	T2	x	x					x	x								
	Old	x	x	1%	4%			x	x								
Yellow birch	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
	Old																
Black ash	Suitability -->																
	Young																
	T1																

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Ecological System		Rich Forested Peatland										Acid Peatland				
Floristic Region		Northern										Northern				
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81
	Mature															
	T2															
* Includes green ash	Old															
Green ash	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
* Includes black ash	Old															
Silver maple	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
	Old															
Basswood	Suitability -->															
	Young															

Ecological System		Rich Forested Peatland										Acid Peatland				
Floristic Region		Northern										Northern				
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81
	T1															
	Mature															
	T2															
	Old															
Sugar maple	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
* includes red maple	Old															
Red maple	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
* includes sugar maple	Old															
Northern red oak	Suitability -->															
	Young															
	T1															

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Ecological System		Rich Forested Peatland										Acid Peatland				
Floristic Region		Northern										Northern				
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81
	Mature															
	T2															
	Old															
Northern pin oak	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
	Old															
Bur oak	Suitability -->															
	Young															
	T1															
	Mature															
	T2															
	Old															
White oak	Suitability -->															
	Young															

Ecological System		Rich Forested Peatland										Acid Peatland					
Floristic Region		Northern										Northern					
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
	T1																
	Mature																
	T2																
	Old																
White pine	Suitability -->	7						-									
	Young	n/a	n/a					3%	-								
	T1	n/a	n/a														
	Mature	n/a	n/a					-	-								
	T2	x	x					x	x								
	Old	x	x					x	x								
Red pine	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
	Old																
Jack pine	Suitability -->																
	Young	5%	1%													5%	-
	T1	v														v	

Ecological System		Rich Forested Peatland												Acid Peatland			
Floristic Region		Northern												Northern			
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
	Mature	3%	0%											3%	-		
	T2	x	x											x	x		
	Old	x	x											x	x		
Black spruce	Suitability -->	1		2		1		2		2		2		1		1	
	Young	28%	78%	6%	59%	14%	47%	6%	71%	10%	58%	12%	56%	28%	71%	21%	59%
	T1	^^		^		^^		v		^^		^^		^^		^^	
	Mature	51%	81%	11%	52%	26%	66%	5%	47%	24%	60%	20%	38%	51%	83%	27%	66%
	T2	x	x	^		x	x	x	x	x	x	x	x	x	x	x	x
*black or white spruce	Old	x	x	15%	31%	x	x	x	x	x	x	x	x	x	x	x	x
White spruce	Suitability -->																
	Young																
	T1																
	Mature																
	T2																
*Includes black spruce	Old																
Balsam fir	Suitability -->	5		3		-		-						-		-	
	Young	2%	8%	30%	17%	1%	6%	2%	2%					2%	3%	-	5%

Ecological System		Rich Forested Peatland											Acid Peatland				
Floristic Region		Northern											Northern				
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
	T1			v v										^			
	Mature	3%	8%	7%	20%	1%	4%	1%	4%					3%	3%	1%	3%
	T2	x	x	^		x	x	x	x					x	x	x	x
	Old	x	x	12%	39%	x	x	x	x					x	x	x	x
Black spruce	Suitability -->	1		2		1		2		2		2		1		1	
	Young	28%	78%	6%	59%	14%	47%	6%	71%	10%	58%	12%	56%	28%	71%	21%	59%
	T1	^^		^		^^		v		^^		^^		^^		^^	
	Mature	51%	81%	11%	52%	26%	66%	5%	47%	24%	60%	20%	38%	51%	83%	27%	66%
	T2	x	x	^		x	x	x	x	x	x	x	x	x	x	x	x
*black or white spruce	Old	x	x	15%	31%	x	x	x	x	x	x	x	x	x	x	x	x
Tamarack	Suitability -->	2		4		2		1		1		1		2		2	
	Young	55%	9%	25%	7%	82%	41%	84%	24%	87%	39%	80%	39%	54%	24%	77%	29%
	T1	v v		v		v v		^		v v		v v		v v		v v	v
	Mature	35%	8%	16%	7%	62%	19%	87%	44%	68%	33%	66%	57%	35%	12%	67%	24%
	T2	x	x	^^		x	x	x	x	x	x	x	x	x	x	x	x
	Old	x	x	34%	9%	x	x	x	x	x	x	x	x	x	x	x	x
White cedar	Suitability -->	6		1		3				-		3		-		-	
	Young	1%	1%	27%	12%	1%	4%			1%	1%	2%	2%	2%	0%	-	2%

Ecological System		Rich Forested Peatland												Acid Peatland			
Floristic Region		Northern												Northern			
Native Plant Community Class		FPn62		FPn63		FPn71		FPn72		FPn81		FPn82		APn80		APn81	
	T1	^		^^		^^				^		^		^		^	
	Mature	5%	0%	62%	18%	9%	10%			5%	5%	7%	3%	5%	0%	2%	3%
	T2	x	x	v v		x	x			x	x	x	x	x	x	x	x
	Old	x	x	37%	17%	x	x			x	x	x	x	x	x	x	x
Black spruce (Sx)	Suitability -->	1		2		1		2		2		2		1		1	
	Young	28%	78%	6%	59%	14%	47%	6%	71%	10%	58%	12%	56%	28%	71%	21%	59%
	T1	^^		^		^^		v		^^		^^		^^		^^	
	Mature	51%	81%	11%	52%	26%	66%	5%	47%	24%	60%	20%	38%	51%	83%	27%	66%
	T2	x	x	^		x	x	x	x	x	x	x	x	x	x	x	x
*black or white spruce	Old	x	x	15%	31%	x	x	x	x	x	x	x	x	x	x	x	x

APPENDIX Q

Monitoring

Subsection Forest Resource Management Plan Implementation

Background

The Department of Natural Resources (DNR) is developing forest resource management plans using the subsection level of its ecological classification system (ECS). A more standardized, structured planning process that provides opportunities for public involvement is being used to develop Subsection Forest Resource Management Plans (SFRMPs).

A SFRMP is a DNR plan for vegetation management on forest lands administered by the Divisions of Forestry and Wildlife (and on occasion lands administered by Fisheries, Parks, and Trails and Waterways). ECS subsections, not administrative boundaries, are the basic units of delineation. The strategic component of SFRMPs focuses on long-term strategic direction in response to identified issues, strategies to implement the general direction, and identification of quantifiable long-term desired future forest composition (DFFC) goals.

Plans identify forest stands on DNR administered lands proposed for treatment (e.g., harvest, thinning, regeneration, prescribed burning, reinventory) over a 10-year planning period. Forest stands are selected using criteria developed to begin moving DNR forest land toward the long-term DFFCs. Stand management consists of a series of actions (including no action) that will best move the forest landscape toward the DFFC goals.

This document outlines an approach to monitoring the manner in which SFRMPs are being implemented and the impact implementation actions are having on forest lands.

Monitoring Purpose

The term monitoring is defined as to watch or check and suggests a series of observations over time. Without monitoring we have no way of knowing whether we have achieved our goals or what we need to do to improve our work.

This monitoring effort is intended to address the following:

- Are management actions consistent with the plan?
- Are management actions moving DNR forest lands towards the goals outlined in the plan?

It is also intended that this monitoring effort will satisfy Forest Stewardship Council (FSC) certification requirements. Scientific Certification Systems, a certification body accredited by the FSC, was retained by DNR to conduct a certification evaluation of the forested lands it administers. Forest management operations meeting international standards of forest stewardship can be certified as “well managed.” Evaluation of operations relative to the FSC standard for monitoring and assessment (#8) generated the following comments (portion of CAR 2005.12):

- Frequency and intensity of monitoring may need to be expanded to better reflect the size and complexity of DNR forests, the SFRMP, and FSC monitoring requirements.
- By the 2007 surveillance audit, DNR needs to review its current monitoring protocols and determine what, if any, additional monitoring aspects are needed to more fully demonstrate conformance with Criterion 8.2, and that, more importantly, is needed to track specific accomplishments during the 10-year SFRMP timeframe.

Further direction for monitoring is provided in the agency’s strategic document, *A Strategic Conservation Agenda 2003 – 2007*, which uses approximately 90 measurable indicators and targets to describe progress towards achieving desired conservation results. Some of the indicators and targets relevant to the SFRMP process include:

- acres of state-administered lands approved for forest certification,
- number of cords of wood offered for sale on DNR lands,
- acres of protected old-growth forests on DNR lands,
- percentage of extended rotation forests (ERF) maintained on DNR lands,
- early successional forests maintained on DNR lands,
- net annual growth of growing stock on DNR-administered lands,
- acres of DNR forest lands reinventoried,
- forest associated wildlife species (deer and ruffed grouse), and
- the number of species in greatest conservation need.

Audience

Both internal and external stakeholders are the intended audience for monitoring results. Internal stakeholders include: SFRMP teams, SFRMP Process Work Group, Forest Resource Issue Team (FRIT), DNR field personnel and decision makers, etc. External stakeholders include: forest certification auditors, adjacent landowners, MN Forest Resources Council, loggers, forest recreational users, members of environmental organizations, etc.

Monitoring Approach

There are hundreds of possible questions that could be asked about the implementation and effectiveness of management actions on state forest land. Some important questions are just too difficult to monitor. Others are confounded, meaning it is difficult to distinguish one cause or effect from another (e.g., vegetation changes due to weather). This monitoring effort attempts to identify and focus on the most important questions that can reasonably be addressed.

It is our intention to monitor the implementation of all subsection plans with the framework and indicators laid out in this plan. Because initial plans differ significantly in terms of stated goals and objectives, there needs to be a fair amount of flexibility and the opportunity to add and adjust indicators to fit the specific plans. We view this as a dynamic undertaking that will evolve and improve as we proceed with implementation and monitoring responsibilities. We recognize that new data may come available due to expanded efforts and advanced technologies. We'll remain open to incorporating new opportunities and approaches.

In an effort to practice adaptive management, we have incorporated a mechanism to change our monitoring approach and techniques, and amend the subsection plans. The SFRMP Work Group has responsibility for the process to make such changes.

Limitations

Time – to get work done and for forest vegetation to respond – influences the complexity of forest management monitoring and is an important consideration when analyzing and interpreting results. Under the SFRMP process, a specific stand may not receive management treatment until the end of the planning cycle (as much as 10 years). Once treated, it may be many years before the desired effect is measurable in the stand (e.g., clearcut with reserves to convert the cover type). The time factor needs to be considered during monitoring and when interpreting results.

Plans include long (50+ years) and short-term goals (Appendix A. Excerpts of Subsection Plan Goals). Terminology is not always consistent between plans, but all plans do include Desired Future Forest Composition (DFFC) goals for cover type and age structure. Cover type conversion, species composition, patch management, (etc.) are DFFC goals in some plans. There is usually a numeric or trend target for DFFC goals. While some other (non-DFFC) goals are measurable and include a target, most do not. Goals without a measurable outcome may be important but they will be very difficult to monitor.

Methods

Monitoring involves a comparison between the conditions your actions have affected and some defined benchmark. In this effort, most monitoring questions will be addressed by comparing forest vegetation conditions prior to implementation of SFRMP management actions to vegetation conditions after implementation. We will also compare management actions to the management intent outlined in the plans.

Implementation Monitoring: Determines whether the management actions are being implemented as written in the plans.

Are management actions being carried out in a manner that is consistent with the plan?

Effectiveness Monitoring: Determines the appropriateness or effectiveness of specific management actions designed and implemented to accomplish an objective.

Are management actions having the desired on-the-ground effect?

Monitoring questions and indicators have been identified for both implementation and effectiveness monitoring (Table 1). Indicators are a particular unit of information that, when measured over time, documents changes in a specific condition referenced in the monitoring question. The following criteria were considered when choosing indicators: measurable, precise, consistent, and sensitive.

We recognize there are important indicators that we cannot monitor at this time due to a lack of available data and/or an appropriate monitoring effort. Wanting to move forward with monitoring in a timely manner, we have given indicators a priority ranking:

- 1 - measurements we can do fairly easily and will start immediately;
- 2 - measurements we are currently working on and hope to do soon; and
- 3 - measurements we want to do and will continue to investigate, but are currently not able to undertake.

A time-series design will be followed, meaning that most data will be collected multiple times during a plan's time span. This method will allow us to practice/refine techniques for withdrawing data from large databases and also to track trends.

Data Sources

A significant portion of the data needed to monitor plan implementation and effectiveness is collected in existing databases. Other data, especially those relating to effectiveness of management actions, are more difficult to obtain.

1. Forest Inventory Module (FIM)

- a. The primary source of information about DNR forest lands is the Forest Inventory Module (FIM). FIM is a stand-level forest inventory that captures essential information about every forest stand on more than four million acres of DNR forest land. It is the basic data set from which decisions are made about if, when, where, and in what manner DNR forest stands will be treated. Information gathered includes overstory and understory tree species, stand age, timber volumes, site productivity, shrub and ground species, insects and diseases, and other specific site conditions.

2. Silviculture and Roads Module (SRM)

- a. The Silviculture and Roads Module (SRM) enables foresters to plan and record management objectives and actions on state lands. A SRM site is the piece of land for which the manager has a prescription developed. The site may be a FIM stand, part of a stand, or more than one stand. SRM allows for multi-year prescriptions for sites to manage the site for a specified objective. The site prescription consists of all the actions prescribed for a site to obtain a desired future condition. Actions include all the site prep, planting and seeding, TSI, and regeneration survey work needed to manage a stand for a specified objective. This long-range schedule and record of completed work helps track management activities, obligations, and management objectives. It is the foundation for budget requests and work plans.
- b. Appendix B includes a draft list of reports that will be generated from SRM annually.***

3. Timber Sales Module (TSM)

- a. The new Timber Sales Module (TSM) will support the appraisal and sale of timber harvest permits; tracking security provided by permit holders; accounting for harvested timber; and collecting revenue. TSM was activated in the winter of 2006-2007.

4. SFRMP Shapefile

- a. The SFRMP shapefile includes FIM stand data for all state-administered forest lands in the subsection plans. Subsection boundaries may have been slightly adjusted to avoid splitting of stands, for consideration of access, etc. Therefore,

the SFRMP subsection shapefile boundaries may be somewhat different than the original ECS subsection shapefile.

- b. In addition to the standard FIM data fields, the SFRMP shapefile includes fields added during the planning process to identify stands for specific purposes (e.g., ERF, EILC, patches, preliminary objectives, new access data, and stand selection fields). These added fields varied somewhat for subsection plans started prior to 2005. Now, there is a standard set of fields for use in SFRMPs. The pre-2005 plans will be updated so that all plans contain the same set of SFRMP shapefile fields. This will make it possible to create a statewide shapefile and provide a uniform set of fields for importing into SRM, posting on the DRS, reporting, and monitoring purposes.

5. DNR Data Resource Site (DRS)

- a. The Data Resource Site (DRS) is a standardized collection of GIS data, metadata and programs. A DRS is a place where GIS resources are stored and made available to the users. The layers available on the DRS are designed such that use by DNR personnel is intuitive and efficient. Many layers have been converted to shapefiles that are statewide in extent and targeted to a specific piece of information.

6. Internal Assessments and Inventories

- a. We will incorporate data from existing and pending assessments and inventories conducted by the divisions of Ecological Resources, Fish and Wildlife, and Waters. Possible specific data sources include wildlife population surveys (ruffed grouse, deer, goshawk, red-shouldered hawk, etc.), harvest reports, and water sampling results (impaired waters).

7. External Assessments and Inventories

- a. We will continually look for opportunities to integrate assessment and inventory work conducted by universities and other agencies.

8. Imagery

The Forestry Resource Assessment Center has available aerial photos and satellite images. These tools can be used to assess changes to the structure and pattern of forest vegetation.

Sampling of Sites

Sites will be sampled annually to verify accuracy of SRM data entry and consistency between the site objective and vegetation conditions (incorporating both implementation and effectiveness monitoring). This is an important component of the monitoring plan because so much of the monitoring data comes from the SRM database. The SFRMP Process Work Group will further

develop methods for sampling sites (number of sites, site selection, techniques, etc.). Timber sale inspections and regeneration surveys are existing tools to gather validation data.

Baseline Data

Every effort will be made to identify baseline data for each indicator. The subsection assessments done at the beginning of the planning process contain all or most of the necessary data. Some indicators are tracked as a frequency or occurrence, for which there was not prior record keeping (e.g., the number of treatment deferrals). Although pre-plan implementation data is lacking, data will be recorded annually so trend information during the plan's timeframe will be available.

Data Collection, Analysis and Interpretation

Data for implementation monitoring will be collected on an annual basis. Effectiveness monitoring data will be collected and compiled at the end of a plan's time span and also midway (five years) for some indicators. Data will be analyzed and summarized annually, and provided to the subsection teams for interpretation.

Data is entered into the FIM, SRM, and TSM modules continually. Fiscal year entries must be completed by September 1 of the following year. Data for the previous fiscal year can be extracted anytime after September. Plan shape files and DRS files are continually available.

Roles and Responsibilities

Successful implementation and monitoring of the SFRMP process is dependent on the good work of many people. Following is an explanation of specific roles and responsibilities.

Forestry Field Personnel

Accurately record data and clearly document decisions regarding site objectives and associated actions for entry into appropriate databases.

Timber Sales, Silviculture, and Inventory

Program Foresters

Accurately records data into the appropriate database (FIM, SRM, TSM) in a timely manner. Screens field data/decisions for consistency between actions and objectives, and with SFRMP plan direction.

Subsection Teams' Core 4

The Core 4 reviews the monitoring results and is responsible for any follow up on issues that arise. Follow up may include convening the full

The Core 4

For each subsection team, members of the Core 4 have been identified and given additional responsibilities.

Core 4 members include the:

- Regional Wildlife member,
- Regional Forestry member,
- Ecological Services member, and
- Forest Planner.

team, conducting additional training, re-emphasizing certain plan goals, initiating the plan amendment process, etc. The existing SFRMP Work Group process for resolving problems will be followed.

Subsection Teams

Meets at the request of the teams' Core 4 to discuss and interpret monitoring results and determine appropriate course of action.

Subsection Teams' Forest Planner

Incorporates monitoring in SFRMP training for field personnel. Communicates the nature and importance of SFRMP monitoring to field personnel. During plan development, works with SFRMP teams to incorporate monitoring considerations in formulating goals (i.e., measurable DFFCs). Convenes the Core 4 to review monitoring reports. Provides brief summary of monitoring reports for review by FRIT. Assists with preparation of monitoring reports.

Central Office Forest Planner

Works with the subsection teams' forest planner and the Core 4 to compile baseline data. Facilitates annual extraction of data from databases and other sources, and assists the subsection teams' Core 4 in obtaining and analyzing monitoring data. Coordinates the preparation of monitoring reports. Maintains a central data and report storage system.

FORIST Steering Committee

Determines work priorities for FIS personnel.

Forest Information Systems St. Paul Personnel

Maintains databases. Prepares mechanisms for extracting reports and data. Helps solve database related problems.

SFRMP Process Work Group

Overall responsibility for, and oversight and evaluation of the SFRMP monitoring effort. Identifies and recommends ongoing changes and improvements to the SFRMP monitoring process, including content, timing and roles/responsibilities

Forest Resource Issues Team (FRIT)

Reviews and approves SFRMP monitoring plan, reviews/approves recommended changes to the plan and, periodically reviews summaries of monitoring results.

Outline for Reporting

- I. Introduction*
- II. Methods*
- III. Data*
- IV. Analysis*
- V. Findings*
- VI. Recommendations*

Division Directors (Forestry, Fish and Wildlife, Ecological Resources)

In addition to their FRIT membership, directors approve allocations of resources to the monitoring effort and make decisions on issues not resolved at the region level.

Communicating Results

Each subsection team's Core 4 and forest planners will analyze and summarize monitoring results annually. A comprehensive written report, summarizing results of the annual efforts, will be prepared mid-term and at the end of the plan's time frame. These reports will be distributed internally and accessible via the DNR web site. Stakeholders for each planning process will be notified once the various reports are on-line.

Reference Materials

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Table 7.14: SFRMP Monitoring questions, indicators, outcomes, data sources, frequency, and priority

*1 - measurements we can do fairly easily and will start immediately; 2 - measurements we are currently working on and hope to do soon; 3 - measurements we want to do and will continue to investigate, but are currently not able to undertake.

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
Implementation Monitoring: Are management actions being carried out in a manner that is consistent with the plan? (numbers 1 – 26)						
1. Are the numbers of acres harvested (by cover type) consistent with the plan?	Acres harvested	Acres by cover type	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	SRM Location Detail Properties and Actual Actions	Annual	1
2. Which management actions (prescriptions) were carried out (by cover type)?	Management actions (prescriptions) carried out	Actions by cover type and acres		SRM Location Detail Properties and Actual Actions	Annual	1
3. Are the numbers of acres reforested and the species used consistent with the plan (by cover type)?	Acres reforested and the species used	Acres and species		SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
4. Are the acres and age of ERF stands harvested in a way that is consistent with the plan (by cover type)?	Acres and age of ERF stands harvested	Acres and age by cover type		FIM SFRMP Shape File	Annual?	1
5. Are the numbers of “normal rotation” acres harvested consistent with the plan (by cover type)?	“Normal Acres” harvested	Acres by cover type	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	FIM SFRMP Shape File	Annual?	1
6. What is the frequency of stand treatment being a deferral (by cover type)?	Stand treatment = deferral	Number of stands by cover type and acres		SRM Location Detail Properties Actual Actions	Annual	1
7. What is the frequency of stand treatment being a FIM alteration (by cover type)?	Stand treatment = alteration	Number of stands by cover type and acres		SRM Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
8. Is the number of stands managed to maintain cover type consistent with the plan (by cover type)?	Stands managed to maintain cover type	Number of stands by cover type and acres		SRM Objectives and Actual Actions	Annual	1
9. Is the number of stands managed to maintain cover type but increase stand species composition consistent with the plan (by species)?	Stands managed to maintain cover type but increase stand species composition	Number of stands by cover type and acres		SRM Objectives and Actual Actions	Annual	1
10. Is the number of stands managed to maintain cover type but change structural composition consistent with the plan (by type of change)?	Stands managed to maintain cover type but change structural composition	Number of stands by cover type and acres	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
11. Is the number of stands managed to convert to another cover type consistent with the plan (by cover type)?	Stands managed to convert to another cover type	Number of stands by desired cover type and acres		SRM Objectives and Actual Actions	Annual	1
12. Is the frequency and location of stand management to maintain a large patch consistent with the plan?	Stand management to maintain a large patch	Number of stands and acres		SRM Objectives and Actual Actions	Annual	1
13. Is the frequency of stand management to increase patch size consistent with the plan?	Stand management to increase patch size	Number of instances and acres		SRM Objectives and Actual Actions	Annual	1
14. Is the frequency and location of stand management to enhance smaller patches consistent with the plan?	Stand management to enhance smaller patches	Number of instances and acres	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
15. Are the numbers of RMZ acres managed for long-lived conifers consistent with the plan?	RMZ acres managed for long-lived conifers	Acres		SRM Objectives and Actual Actions, GIS	Annual	1
16. Are the numbers of RMZ acres managed to maintain shade to trout streams consistent with the plan?	RMZ acres managed to maintain shade to trout streams	Acres		SRM Objectives and Actual Actions, GIS	Annual	1
17. Is the frequency of stand management to maintain existing NPC and structure (by NPC) consistent with the plan?	Stand management to maintain existing NPC and structure	Number of stands by NPC and acres		SRM Objectives and Actual Actions	Annual	1
18. Is the frequency of stand management to retain NPC older growth stage components consistent with the plan?	Stand management to retain NPC older growth stage components	Number of stands by NPC and acres	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
19. Is the number of stands managed to protect rare plant and animal locations consistent with the plan (by species)?	Stands managed to protect rare plant and animal locations	Number of stands and acres (note whether a portion of stand)		SRM Objectives and Actual Actions	Annual	1
20. Is the frequency of stands under special management for species or habitat consistent with the plan?	Stands under special management for species or habitat	Number of stands and acres		SRM Objectives and Actual Actions	Annual	1
21. Is the frequency of stand management to maintain adequate residual BA within an identified corridor consistent with the plan?	Stand management to maintain adequate residual BA within an identified corridor	Number of stands and acres		SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
22. Is the number of stands managed to protect a rare native plant consistent with the plan (by species)?	Stands managed to protect a rare native plant	Number of stands and acres	<i>This column will be filled in with the measurable outcomes specified in the subsection plans.</i>	SRM Objectives and Actual Actions	Annual	1
23. Is the frequency of use of prescribed burning as a management tool consistent with the plan?	Use of prescribed burning as a management tool	Number of instances and acres		SRM Objectives and Actual Actions	Annual	1
24. Is the frequency of use of less intensive TSI or site preparation techniques consistent with the plan?	Use of less intensive TSI or site preparation techniques	Number of instances and acres		SRM Objectives and Actual Actions	Annual	1
25. Is the number of stands managed to protect a known cultural resource consistent with the plan (by species)?	Stands managed to protect a known cultural resource	Number of stands and acres (note whether a portion of stand)		SRM Objectives and Actual Actions	Annual	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
26. Is the number of new roads built and road closure methods used consistent with the plan?	New roads built and road closure methods used	Miles and methods		SRM	Annual	1
Effectiveness Monitoring: are management actions having the desired on-the-ground effect?						
(numbers 27 – 40)						
27. Change in the amount of forest land and timber land?	Amount of forest land and timber	Acres of forest land and timber land	Increase the amount of forest land	FIM Satellite Imagery GIS/DRS	Plan Mid Point & Renewal	1
28. Change in representation of forest cover types?	Cover type representation	Total forest acres in each cover type and percent change	Increase diversity; to be specified based on subsection plan	FIM Satellite Imagery	Plan Mid Point & Renewal	1
29. Change in forest size and age class distribution?	Forest size and age class distribution	Total forest acres in each size and age class and percent change	Desired outcome varies; to be specified based on subsection plans	FIM	Plan Mid Point & Renewal	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
30. Change in the number of stands with long-lived conifers?	Stands with long-lived conifers	Total acres and percent change	Increase/decrease depending on plan goals	FIM Satellite Imagery	Plan Mid Point & Renewal	1
31. Change in area of forest affected by potentially damaging agents (tree mortality and damage; wildfire; flooding, insects and diseases, animals, and utility/road construction)?	Area of forest affected by potentially damaging agents	Acres affected by agent and percent change	Decrease affected acres	FIM (look into surveys by Forest Health staff)	Plan Renewal	2
32. Change in forest spatial patterns (patch and connectivity)?	Forest spatial patterns	Number of and size (acres) of patch and index of connectivity	Larger patches with greater connectivity	FIM GIS/modeling	Plan Renewal	2
33. Change in forest-associated species of concern by taxonomic group?	Forest-associated species of concern	Indicator of population size and change	Healthier populations (need to define healthier and spp of concern)	Work with Wildlife & Eco Resources, etc.	Plan Renewal, when data is available	2

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
34. Change in forest bird populations?	Forest bird populations	Indicator of population size and change; possibly red-shouldered hawk, goshawk	Healthier populations (need to define healthier and spp)	Collaborate, possibly with University study, Eco Services	Plan Renewal, when data is available	2
35. Change in rare plant communities (number of sites, area, and composition)?	Rare plant communities	Number of and size (acres) of sites, and measure (indices) of health	Maintain or enhance	Work with Eco Services	Plan Renewal, when data is available	3
36. Change in miles of impaired streams within forests?	Miles of impaired streams within forests	Miles of impaired streams and change	Decrease in miles of impaired streams	Work with Waters GIS/DRS	Plan Renewal, when data is available	2
37. Change in percent of old forest?	Old forest	Acres and percent of total forest	Increase	FIM	Plan Mid Point & Renewal	1

Monitoring Question	Indicator	Report by	Desired Outcome	Data Source	Approx. Freq.	Priority* Rating
38. Change in the percent of effective ERF?	Effective EFR	Acres and percent of total forest	Increase	FIM	Plan Mid Point & Renewal	1
39. Change in the percent of young forest?	Young forest	Acres and percent of total forest	Increase	FIM	Plan Mid Point & Renewal	1
40. Change in condition of the under story?	Condition of the under story (including invasives)	Acres and percent of total forest (need agreement on indices)	Increase/Decrease depending on species	FIM	Plan Mid Point & Renewal	3

NOTE: Numbering is not consecutive between Appendix Q and Appendix R (Stand Exam List). Appendix R starts on page 147.

APPENDIX R

Ten-Year Stand Examination List

This Appendix identifies the list of stands by subsection, location, cover type, treatment acres, and preliminary prescription selected as a result of the North 4 SFRMP stand selection process.

Stand Examinations (Field Visits)

Over the 10-year planning period it is anticipated that every stand on the 10-Year Stand Examination List will be field visited to determine the actual management to be implemented. A total of 6,912 stands are identified on the 10-Year Stand Exam List. As stands were selected and placed on the 10-Year Stand Exam List, preliminary prescriptions were assigned. Final management objectives and final prescriptions will be determined as each stand is field visited.

At the time of field visit a standard *Silvicultural Prescription Worksheet* will be prepared. As the *Worksheet* is prepared the range of decisions about each stand's management include:

1. Appraise the stand for a timber sale.
2. Defer treatment of the stand to a future year.
3. Update the stand's forest inventory data to reflect current conditions without prescribing a management action at this time.
4. Manage for the understory without harvesting at this time.
5. Prescribe silviculture treatment (e.g., site preparation and tree planting).
6. Prescribe timber stand improvement (tsi) to enhance stand vigor, diversity, and/or productivity.

Maps of 10-Year Stand Exam List

Maps identifying the locations of stands on the 10-Year Stand Exam List can be viewed at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html>

Maps identifying all lands administered by DNR by generalized cover type are provided in Chapter 7 (Appendices) as are maps of designated old-growth forest, Ecologically Important Lowland Conifers (EILC), designated patches, and Extended Rotation Forests (ERF).

Note: The maps have been reduced in size for inclusion in this document. It is recommended that these maps be viewed at a larger scale and in color. The colored maps and this report can be viewed at <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html> , and are also

available in CD format by request.

Stand Evaluations

As the stand field visit examinations are completed, all information from the North 4 Plan (i.e., desired future forest composition, strategies, cover type management recommendations, and all department policy, guidelines and directives, and Forest Inventory Module (FIM) data) will be considered in evaluating the stands and making final prescriptions. The field process will include completion of the *Silvicultural Prescription Worksheet*. For many stands, the SFRMP FIM database includes: preliminary management objectives; comments concerning stand management; identification of special management areas; and, requests for a joint visit among DNR divisions (See Appendix J *SFRMP Additional Field Names and Codes*).

During the development of the North 4 10-Year Stand Exam List, some stands were identified for joint site visits by personnel from the Divisions of Fish and Wildlife or Ecological Resources. Joint site visits provide an opportunity to achieve consensus concerning stand management that considers the characteristics unique to individual stands and issues of concern in the field based on the goals and objectives for the stand and the surrounding landscape as recommended in the plan. Stands identified for joint site visits are indicated as such on Annual Stand Exam Lists and appraiser stand reports. Results of joint site visits are documented and filed in the timber sale permit file.

Public Review of Stand Examination Lists

The entire 10-Year Stand Exam List is available for public review at: <http://www.dnr.state.mn.us/forestry/subsection/north4/index.html> . Stands will be available for additional public review as they are included in Annual Stand Exam Lists prepared by each Forestry Area (i.e., by stand examination year). If stands not on the 10-year list are added to the Annual Stand Exam list, they will receive public review as an Annual Plan Addition. For details on these public review processes, see <http://www.dnr.state.mn.us/forestry/harvesting/plans.html> .

Treatment Acres Summary

Tables summarizing treatment acres in various ways are included in General Direction Statement 3.9, starting on page 72 of chapter 3 of this plan.

Table 7.15: Ten-Year Stand Examination List

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	46	22	0	6	47	10	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	46	22	0	10	144	30	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Aitkin	Aitkin	46	22	0	10	3	10	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Aitkin	Aitkin	46	22	0	10	68	11	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	46	22	0	14	93	11	non-ERF		Clearcut w/reserves	2018	aspen	42
St.Louis Moraines	Aitkin	Aitkin	46	22	0	14	79	37	non-ERF		Clearcut w/reserves	2018	lowland black spruce	145
St.Louis Moraines	Aitkin	Aitkin	46	22	0	16	150	25	non-ERF		Clearcut w/reserves	2014	lowland black spruce	142
St.Louis Moraines	Aitkin	Aitkin	46	22	0	16	154	57	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	46	22	0	16	160	36	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	46	22	0	16	94	23	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	74
St.Louis Moraines	Aitkin	Aitkin	46	22	0	22	179	35	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	46	22	0	22	178	35	non-ERF		Uneven-aged regeneration	2018	oak	64
St.Louis Moraines	Aitkin	Aitkin	46	23	0	2	227	8	non-ERF		Clearcut w/reserves	2015	aspen	33
St.Louis Moraines	Aitkin	Aitkin	46	23	0	2	111	12	non-ERF		Clearcut w/reserves	2015	aspen	57
St.Louis Moraines	Aitkin	Aitkin	46	23	0	2	109	6	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	95
St.Louis Moraines	Aitkin	Aitkin	46	23	0	14	149	14	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	90
St.Louis Moraines	Aitkin	Aitkin	46	23	0	16	133	110	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	88
St.Louis Moraines	Aitkin	Aitkin	46	23	0	16	237	36	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	61
St.Louis Moraines	Aitkin	Aitkin	46	23	0	16	145	33	non-ERF		Uneven-aged regeneration	2018	oak	61
St.Louis Moraines	Aitkin	Aitkin	46	23	0	20	49	19	non-ERF		Clearcut w/reserves	2015	aspen	51
St.Louis Moraines	Aitkin	Aitkin	46	24	0	12	15	70	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	46	24	0	12	17	7	non-ERF		Uneven-aged regeneration	2012	oak	76
St.Louis Moraines	Aitkin	Aitkin	46	25	0	2	131	7	non-ERF		Uneven-aged regeneration	2013	oak	66
St.Louis Moraines	Aitkin	Aitkin	46	25	0	2	6	7	ERF		Commercial thinning	2013	red pine	25
St.Louis Moraines	Aitkin	Aitkin	46	25	0	8	139	10	non-ERF		Uneven-aged regeneration	2017	oak	65
St.Louis Moraines	Aitkin	Aitkin	46	25	0	14	34	15	non-ERF		Clearcut w/reserves	2012	tamarack	95
St.Louis Moraines	Aitkin	Aitkin	46	25	0	16	212	12	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	46	25	0	16	38	41	non-ERF		Uneven-aged regeneration	2014	oak	83
St.Louis Moraines	Aitkin	Aitkin	46	25	0	16	42	29	non-ERF		Uneven-aged regeneration	2014	oak	83
St.Louis Moraines	Aitkin	Aitkin	46	25	0	16	211	55	non-ERF		Uneven-aged regeneration	2015	oak	83
St.Louis Moraines	Aitkin	Aitkin	46	25	0	22	58	9	non-ERF		Uneven-aged regeneration	2019	oak	73
St.Louis Moraines	Aitkin	Aitkin	46	25	0	22	161	8	non-ERF		Uneven-aged regeneration	2010	oak	72
St.Louis Moraines	Aitkin	Aitkin	46	25	0	22	54	17	non-ERF		Uneven-aged regeneration	2010	oak	73
St.Louis Moraines	Aitkin	Aitkin	46	25	0	22	171	21	non-ERF		Uneven-aged regeneration	2010	oak	71
St.Louis Moraines	Aitkin	Aitkin	46	25	0	22	55	21	ERF		Commercial thinning	2019	red pine	17
St.Louis Moraines	Aitkin	Aitkin	46	25	0	30	182	7	non-ERF		Uneven-aged regeneration	2018	ash	137
St.Louis Moraines	Aitkin	Aitkin	46	25	0	30	191	13	non-ERF		Uneven-aged regeneration	2018	oak	77
St.Louis Moraines	Aitkin	Aitkin	46	26	0	6	20	23	non-ERF	Y	Uneven-aged regeneration	2019	ash	116
St.Louis Moraines	Aitkin	Aitkin	46	26	0	6	15	10	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	46	26	0	16	62	7	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	97
St.Louis Moraines	Aitkin	Aitkin	46	26	0	24	75	55	non-ERF		Clearcut w/reserves	2010	aspen	83
St.Louis Moraines	Aitkin	Aitkin	46	27	0	7	74	10	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	75
St.Louis Moraines	Aitkin	Aitkin	46	27	0	7	73	26	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	86
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	95	20	non-ERF	Y	Clearcut w/reserves	2011	aspen	36
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	102	21	non-ERF		Clearcut w/reserves	2019	aspen	36
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	117	17	non-ERF		Clearcut w/reserves	2015	aspen	36
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	111	17	non-ERF		Uneven-aged regeneration	2019	oak	87
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	174	12	non-ERF		Uneven-aged regeneration	2019	oak	86
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	106	14	non-ERF	Y	Uneven-aged regeneration	2019	oak	69
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	101	7	ERF		Commercial thinning	2011	red pine	21
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	20	3	ERF		Commercial thinning	2013	red pine	25
St.Louis Moraines	Crow Wing	Backus	46	29	0	6	15	28	non-ERF		Clearcut w/reserves	2016	aspen	31
St.Louis Moraines	Crow Wing	Backus	46	29	0	8	78	4	non-ERF	Y	Commercial thinning	2018	white spruce	11
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	80	18	non-ERF		Clearcut w/reserves	2018	aspen	46

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	82	3	non-ERF		Clearcut w/reserves	2018	aspen	48
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	93	4	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	94	2	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	84	1	non-ERF		Clearcut w/reserves	2018	aspen	38
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	92	20	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Carlton	Cloquet	47	21	0	2	95	0	non-ERF		Clearcut w/reserves	2018	aspen	21
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	38	19	non-ERF		Clearcut w/reserves	2018	aspen	58
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	45	9	non-ERF		Clearcut w/reserves	2018	aspen	57
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	40	23	non-ERF		Clearcut w/reserves	2018	aspen	57
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	50	8	non-ERF		Clearcut w/reserves	2018	aspen	52
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	35	5	non-ERF		Clearcut w/reserves	2018	aspen	84
St.Louis Moraines	Carlton	Cloquet	47	21	0	16	46	5	non-ERF		Clearcut w/reserves	2018	tamarack	101
St.Louis Moraines	Aitkin	Aitkin	47	22	0	2	82	49	non-ERF		Commercial thinning	2011	white spruce	47
St.Louis Moraines	Aitkin	Aitkin	47	22	0	16	139	6	non-ERF		Clearcut w/reserves	2018	aspen	41
St.Louis Moraines	Aitkin	Aitkin	47	22	0	16	130	20	non-ERF		Clearcut w/reserves	2018	aspen	38
St.Louis Moraines	Aitkin	Aitkin	47	22	0	16	120	9	non-ERF		Clearcut w/reserves	2018	birch	76
St.Louis Moraines	Aitkin	Aitkin	47	22	0	16	93	21	ERF		Commercial thinning	2018	red pine	19
St.Louis Moraines	Aitkin	Aitkin	47	22	0	32	70	16	non-ERF		Clearcut w/reserves	2018	aspen	44
St.Louis Moraines	Aitkin	Aitkin	47	22	0	36	102	126	ERF		Clearcut w/reserves	2010	aspen	52
St.Louis Moraines	Aitkin	Aitkin	47	22	0	36	118	219	ERF		Clearcut w/reserves	2010	aspen	47
St.Louis Moraines	Aitkin	Aitkin	47	22	0	36	103	74	ERF		Clearcut w/reserves	2010	aspen	32
Tamarack Lowlands	Aitkin	Aitkin	47	23	0	6	6	13	non-ERF		Clearcut w/reserves	2015	aspen	50
Tamarack Lowlands	Aitkin	Aitkin	47	23	0	6	5	12	non-ERF		Clearcut w/reserves	2015	aspen	50
Tamarack Lowlands	Aitkin	Aitkin	47	23	0	6	16	6	non-ERF		Clearcut w/reserves	2015	aspen	50
St.Louis Moraines	Aitkin	Aitkin	47	23	0	10	98	13	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	87
St.Louis Moraines	Aitkin	Aitkin	47	23	0	16	32	19	non-ERF		Clearcut w/reserves	2019	aspen	60
St.Louis Moraines	Aitkin	Aitkin	47	23	0	16	107	34	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Aitkin	Aitkin	47	23	0	16	106	36	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	90
St.Louis Moraines	Aitkin	Aitkin	47	23	0	26	54	15	non-ERF		Clearcut w/reserves	2014	birch	84

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	1	32	14	non-ERF		Clearcut w/reserves	2015	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	3	29	7	non-ERF		Clearcut w/reserves	2013	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	3	46	6	non-ERF		Clearcut w/reserves	2013	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	3	31	5	non-ERF		Clearcut w/reserves	2013	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	3	28	20	non-ERF		Clearcut w/reserves	2013	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	4	23	9	non-ERF		Clearcut w/reserves	2013	aspen	69
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	5	56	12	non-ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	47	24	0	5	215	25	non-ERF		Clearcut w/reserves	2010	aspen	79
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	8	77	9	non-ERF		Clearcut w/reserves	2013	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	8	212	3	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	8	61	12	non-ERF		Clearcut w/reserves	2013	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	8	163	8	non-ERF		Clearcut w/reserves	2013	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	9	165	71	ERF		Clearcut w/reserves	2015	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	11	76	6	non-ERF		Clearcut w/reserves	2018	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	11	82	25	non-ERF		Clearcut w/reserves	2018	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	16	90	12	non-ERF		Uneven-aged regeneration	2018	oak	87
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	16	181	23	non-ERF		Uneven-aged regeneration	2018	oak	87
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	16	95	18	ERF		Clearcut w/reserves	2018	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	16	196	16	ERF		Clearcut w/reserves	2018	aspen	73
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	17	199	5	non-ERF		Uneven-aged regeneration	2018	oak	86
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	17	183	23	ERF		Clearcut w/reserves	2015	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	47	24	0	18	97	6	ERF		Clearcut w/reserves	2018	aspen	63
St.Louis Moraines	Aitkin	Aitkin	47	25	0	12	33	15	non-ERF		Clearcut w/reserves	2013	tamarack	137
St.Louis Moraines	Aitkin	Aitkin	47	25	0	16	84	51	ERF		Clearcut w/reserves	2015	aspen	49
St.Louis Moraines	Aitkin	Aitkin	47	25	0	22	212	22	non-ERF		Clearcut w/reserves	2010	aspen	57
St.Louis Moraines	Aitkin	Aitkin	47	25	0	26	143	13	non-ERF		Uneven-aged regeneration	2019	ash	117
St.Louis Moraines	Aitkin	Aitkin	47	25	0	26	120	22	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	64

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	47	25	0	28	122	39	non-ERF		Clearcut w/reserves	2010	aspen	62
St.Louis Moraines	Aitkin	Aitkin	47	25	0	28	121	51	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	55
St.Louis Moraines	Aitkin	Aitkin	47	25	0	28	131	5	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	47	25	0	33	173	8	non-ERF		Clearcut w/reserves	2011	aspen	76
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	223	4	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	235	18	non-ERF		Clearcut w/reserves	2015	aspen	42
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	159	29	non-ERF		Clearcut w/reserves	2015	aspen	42
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	178	19	non-ERF		Clearcut w/reserves	2019	aspen	55
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	188	8	non-ERF		Uneven-aged regeneration	2019	oak	83
St.Louis Moraines	Aitkin	Aitkin	47	25	0	36	217	25	non-ERF		Uneven-aged regeneration	2019	oak	70
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	1	97	16	non-ERF		Clearcut w/reserves	2019	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	1	108	30	non-ERF		Clearcut w/reserves	2019	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	1	93	39	non-ERF		Uneven-aged regeneration	2015	lowland hardwoods	106
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	1	92	71	non-ERF		Uneven-aged regeneration	2015	lowland hardwoods	111
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	2	98	53	non-ERF		Clearcut w/reserves	2015	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	2	16	10	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	2	8	11	non-ERF		Clearcut w/reserves	2015	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	2	95	65	non-ERF		Clearcut w/reserves	2015	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	3	5	16	non-ERF		Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	10	22	11	non-ERF		Clearcut w/reserves	2013	balm of Gilead	62
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	11	136	26	non-ERF		Clearcut w/reserves	2018	aspen	35
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	14	142	61	non-ERF		Clearcut w/reserves	2018	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	14	41	17	non-ERF		Clearcut w/reserves	2018	aspen	32
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	18	43	4	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	47	26	0	22	160	14	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Crow Wing	Backus	47	28	0	14	19	47	non-ERF		Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	Crow Wing	Backus	47	28	0	16	27	4	non-ERF		Clearcut w/reserves	2015	aspen	152
Tamarack Lowlands	Crow Wing	Backus	47	28	0	16	120	8	non-ERF		Clearcut w/reserves	2015	aspen	57
Tamarack Lowlands	Crow Wing	Backus	47	28	0	20	39	5	non-ERF		Clearcut w/reserves	2011	aspen	57

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Crow Wing	Backus	47	28	0	20	31	10	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	85	2	non-ERF	Y	Commercial thinning	2014	white pine	47
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	84	7	ERF	Y	Commercial thinning	2014	red pine	47
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	129	5	ERF	Y	Commercial thinning	2014	red pine	46
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	74	11	ERF		Commercial thinning	2016	red pine	90
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	101	14	ERF		Commercial thinning	2014	red pine	18
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	79	13	ERF		Commercial thinning	2014	red pine	27
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	100	27	ERF	Y	Commercial thinning	2016	red pine	46
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	70	17	ERF		Commercial thinning	2016	red pine	90
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	91	7	ERF		Commercial thinning	2014	red pine	25
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	72	6	ERF		Commercial thinning	2014	red pine	30
St.Louis Moraines	Crow Wing	Backus	47	29	0	21	115	5	non-ERF	Y	Clearcut w/reserves	2011	aspen	70
St.Louis Moraines	Crow Wing	Backus	47	29	0	21	108	6	non-ERF		Clearcut w/reserves	2011	tamarack	98
St.Louis Moraines	Crow Wing	Backus	47	29	0	21	113	5	non-ERF		Clearcut w/reserves	2011	tamarack	98
St.Louis Moraines	Crow Wing	Backus	47	29	0	21	116	5	non-ERF		Uneven-aged regeneration	2011	balsam fir	68
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	62	3	non-ERF		Clearcut w/reserves	2015	aspen	63
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	56	12	non-ERF		Clearcut w/reserves	2015	aspen	33
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	14	9	non-ERF		Clearcut w/reserves	2016	aspen	34
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	61	5	non-ERF	Y	Commercial thinning	2011	white pine	74
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	60	30	non-ERF	Y	Commercial thinning	2011	white spruce	44
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	46	6	ERF		Commercial thinning	2011	red pine	92
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	55	52	ERF		Commercial thinning	2011	red pine	25
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	58	7	ERF		Commercial thinning	2011	red pine	54
St.Louis Moraines	Crow Wing	Backus	47	30	0	36	5	19	non-ERF		Clearcut w/reserves	2015	aspen	60
St.Louis Moraines	Crow Wing	Backus	47	30	0	36	2	13	non-ERF		Clearcut w/reserves	2015	aspen	48
St.Louis Moraines	Crow Wing	Backus	47	30	0	36	17	37	non-ERF		Clearcut w/reserves	2014	aspen	70
St.Louis Moraines	Crow Wing	Backus	47	30	0	36	4	38	ERF		Commercial thinning	2015	red pine	46

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Carlton	Cloquet	48	21	0	16	6	4	non-ERF		Clearcut w/reserves	2016	birch	90
St.Louis Moraines	Carlton	Cloquet	48	21	0	16	9	21	non-ERF		Clearcut w/reserves	2016	birch	85
St.Louis Moraines	Carlton	Cloquet	48	21	0	20	26	9	non-ERF		Clearcut w/reserves	2017	aspen	57
St.Louis Moraines	Carlton	Cloquet	48	21	0	20	25	12	non-ERF		Clearcut w/reserves	2017	aspen	32
St.Louis Moraines	Carlton	Cloquet	48	21	0	26	29	4	non-ERF		Clearcut w/reserves	2017	aspen	77
St.Louis Moraines	Carlton	Cloquet	48	21	0	26	69	6	non-ERF		Clearcut w/reserves	2017	aspen	77
St.Louis Moraines	Carlton	Cloquet	48	21	0	26	71	2	non-ERF		Clearcut w/reserves	2017	birch	72
St.Louis Moraines	Carlton	Cloquet	48	21	0	26	70	12	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	79
St.Louis Moraines	Carlton	Cloquet	48	21	0	30	42	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	99
St.Louis Moraines	Carlton	Cloquet	48	21	0	36	59	2	non-ERF		Uneven-aged regeneration	2017	ash	84
St.Louis Moraines	Aitkin	Aitkin	48	22	0	1	266	95	non-ERF		Clearcut w/reserves	2016	aspen	62
St.Louis Moraines	Aitkin	Aitkin	48	22	0	1	63	5	non-ERF		Clearcut w/reserves	2016	aspen	60
St.Louis Moraines	Aitkin	Aitkin	48	22	0	1	270	16	non-ERF		Uneven-aged regeneration	2016	ash	97
St.Louis Moraines	Aitkin	Aitkin	48	22	0	1	61	22	non-ERF		Commercial thinning	2019	white spruce	20
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	2	56	13	non-ERF		Clearcut w/reserves	2016	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	12	8	8	non-ERF		Clearcut w/reserves	2010	aspen	67
St.Louis Moraines	Aitkin	Aitkin	48	22	0	13	147	27	non-ERF	Y	Clearcut w/reserves	2017	tamarack	126
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	22	164	13	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	73
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	23	165	39	non-ERF		Clearcut w/reserves	2015	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	23	162	15	non-ERF		Clearcut w/reserves	2015	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	48	22	0	23	20	25	non-ERF		Clearcut w/reserves	2015	tamarack	110
St.Louis Moraines	Aitkin	Aitkin	48	22	0	25	188	17	non-ERF		Clearcut w/reserves	2015	aspen	63
St.Louis Moraines	Aitkin	Aitkin	48	22	0	25	182	6	non-ERF		Clearcut w/reserves	2015	aspen	24
St.Louis Moraines	Aitkin	Aitkin	48	22	0	25	183	11	non-ERF		Clearcut w/reserves	2015	aspen	62
St.Louis Moraines	Aitkin	Aitkin	48	22	0	25	186	13	non-ERF		Clearcut w/reserves	2015	aspen	62
St.Louis Moraines	Aitkin	Aitkin	48	22	0	31	51	11	non-ERF		Uneven-aged regeneration	2018	oak	74
St.Louis Moraines	Aitkin	Aitkin	48	22	0	31	223	71	non-ERF		Uneven-aged regeneration	2018	oak	80
St.Louis Moraines	Aitkin	Aitkin	48	22	0	32	35	18	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	68
St.Louis Moraines	Aitkin	Aitkin	48	22	0	33	298	16	non-ERF		Clearcut w/reserves	2018	aspen	34

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	48	22	0	34	41	4	non-ERF		Clearcut w/reserves	2014	aspen	66
St.Louis Moraines	Aitkin	Aitkin	48	22	0	34	50	8	non-ERF		Clearcut w/reserves	2019	aspen	35
St.Louis Moraines	Aitkin	Aitkin	48	22	0	34	213	72	non-ERF		Clearcut w/reserves	2014	aspen	32
St.Louis Moraines	Aitkin	Aitkin	48	22	0	34	315	20	non-ERF		Clearcut w/reserves	2019	aspen	27
St.Louis Moraines	Aitkin	Aitkin	48	22	0	34	40	10	non-ERF		Clearcut w/reserves	2014	aspen	66
St.Louis Moraines	Aitkin	Aitkin	48	22	0	35	292	11	non-ERF		Clearcut w/reserves	2018	aspen	21
St.Louis Moraines	Aitkin	Aitkin	48	22	0	35	300	11	non-ERF		Clearcut w/reserves	2013	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	35	294	43	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	35	316	2	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	48	22	0	35	227	18	non-ERF		Clearcut w/reserves	2018	aspen	21
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	206	11	non-ERF		Clearcut w/reserves	2013	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	218	44	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	209	164	non-ERF		Clearcut w/reserves	2019	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	202	16	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	42	12	non-ERF		Clearcut w/reserves	2013	aspen	45
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	240	9	non-ERF		Clearcut w/reserves	2019	birch	75
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	238	7	non-ERF		Clearcut w/reserves	2013	balm of Gilead	64
St.Louis Moraines	Aitkin	Aitkin	48	22	0	36	257	9	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	61
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	2	6	37	non-ERF		Clearcut w/reserves	2018	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	2	35	13	non-ERF		Clearcut w/reserves	2018	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	2	26	52	non-ERF		Clearcut w/reserves	2018	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	2	31	6	non-ERF		Clearcut w/reserves	2018	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	2	247	5	non-ERF		Clearcut w/reserves	2018	birch	87
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	3	264	15	non-ERF		Clearcut w/reserves	2018	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	3	252	14	non-ERF		Clearcut w/reserves	2018	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	7	73	8	non-ERF		Clearcut w/reserves	2014	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	8	281	19	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	53	14	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	66	9	non-ERF		Clearcut w/reserves	2019	aspen	29
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	83	17	non-ERF		Clearcut w/reserves	2019	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	81	13	non-ERF		Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	78	21	non-ERF	Y	Clearcut w/reserves	2019	aspen	29
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	63	12	non-ERF		Clearcut w/reserves	2012	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	61	7	non-ERF	Y	Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	49	8	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	379	12	non-ERF		Uneven-aged regeneration	2019	oak	86
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	10	48	12	non-ERF		Clearcut w/reserves	2018	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	11	44	10	non-ERF		Clearcut w/reserves	2018	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	11	57	4	non-ERF		Clearcut w/reserves	2018	aspen	30
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	16	135	12	non-ERF	Y	Clearcut w/reserves	2010	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	16	130	63	non-ERF	Y	Clearcut w/reserves	2014	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	18	118	8	ERF		Commercial thinning	2015	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	21	143	18	non-ERF	Y	Clearcut w/reserves	2010	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	21	313	22	non-ERF		Clearcut w/reserves	2010	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	21	162	10	non-ERF		Clearcut w/reserves	2010	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	21	158	28	non-ERF		Clearcut w/reserves	2010	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	22	174	7	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	22	144	34	ERF		Commercial thinning	2015	red pine	107
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	23	148	64	non-ERF		Clearcut w/reserves	2012	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	24	315	8	non-ERF		Clearcut w/reserves	2019	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	24	149	10	non-ERF		Clearcut w/reserves	2019	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	24	311	15	non-ERF		Clearcut w/reserves	2012	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	25	193	16	non-ERF		Clearcut w/reserves	2015	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	33	231	11	non-ERF		Clearcut w/reserves	2012	aspen	60
St.Louis Moraines	Aitkin	Aitkin	48	23	0	35	236	18	non-ERF		Clearcut w/reserves	2019	aspen	66
St.Louis Moraines	Aitkin	Aitkin	48	23	0	35	212	74	non-ERF		Clearcut w/reserves	2019	aspen	21

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	48	23	0	35	223	49	non-ERF		Clearcut w/reserves	2019	aspen	49
St.Louis Moraines	Aitkin	Aitkin	48	23	0	35	208	16	non-ERF		Clearcut w/reserves	2010	tamarack	107
St.Louis Moraines	Aitkin	Aitkin	48	23	0	36	374	40	non-ERF		Clearcut w/reserves	2014	aspen	61
St.Louis Moraines	Aitkin	Aitkin	48	23	0	36	239	9	non-ERF		Clearcut w/reserves	2014	aspen	49
St.Louis Moraines	Aitkin	Aitkin	48	23	0	36	211	20	non-ERF		Clearcut w/reserves	2019	aspen	21
St.Louis Moraines	Aitkin	Aitkin	48	23	0	36	237	9	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Aitkin	Aitkin	48	23	0	36	375	28	non-ERF		Uneven-aged regeneration	2014	oak	78
St.Louis Moraines	Aitkin	Aitkin	48	24	0	18	130	10	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	81
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	24	105	3	non-ERF		Clearcut w/reserves	2012	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	26	51	6	non-ERF		Clearcut w/reserves	2011	jack pine	83
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	33	157	8	non-ERF		Clearcut w/reserves	2013	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	34	78	5	non-ERF		Clearcut w/reserves	2013	aspen	40
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	35	77	4	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	35	79	7	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	48	24	0	36	125	13	non-ERF		Clearcut w/reserves	2011	jack pine	69
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	8	16	27	non-ERF		Clearcut w/reserves	2011	balm of Gilead	60
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	20	48	3	non-ERF		Uneven-aged regeneration	2017	lowland hardwoods	99
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	28	60	8	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	28	88	43	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	65
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	30	124	7	non-ERF		Clearcut w/reserves	2011	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	30	122	3	non-ERF		Clearcut w/reserves	2012	balm of Gilead	60
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	30	123	5	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	50
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	32	94	12	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	48	25	0	36	105	9	non-ERF		Clearcut w/reserves	2011	tamarack	118
St.Louis Moraines	Aitkin	Aitkin	48	26	0	1	244	4	non-ERF		Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	1	115	25	non-ERF		Uneven-aged regeneration	2014	ash	110
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	1	232	29	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	139

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	1	230	60	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	72
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	1	231	24	ERF		Clearcut w/reserves	2014	aspen	72
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	2	20	12	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	101
St.Louis Moraines	Aitkin	Aitkin	48	26	0	6	124	46	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	48	26	0	6	102	14	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	48	26	0	6	100	155	ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	7	161	60	ERF		Clearcut w/reserves	2013	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	14	177	21	non-ERF		Clearcut w/reserves	2012	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	21	71	46	non-ERF		Uneven-aged regeneration	2016	oak	78
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	21	68	50	non-ERF		Uneven-aged regeneration	2012	oak	78
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	24	61	33	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	24	63	7	non-ERF		Clearcut w/reserves	2012	aspen	72
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	24	69	8	non-ERF		Clearcut w/reserves	2012	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	28	82	40	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	84
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	28	81	7	ERF		Commercial thinning	2012	red pine	29
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	33	95	40	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	88
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	33	90	174	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	86
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	34	94	21	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	86
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	35	215	18	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	92
Tamarack Lowlands	Aitkin	Aitkin	48	26	0	36	223	6	ERF		Commercial thinning	2011	red pine	27
St.Louis Moraines	Aitkin	Aitkin	48	27	0	1	175	12	non-ERF		Clearcut w/reserves	2012	balsam fir	52
St.Louis Moraines	Aitkin	Aitkin	48	27	0	1	170	44	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	48	27	0	10	121	6	non-ERF		Clearcut w/reserves	2019	tamarack	94
St.Louis Moraines	Aitkin	Aitkin	48	27	0	10	19	13	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	11	117	7	non-ERF		Clearcut w/reserves	2019	tamarack	142
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	11	118	90	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	55
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	12	9	6	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	125
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	12	187	19	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	85
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	15	37	15	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	77

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	48	27	0	16	125	54	non-ERF		Uneven-aged regeneration	2016	oak	84
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	22	44	28	non-ERF		Uneven-aged regeneration	2014	ash	89
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	25	83	16	non-ERF		Clearcut w/reserves	2011	tamarack	80
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	25	68	141	ERF		Clearcut w/reserves	2011	tamarack	87
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	26	86	9	non-ERF		Clearcut w/reserves	2011	tamarack	131
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	26	71	15	non-ERF		Clearcut w/reserves	2011	tamarack	89
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	27	151	17	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	28	156	12	non-ERF		Clearcut w/reserves	2014	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	36	166	9	non-ERF		Clearcut w/reserves	2013	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	48	27	0	36	97	7	non-ERF		Clearcut w/reserves	2013	aspen	64
St.Louis Moraines	Carlton	Cloquet	49	20	0	30	475	4	non-ERF		Clearcut w/reserves	2017	aspen	57
St.Louis Moraines	Carlton	Cloquet	49	20	0	30	434	7	non-ERF		Clearcut w/reserves	2017	aspen	44
St.Louis Moraines	Carlton	Cloquet	49	20	0	30	428	33	non-ERF		Clearcut w/reserves	2017	aspen	28
St.Louis Moraines	Carlton	Cloquet	49	20	0	34	444	13	non-ERF		Commercial thinning	2010	white spruce	63
St.Louis Moraines	Carlton	Cloquet	49	20	0	34	447	3	non-ERF		Commercial thinning	2010	white spruce	45
St.Louis Moraines	Carlton	Cloquet	49	21	0	4	30	6	non-ERF		Clearcut w/reserves	2011	aspen	76
St.Louis Moraines	Carlton	Cloquet	49	21	0	4	51	3	non-ERF		Clearcut w/reserves	2011	aspen	76
St.Louis Moraines	Carlton	Cloquet	49	21	0	4	42	6	non-ERF		Clearcut w/reserves	2011	balsam fir	60
St.Louis Moraines	Carlton	Cloquet	49	21	0	14	142	13	non-ERF		Clearcut w/reserves	2017	aspen	44
St.Louis Moraines	Carlton	Cloquet	49	21	0	16	79	1	ERF		Clearcut w/reserves	2016	aspen	51
St.Louis Moraines	Carlton	Cloquet	49	21	0	16	82	6	ERF		Clearcut w/reserves	2016	aspen	22
St.Louis Moraines	Carlton	Cloquet	49	21	0	16	88	15	ERF		Clearcut w/reserves	2016	aspen	54
St.Louis Moraines	Carlton	Cloquet	49	21	0	16	151	5	ERF		Clearcut w/reserves	2016	aspen	50
St.Louis Moraines	Carlton	Cloquet	49	21	0	16	77	3	ERF		Clearcut w/reserves	2016	aspen	51
St.Louis Moraines	Carlton	Cloquet	49	21	0	20	190	4	non-ERF		Clearcut w/reserves	2016	aspen	91
St.Louis Moraines	Carlton	Cloquet	49	21	0	20	166	6	non-ERF		Clearcut w/reserves	2010	aspen	63
St.Louis Moraines	Carlton	Cloquet	49	21	0	20	173	6	non-ERF		Clearcut w/reserves	2010	aspen	39

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Carlton	Cloquet	49	21	0	20	167	3	non-ERF		Clearcut w/reserves	2010	balsam fir	41
St.Louis Moraines	Carlton	Cloquet	49	21	0	22	210	2	non-ERF	Y	Clearcut w/reserves	2016	birch	81
St.Louis Moraines	Carlton	Cloquet	49	21	0	22	212	3	non-ERF		Clearcut w/reserves	2016	tamarack	146
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	186	5	non-ERF		Clearcut w/reserves	2017	aspen	42
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	168	22	non-ERF		Clearcut w/reserves	2017	aspen	44
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	193	3	non-ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	184	3	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	172	30	non-ERF		Clearcut w/reserves	2017	aspen	47
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	180	8	non-ERF		Clearcut w/reserves	2017	aspen	45
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	185	34	non-ERF		Clearcut w/reserves	2017	aspen	85
St.Louis Moraines	Carlton	Cloquet	49	21	0	24	189	9	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Carlton	Cloquet	49	21	0	36	202	2	non-ERF		Clearcut w/reserves	2016	aspen	91
St.Louis Moraines	Carlton	Cloquet	49	21	0	36	203	30	non-ERF		Clearcut w/reserves	2016	aspen	51
St.Louis Moraines	Carlton	Cloquet	49	21	0	36	206	44	non-ERF		Clearcut w/reserves	2016	aspen	51
St.Louis Moraines	Carlton	Cloquet	49	21	0	36	201	5	non-ERF		Clearcut w/reserves	2016	balm of Gilead	86
St.Louis Moraines	Carlton	Cloquet	49	21	0	36	209	5	ERF		Commercial thinning	2016	red pine	24
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	93	6	non-ERF		Clearcut w/reserves	2014	aspen	76
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	108	8	non-ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	87	12	non-ERF	Y	Clearcut w/reserves	2014	aspen	57
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	96	44	non-ERF		Clearcut w/reserves	2017	tamarack	135
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	100	33	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	91
St.Louis Moraines	Aitkin	Aitkin	49	22	0	4	91	13	non-ERF		Clearcut w/reserves	2016	aspen	42
St.Louis Moraines	Aitkin	Aitkin	49	22	0	4	77	10	non-ERF		Clearcut w/reserves	2016	aspen	69
St.Louis Moraines	Aitkin	Aitkin	49	22	0	4	2	3	non-ERF		Commercial thinning	2012	white spruce	48
St.Louis Moraines	Aitkin	Aitkin	49	22	0	6	105	15	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	49	22	0	6	106	12	ERF	Y	Commercial thinning	2013	red pine	79
St.Louis Moraines	Aitkin	Aitkin	49	22	0	8	128	28	non-ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	22	0	8	15	3	non-ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	22	0	8	14	20	non-ERF		Clearcut w/reserves	2017	lowland black spruce	121

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	22	0	8	10	6	non-ERF		Uneven-aged regeneration	2017	balsam fir	86
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	13	14	non-ERF		Clearcut w/reserves	2013	aspen	66
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	124	14	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	130	10	non-ERF		Clearcut w/reserves	2017	aspen	35
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	117	7	non-ERF		Clearcut w/reserves	2017	aspen	32
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	18	6	ERF		Commercial thinning	2013	red pine	27
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	123	12	ERF	Y	Commercial thinning	2017	red pine	62
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	118	23	ERF		Commercial thinning	2017	red pine	24
St.Louis Moraines	Aitkin	Aitkin	49	22	0	14	25	12	non-ERF		Clearcut w/reserves	2015	aspen	52
St.Louis Moraines	Aitkin	Aitkin	49	22	0	14	147	18	non-ERF		Clearcut w/reserves	2015	aspen	52
St.Louis Moraines	Aitkin	Aitkin	49	22	0	14	153	47	non-ERF		Clearcut w/reserves	2017	balm of Gilead	38
St.Louis Moraines	Aitkin	Aitkin	49	22	0	16	26	28	non-ERF		Clearcut w/reserves	2015	aspen	51
St.Louis Moraines	Aitkin	Aitkin	49	22	0	16	150	10	non-ERF		Clearcut w/reserves	2015	aspen	63
St.Louis Moraines	Aitkin	Aitkin	49	22	0	28	181	23	non-ERF		Clearcut w/reserves	2017	aspen	52
St.Louis Moraines	Aitkin	Aitkin	49	22	0	28	180	27	non-ERF		Clearcut w/reserves	2017	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	31	65	3	non-ERF		Commercial thinning	2014	white spruce	25
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	31	60	16	ERF		Commercial thinning	2014	red pine	25
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	31	58	4	ERF		Commercial thinning	2014	red pine	27
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	32	63	30	ERF		Commercial thinning	2010	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	32	197	44	ERF		Commercial thinning	2016	red pine	22
Tamarack Lowlands	Aitkin	Aitkin	49	22	0	32	210	36	ERF		Commercial thinning	2016	red pine	22
St.Louis Moraines	Aitkin	Aitkin	49	22	0	36	194	72	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	49	22	0	36	200	51	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	633	7	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	631	43	non-ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	10	10	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	71	4	non-ERF		Clearcut w/reserves	2013	lowland black spruce	89

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	43	5	non-ERF		Clearcut w/reserves	2011	tamarack	133
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	627	23	non-ERF		Uneven-aged regeneration	2016	ash	108
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	625	72	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	109
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	11	20	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	24	24	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	86
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	4	8	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	99
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	73	18	non-ERF		Uneven-aged regeneration	2016	oak	97
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	7	6	non-ERF		Uneven-aged regeneration	2011	oak	99
St.Louis Moraines	Aitkin	Aitkin	49	23	0	1	45	20	ERF		Clearcut w/reserves	2011	tamarack	85
St.Louis Moraines	Aitkin	Aitkin	49	23	0	2	648	28	non-ERF		Uneven-aged regeneration	2016	oak	88
St.Louis Moraines	Aitkin	Aitkin	49	23	0	5	640	14	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	95
St.Louis Moraines	Aitkin	Aitkin	49	23	0	6	638	8	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	95
St.Louis Moraines	Aitkin	Aitkin	49	23	0	9	175	33	ERF		Commercial thinning	2019	red pine	17
St.Louis Moraines	Aitkin	Aitkin	49	23	0	10	106	32	non-ERF		Clearcut w/reserves	2014	aspen	55
St.Louis Moraines	Aitkin	Aitkin	49	23	0	10	137	22	non-ERF		Uneven-aged regeneration	2014	oak	98
St.Louis Moraines	Aitkin	Aitkin	49	23	0	10	172	6	non-ERF		Uneven-aged regeneration	2014	oak	97
St.Louis Moraines	Aitkin	Aitkin	49	23	0	10	126	15	ERF		Commercial thinning	2015	red pine	23
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	149	5	non-ERF		Clearcut w/reserves	2014	aspen	59
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	181	14	non-ERF		Clearcut w/reserves	2014	aspen	59
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	185	9	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	189	10	non-ERF		Clearcut w/reserves	2014	aspen	56
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	161	12	non-ERF		Clearcut w/reserves	2014	birch	81
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	187	10	non-ERF		Clearcut w/reserves	2014	balsam fir	60
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	143	64	non-ERF		Uneven-aged regeneration	2014	oak	72
St.Louis Moraines	Aitkin	Aitkin	49	23	0	11	125	51	ERF		Commercial thinning	2015	red pine	23
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	701	8	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	702	19	non-ERF		Clearcut w/reserves	2017	aspen	49
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	700	30	non-ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	715	14	non-ERF		Clearcut w/reserves	2011	aspen	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	665	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	95
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	661	15	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	99
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	190	6	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	757	3	non-ERF	Y	Commercial thinning	2013	white pine	57
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	168	1	ERF		Clearcut w/reserves	2011	tamarack	114
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	708	35	ERF		Clearcut w/reserves	2011	tamarack	114
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	162	10	ERF		Commercial thinning	2013	red pine	57
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	133	3	ERF		Commercial thinning	2013	red pine	45
St.Louis Moraines	Aitkin	Aitkin	49	23	0	13	731	25	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	23	0	13	259	51	non-ERF		Clearcut w/reserves	2011	aspen	42
St.Louis Moraines	Aitkin	Aitkin	49	23	0	13	212	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	90
St.Louis Moraines	Aitkin	Aitkin	49	23	0	13	285	7	ERF	Y	Commercial thinning	2011	red pine	47
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	232	6	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	205	7	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	224	8	non-ERF		Clearcut w/reserves	2016	lowland black spruce	92
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	313	13	non-ERF	Y	Commercial thinning	2019	white pine	18
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	289	60	ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	305	15	ERF		Commercial thinning	2017	red pine	21
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	739	3	ERF		Commercial thinning	2011	red pine	44
St.Louis Moraines	Aitkin	Aitkin	49	23	0	15	322	9	non-ERF		Clearcut w/reserves	2013	aspen	32
St.Louis Moraines	Aitkin	Aitkin	49	23	0	16	264	20	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	107
St.Louis Moraines	Aitkin	Aitkin	49	23	0	16	284	10	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	87
St.Louis Moraines	Aitkin	Aitkin	49	23	0	16	314	9	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	85
St.Louis Moraines	Aitkin	Aitkin	49	23	0	16	670	12	non-ERF		Uneven-aged regeneration	2011	oak	90
St.Louis Moraines	Aitkin	Aitkin	49	23	0	16	721	21	ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Aitkin	Aitkin	49	23	0	20	328	11	non-ERF		Uneven-aged regeneration	2011	oak	111
St.Louis Moraines	Aitkin	Aitkin	49	23	0	23	364	10	non-ERF		Clearcut w/reserves	2013	aspen	53

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	23	0	23	363	50	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	54
St.Louis Moraines	Aitkin	Aitkin	49	23	0	24	359	10	non-ERF	Y	Clearcut w/reserves	2011	aspen	70
St.Louis Moraines	Aitkin	Aitkin	49	23	0	25	454	17	non-ERF		Clearcut w/reserves	2015	aspen	65
St.Louis Moraines	Aitkin	Aitkin	49	23	0	25	457	22	non-ERF		Clearcut w/reserves	2015	aspen	42
St.Louis Moraines	Aitkin	Aitkin	49	23	0	26	443	11	non-ERF		Clearcut w/reserves	2019	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	23	0	26	447	17	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	49	23	0	26	441	8	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	95
Tamarack Lowlands	Aitkin	Aitkin	49	23	0	27	459	38	ERF		Commercial thinning	2014	red pine	24
St.Louis Moraines	Aitkin	Aitkin	49	23	0	29	449	32	non-ERF		Clearcut w/reserves	2013	lowland black spruce	89
St.Louis Moraines	Aitkin	Aitkin	49	23	0	29	453	6	non-ERF		Clearcut w/reserves	2013	tamarack	116
St.Louis Moraines	Aitkin	Aitkin	49	23	0	29	461	7	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	49	23	0	29	467	14	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	49	23	0	29	428	21	ERF		Commercial thinning	2013	red pine	25
St.Louis Moraines	Aitkin	Aitkin	49	23	0	32	600	12	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	66
St.Louis Moraines	Aitkin	Aitkin	49	23	0	32	484	41	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	49	23	0	32	523	28	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	87
St.Louis Moraines	Aitkin	Aitkin	49	23	0	32	602	23	non-ERF		Uneven-aged regeneration	2012	oak	82
St.Louis Moraines	Aitkin	Aitkin	49	23	0	33	541	15	non-ERF		Clearcut w/reserves	2012	birch	75
St.Louis Moraines	Aitkin	Aitkin	49	23	0	33	514	18	non-ERF		Clearcut w/reserves	2012	lowland black spruce	142
St.Louis Moraines	Aitkin	Aitkin	49	23	0	33	528	6	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	49	23	0	33	548	20	ERF		Commercial thinning	2019	red pine	17
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	2	23	27	non-ERF		Clearcut w/reserves	2012	aspen	74
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	3	26	9	non-ERF		Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	3	36	8	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	3	27	38	non-ERF		Uneven-aged regeneration	2012	ash	149
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	4	24	9	non-ERF		Clearcut w/reserves	2011	aspen	105
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	4	22	8	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	81
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	4	14	16	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	97
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	16	134	12	non-ERF		Clearcut w/reserves	2012	birch	110

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	16	128	27	ERF	Y	Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	16	140	33	ERF		Commercial thinning	2012	red pine	29
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	125	9	non-ERF		Clearcut w/reserves	2011	aspen	70
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	115	7	non-ERF		Clearcut w/reserves	2011	aspen	70
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	121	20	non-ERF		Uneven-aged regeneration	2011	oak	85
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	120	15	non-ERF		Uneven-aged regeneration	2011	oak	97
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	117	28	non-ERF		Uneven-aged regeneration	2010	oak	108
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	36	105	66	non-ERF		Uneven-aged regeneration	2011	oak	108
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	4	295	4	non-ERF		Clearcut w/reserves	2016	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	4	293	14	non-ERF		Uneven-aged regeneration	2015	ash	86
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	5	22	4	non-ERF		Clearcut w/reserves	2016	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	5	232	12	non-ERF		Clearcut w/reserves	2016	balm of Gilead	73
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	5	210	16	non-ERF		Commercial thinning	2015	white spruce	25
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	5	2	3	non-ERF		Commercial thinning	2015	white spruce	28
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	205	34	non-ERF		Clearcut w/reserves	2016	aspen	42
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	30	5	non-ERF		Clearcut w/reserves	2016	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	33	9	non-ERF		Clearcut w/reserves	2016	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	299	30	non-ERF		Clearcut w/reserves	2019	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	207	10	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	13	6	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	72
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	6	23	52	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	68
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	7	112	11	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	7	65	6	ERF		Commercial thinning	2019	red pine	20
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	8	102	9	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	78
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	8	95	38	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	63	7	non-ERF		Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	248	20	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	79

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	79	6	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	61
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	68	8	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	61
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	317	19	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	108
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	9	249	5	ERF		Commercial thinning	2014	red pine	52
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	10	58	17	non-ERF		Clearcut w/reserves	2010	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	10	251	41	non-ERF		Clearcut w/reserves	2010	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	10	60	24	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	10	57	24	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	11	85	41	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	11	320	50	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	71
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	11	238	12	non-ERF		Commercial thinning	2014	white spruce	28
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	15	266	67	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	72
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	144	34	non-ERF		Clearcut w/reserves	2019	aspen	42
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	123	12	non-ERF		Clearcut w/reserves	2019	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	149	20	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	74
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	141	14	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	80
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	145	39	non-ERF		Uneven-aged regeneration	2019	oak	36
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	154	6	non-ERF		Uneven-aged regeneration	2019	balsam fir	97
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	17	132	6	ERF		Commercial thinning	2012	red pine	29
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	18	256	37	ERF		Clearcut w/reserves	2013	aspen	48
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	19	339	14	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	99
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	20	276	24	non-ERF		Uneven-aged regeneration	2011	oak	90
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	20	165	22	non-ERF		Uneven-aged regeneration	2011	oak	76
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	20	164	12	non-ERF		Commercial thinning	2011	white spruce	28
Tamarack Lowlands	Aitkin	Aitkin	49	25	0	35	201	9	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	1	202	48	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	50
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	1	198	8	non-ERF		Uneven-aged regeneration	2012	oak	56
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	1	194	77	ERF		Clearcut w/reserves	2010	aspen	73
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	1	179	68	ERF		Clearcut w/reserves	2012	aspen	60

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	26	0	3	189	22	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	92
St.Louis Moraines	Aitkin	Aitkin	49	26	0	3	195	17	non-ERF		Uneven-aged regeneration	2012	balsam fir	75
St.Louis Moraines	Aitkin	Aitkin	49	26	0	3	188	82	ERF		Clearcut w/reserves	2012	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	12	208	19	non-ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	12	28	15	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	61
St.Louis Moraines	Aitkin	Aitkin	49	26	0	19	111	9	non-ERF		Clearcut w/reserves	2011	tamarack	141
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	22	97	31	non-ERF		Clearcut w/reserves	2018	balsam fir	55
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	22	248	8	non-ERF		Uneven-aged regeneration	2018	ash	134
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	22	247	23	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	68
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	24	235	119	ERF		Clearcut w/reserves	2017	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	25	142	28	non-ERF		Clearcut w/reserves	2017	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	25	305	11	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	54
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	25	285	10	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	72
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	25	287	75	non-ERF		Uneven-aged regeneration	2017	oak	82
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	25	288	91	non-ERF		Uneven-aged regeneration	2014	oak	138
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	27	145	10	non-ERF		Uneven-aged regeneration	2017	ash	97
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	28	295	30	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	28	281	109	ERF		Clearcut w/reserves	2016	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	28	290	38	ERF		Clearcut w/reserves	2012	balm of Gilead	60
St.Louis Moraines	Aitkin	Aitkin	49	26	0	29	283	13	non-ERF		Clearcut w/reserves	2014	aspen	58
St.Louis Moraines	Aitkin	Aitkin	49	26	0	29	136	14	non-ERF		Clearcut w/reserves	2014	aspen	42
St.Louis Moraines	Aitkin	Aitkin	49	26	0	29	292	40	non-ERF		Clearcut w/reserves	2010	aspen	60
St.Louis Moraines	Aitkin	Aitkin	49	26	0	29	297	46	non-ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	49	26	0	30	302	36	non-ERF		Clearcut w/reserves	2012	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	26	0	30	131	11	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	49	26	0	30	369	20	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	49	26	0	30	129	4	ERF		Commercial thinning	2014	red pine	26

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	358	26	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	322	38	non-ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	390	15	non-ERF		Clearcut w/reserves	2012	aspen	40
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	374	41	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	73
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	371	49	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	375	25	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	373	17	non-ERF		Commercial thinning	2019	white spruce	19
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	146	42	ERF		Clearcut w/reserves	2012	aspen	36
St.Louis Moraines	Aitkin	Aitkin	49	26	0	31	357	80	ERF		Clearcut w/reserves	2014	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	26	0	32	309	34	non-ERF		Clearcut w/reserves	2018	aspen	42
St.Louis Moraines	Aitkin	Aitkin	49	26	0	32	389	6	non-ERF		Clearcut w/reserves	2011	tamarack	130
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	33	318	13	non-ERF		Clearcut w/reserves	2016	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	33	319	10	non-ERF		Clearcut w/reserves	2016	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	35	161	21	non-ERF		Uneven-aged regeneration	2010	oak	70
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	366	16	non-ERF		Uneven-aged regeneration	2014	ash	105
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	346	12	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	90
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	350	15	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	54
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	351	25	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	328	15	non-ERF		Uneven-aged regeneration	2014	oak	86
Tamarack Lowlands	Aitkin	Aitkin	49	26	0	36	330	42	non-ERF		Uneven-aged regeneration	2014	oak	63
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	69	39	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	127
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	67	100	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	89
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	99	21	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	59
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	75	17	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	106
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	102	7	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	59
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	7	20	ERF		Commercial thinning	2019	white spruce	18
St.Louis Moraines	Aitkin	Aitkin	49	27	0	24	17	12	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	64
St.Louis Moraines	Aitkin	Aitkin	49	27	0	24	16	16	non-ERF		Uneven-aged regeneration	2014	oak	65
St.Louis Moraines	Aitkin	Aitkin	49	27	0	28	24	13	non-ERF		Clearcut w/reserves	2011	aspen	84

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	27	0	28	84	14	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	49	27	0	36	93	25	non-ERF		Clearcut w/reserves	2014	aspen	37
St.Louis Moraines	Aitkin	Aitkin	49	27	0	36	118	18	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	49	27	0	36	36	36	ERF		Clearcut w/reserves	2017	aspen	38
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	3	15	9	non-ERF		Clearcut w/reserves	2010	balm of Gilead	84
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	8	265	28	non-ERF		Clearcut w/reserves	2017	tamarack	139
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	16	490	5	non-ERF		Clearcut w/reserves	2010	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	22	110	7	non-ERF		Uneven-aged regeneration	2010	balsam fir	80
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	22	113	8	non-ERF		Uneven-aged regeneration	2010	balsam fir	78
Tamarack Lowlands	St.Louis	Cloquet	50	21	0	28	122	8	non-ERF		Clearcut w/reserves	2010	aspen	72
St.Louis Moraines	St.Louis	Cloquet	50	21	0	36	484	6	non-ERF		Clearcut w/reserves	2011	aspen	79
St.Louis Moraines	St.Louis	Cloquet	50	21	0	36	166	12	non-ERF		Clearcut w/reserves	2011	aspen	80
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	12	76	65	non-ERF		Clearcut w/reserves	2013	tamarack	129
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	14	315	10	non-ERF		Clearcut w/reserves	2011	aspen	83
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	14	230	11	non-ERF		Clearcut w/reserves	2011	aspen	83
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	14	229	37	non-ERF		Clearcut w/reserves	2011	tamarack	118
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	15	209	11	non-ERF		Clearcut w/reserves	2011	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	15	310	11	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	15	239	14	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	15	208	101	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	50	22	0	15	297	57	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	50	22	0	16	309	35	non-ERF		Clearcut w/reserves	2010	aspen	47
St.Louis Moraines	Aitkin	Aitkin	50	22	0	16	234	21	non-ERF		Clearcut w/reserves	2016	balsam fir	52
St.Louis Moraines	Aitkin	Aitkin	50	22	0	16	214	32	non-ERF	Y	Uneven-aged regeneration	2016	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	50	22	0	16	1020	27	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	85
St.Louis Moraines	Aitkin	Aitkin	50	22	0	19	781	215	ERF		Clearcut w/reserves	2013	aspen	23
St.Louis Moraines	Aitkin	Aitkin	50	22	0	19	392	15	ERF		Clearcut w/reserves	2016	aspen	37

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	22	0	19	414	12	ERF		Clearcut w/reserves	2016	aspen	42
St.Louis Moraines	Aitkin	Aitkin	50	22	0	20	828	8	ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Aitkin	Aitkin	50	22	0	20	788	5	ERF		Clearcut w/reserves	2013	aspen	23
St.Louis Moraines	Aitkin	Aitkin	50	22	0	20	780	16	ERF		Clearcut w/reserves	2013	aspen	23
St.Louis Moraines	Aitkin	Aitkin	50	22	0	20	795	18	ERF		Clearcut w/reserves	2013	birch	67
St.Louis Moraines	Aitkin	Aitkin	50	22	0	21	790	53	non-ERF		Clearcut w/reserves	2010	aspen	51
St.Louis Moraines	Aitkin	Aitkin	50	22	0	21	845	8	non-ERF		Clearcut w/reserves	2019	aspen	41
St.Louis Moraines	Aitkin	Aitkin	50	22	0	21	802	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	103
St.Louis Moraines	Aitkin	Aitkin	50	22	0	22	376	53	non-ERF		Clearcut w/reserves	2016	lowland black spruce	129
St.Louis Moraines	Aitkin	Aitkin	50	22	0	22	341	48	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	92
St.Louis Moraines	Aitkin	Aitkin	50	22	0	22	423	6	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	50	22	0	22	824	9	non-ERF		Commercial thinning	2014	white spruce	24
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	363	8	non-ERF		Clearcut w/reserves	2018	birch	58
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	837	2	non-ERF		Clearcut w/reserves	2013	lowland black spruce	105
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	396	11	non-ERF		Uneven-aged regeneration	2018	ash	98
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	972	46	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	1011	41	non-ERF	Y	Uneven-aged regeneration	2018	northern hardwoods	66
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	403	21	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	846	30	non-ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	856	6	non-ERF		Clearcut w/reserves	2018	tamarack	133
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	971	68	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	96
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	798	21	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	87
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	823	11	ERF		Commercial thinning	2013	red pine	59
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	967	30	ERF	Y	Commercial thinning	2012	red pine	58
St.Louis Moraines	Aitkin	Aitkin	50	22	0	25	870	43	non-ERF		Clearcut w/reserves	2014	aspen	57
St.Louis Moraines	Aitkin	Aitkin	50	22	0	25	881	12	non-ERF		Clearcut w/reserves	2014	aspen	55
St.Louis Moraines	Aitkin	Aitkin	50	22	0	25	999	65	non-ERF		Clearcut w/reserves	2018	aspen	41
St.Louis Moraines	Aitkin	Aitkin	50	22	0	25	994	51	non-ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	22	0	25	509	52	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	22	0	26	535	22	non-ERF		Clearcut w/reserves	2018	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	22	0	26	485	20	non-ERF		Uneven-aged regeneration	2010	ash	99
St.Louis Moraines	Aitkin	Aitkin	50	22	0	26	895	4	ERF		Commercial thinning	2015	red pine	52
St.Louis Moraines	Aitkin	Aitkin	50	22	0	27	525	24	non-ERF		Clearcut w/reserves	2015	aspen	41
St.Louis Moraines	Aitkin	Aitkin	50	22	0	27	1032	9	non-ERF		Clearcut w/reserves	2015	aspen	50
St.Louis Moraines	Aitkin	Aitkin	50	22	0	27	900	23	non-ERF		Clearcut w/reserves	2015	balsam fir	53
St.Louis Moraines	Aitkin	Aitkin	50	22	0	29	887	18	ERF		Clearcut w/reserves	2019	aspen	41
St.Louis Moraines	Aitkin	Aitkin	50	22	0	29	866	9	ERF		Clearcut w/reserves	2019	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	22	0	29	899	21	ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Aitkin	Aitkin	50	22	0	29	506	28	ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	22	0	30	434	48	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	94
St.Louis Moraines	Aitkin	Aitkin	50	22	0	30	433	18	ERF		Clearcut w/reserves	2016	aspen	48
St.Louis Moraines	Aitkin	Aitkin	50	22	0	30	435	24	ERF	Y	Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	22	0	30	472	13	ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	22	0	31	541	12	non-ERF		Clearcut w/reserves	2019	aspen	42
St.Louis Moraines	Aitkin	Aitkin	50	22	0	31	664	15	non-ERF		Clearcut w/reserves	2017	aspen	73
St.Louis Moraines	Aitkin	Aitkin	50	22	0	31	598	17	non-ERF		Clearcut w/reserves	2019	aspen	42
St.Louis Moraines	Aitkin	Aitkin	50	22	0	31	562	17	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	82
St.Louis Moraines	Aitkin	Aitkin	50	22	0	31	948	4	non-ERF		Uneven-aged regeneration	2017	balsam fir	76
St.Louis Moraines	Aitkin	Aitkin	50	22	0	32	623	9	non-ERF		Clearcut w/reserves	2017	tamarack	130
St.Louis Moraines	Aitkin	Aitkin	50	22	0	33	938	21	non-ERF		Clearcut w/reserves	2017	aspen	39
St.Louis Moraines	Aitkin	Aitkin	50	22	0	33	962	7	non-ERF		Clearcut w/reserves	2016	aspen	71
St.Louis Moraines	Aitkin	Aitkin	50	22	0	33	542	29	non-ERF		Clearcut w/reserves	2015	aspen	40
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	586	8	non-ERF		Clearcut w/reserves	2014	aspen	38
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	668	15	non-ERF		Clearcut w/reserves	2014	aspen	59
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	609	9	non-ERF		Clearcut w/reserves	2014	aspen	63
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	597	36	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	105

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	589	70	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	68
St.Louis Moraines	Aitkin	Aitkin	50	22	0	34	615	19	ERF		Commercial thinning	2014	red pine	24
St.Louis Moraines	Aitkin	Aitkin	50	22	0	35	579	6	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	50	22	0	35	550	5	non-ERF		Clearcut w/reserves	2016	aspen	31
St.Louis Moraines	Aitkin	Aitkin	50	22	0	35	618	7	non-ERF		Clearcut w/reserves	2015	aspen	52
St.Louis Moraines	Aitkin	Aitkin	50	22	0	35	595	40	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	61
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	922	31	non-ERF		Clearcut w/reserves	2018	aspen	44
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	582	7	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	601	34	non-ERF		Clearcut w/reserves	2016	aspen	38
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	605	33	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	570	9	non-ERF		Clearcut w/reserves	2016	aspen	35
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	642	24	non-ERF		Clearcut w/reserves	2017	aspen	59
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	964	13	non-ERF		Clearcut w/reserves	2017	aspen	59
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	549	37	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	629	28	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	50	22	0	36	604	52	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	23	0	2	36	18	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	50	23	0	2	909	17	non-ERF		Uneven-aged regeneration	2011	ash	87
St.Louis Moraines	Aitkin	Aitkin	50	23	0	2	98	18	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	98
St.Louis Moraines	Aitkin	Aitkin	50	23	0	2	709	13	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	94
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	72	7	non-ERF		Clearcut w/reserves	2010	birch	61
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	705	5	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	103	29	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	88	62	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	97
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	84	58	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	50	23	0	4	704	13	non-ERF		Clearcut w/reserves	2019	aspen	21
St.Louis Moraines	Aitkin	Aitkin	50	23	0	4	80	9	non-ERF		Clearcut w/reserves	2016	aspen	42
St.Louis Moraines	Aitkin	Aitkin	50	23	0	4	100	20	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	72
St.Louis Moraines	Aitkin	Aitkin	50	23	0	4	111	89	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	62

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	5	7	24	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	50	23	0	5	55	8	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	50	23	0	5	847	23	non-ERF		Uneven-aged regeneration	2019	oak	69
St.Louis Moraines	Aitkin	Aitkin	50	23	0	6	692	9	non-ERF		Commercial thinning	2016	white spruce	41
St.Louis Moraines	Aitkin	Aitkin	50	23	0	6	691	101	ERF		Clearcut w/reserves	2016	aspen	46
St.Louis Moraines	Aitkin	Aitkin	50	23	0	7	152	17	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	50	23	0	7	744	71	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	50	23	0	7	172	5	non-ERF		Clearcut w/reserves	2017	tamarack	100
St.Louis Moraines	Aitkin	Aitkin	50	23	0	7	155	20	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	55
St.Louis Moraines	Aitkin	Aitkin	50	23	0	7	888	9	ERF		Commercial thinning	2011	red pine	43
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	129	10	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	738	18	non-ERF		Clearcut w/reserves	2019	birch	59
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	154	12	non-ERF		Uneven-aged regeneration	2016	ash	157
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	751	56	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	103
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	874	11	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	53
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	139	110	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	71
St.Louis Moraines	Aitkin	Aitkin	50	23	0	8	903	130	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	119
St.Louis Moraines	Aitkin	Aitkin	50	23	0	9	116	5	non-ERF		Clearcut w/reserves	2019	aspen	22
St.Louis Moraines	Aitkin	Aitkin	50	23	0	9	143	15	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	86
St.Louis Moraines	Aitkin	Aitkin	50	23	0	9	177	41	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	23	0	9	141	61	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	119
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	756	20	non-ERF		Clearcut w/reserves	2010	lowland black spruce	96
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	169	9	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	68
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	119	60	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	66
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	135	27	ERF		Clearcut w/reserves	2019	aspen	21
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	182	14	ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	750	27	ERF	Y	Clearcut w/reserves	2018	aspen	36

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	11	192	20	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	86
St.Louis Moraines	Aitkin	Aitkin	50	23	0	13	285	23	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	82
St.Louis Moraines	Aitkin	Aitkin	50	23	0	13	276	48	non-ERF		Uneven-aged regeneration	2017	oak	90
St.Louis Moraines	Aitkin	Aitkin	50	23	0	13	898	54	ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	50	23	0	14	289	17	non-ERF		Clearcut w/reserves	2017	aspen	42
St.Louis Moraines	Aitkin	Aitkin	50	23	0	14	275	9	non-ERF		Uneven-aged regeneration	2017	oak	82
St.Louis Moraines	Aitkin	Aitkin	50	23	0	14	300	23	non-ERF	Y	Commercial thinning	2017	white pine	109
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	764	36	non-ERF		Clearcut w/reserves	2016	aspen	40
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	769	32	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	271	13	non-ERF	Y	Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	765	75	ERF	Y	Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	767	6	ERF		Clearcut w/reserves	2010	birch	97
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	267	9	ERF	Y	Commercial thinning	2018	red pine	21
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	262	36	ERF		Commercial thinning	2018	white spruce	25
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	246	34	non-ERF		Clearcut w/reserves	2011	aspen	62
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	249	5	non-ERF		Clearcut w/reserves	2011	lowland black spruce	100
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	313	10	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	95
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	258	114	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	95
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	206	33	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	98
St.Louis Moraines	Aitkin	Aitkin	50	23	0	16	210	73	ERF		Clearcut w/reserves	2011	aspen	62
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	218	20	non-ERF		Clearcut w/reserves	2011	aspen	81
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	203	21	non-ERF		Clearcut w/reserves	2016	aspen	46
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	287	18	non-ERF		Clearcut w/reserves	2011	aspen	81
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	252	33	non-ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	762	55	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	118
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	759	64	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	75
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	776	25	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	27
St.Louis Moraines	Aitkin	Aitkin	50	23	0	17	775	13	non-ERF		Commercial thinning	2013	white spruce	27
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	196	45	non-ERF		Clearcut w/reserves	2019	aspen	31

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	265	28	non-ERF		Clearcut w/reserves	2011	aspen	51
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	266	5	non-ERF		Clearcut w/reserves	2011	aspen	81
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	297	9	non-ERF	Y	Clearcut w/reserves	2011	aspen	88
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	325	9	non-ERF	Y	Clearcut w/reserves	2011	birch	82
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	901	12	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	105
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	347	3	non-ERF	Y	Clearcut w/reserves	2011	birch	83
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	811	48	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	106
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	351	13	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	107
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	387	35	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	106
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	392	27	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	74
St.Louis Moraines	Aitkin	Aitkin	50	23	0	20	458	12	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	113
St.Louis Moraines	Aitkin	Aitkin	50	23	0	20	354	26	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	84
St.Louis Moraines	Aitkin	Aitkin	50	23	0	20	393	36	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	64
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	357	13	non-ERF		Clearcut w/reserves	2012	aspen	60
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	460	16	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	120
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	447	23	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	390	57	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	86
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	402	10	non-ERF	Y	Uneven-aged regeneration	2017	northern hardwoods	124
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	366	16	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	71
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	904	23	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	113
St.Louis Moraines	Aitkin	Aitkin	50	23	0	22	445	14	non-ERF		Clearcut w/reserves	2013	aspen	60
St.Louis Moraines	Aitkin	Aitkin	50	23	0	22	899	20	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	75
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	478	6	non-ERF		Clearcut w/reserves	2013	birch	75
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	940	26	non-ERF		Clearcut w/reserves	2013	balsam fir	56
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	426	68	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	813	10	non-ERF	Y	Uneven-aged regeneration	2014	white pine	123
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	794	38	ERF		Commercial thinning	2014	red pine	19

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	428	83	non-ERF		Uneven-aged regeneration	2018	oak	72
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	373	26	non-ERF		Uneven-aged regeneration	2017	oak	91
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	915	2	ERF		Clearcut w/reserves	2012	aspen	61
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	449	12	ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	411	9	ERF	Y	Commercial thinning	2014	red pine	76
St.Louis Moraines	Aitkin	Aitkin	50	23	0	26	625	11	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	103
St.Louis Moraines	Aitkin	Aitkin	50	23	0	26	935	8	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	75
St.Louis Moraines	Aitkin	Aitkin	50	23	0	26	628	11	non-ERF		Uneven-aged regeneration	2014	oak	96
St.Louis Moraines	Aitkin	Aitkin	50	23	0	27	602	25	non-ERF		Clearcut w/reserves	2014	aspen	63
St.Louis Moraines	Aitkin	Aitkin	50	23	0	27	885	7	non-ERF		Clearcut w/reserves	2014	tamarack	101
St.Louis Moraines	Aitkin	Aitkin	50	23	0	27	893	9	non-ERF		Uneven-aged regeneration	2018	oak	82
St.Louis Moraines	Aitkin	Aitkin	50	23	0	27	884	21	ERF		Clearcut w/reserves	2014	tamarack	101
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	486	20	non-ERF		Clearcut w/reserves	2014	aspen	85
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	491	11	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	489	7	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	550	35	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	106
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	515	24	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	546	82	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	576	63	non-ERF		Uneven-aged regeneration	2015	oak	94
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	554	20	non-ERF		Uneven-aged regeneration	2015	oak	119
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	563	26	non-ERF		Uneven-aged regeneration	2015	oak	138
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	580	9	non-ERF		Uneven-aged regeneration	2015	oak	134
St.Louis Moraines	Aitkin	Aitkin	50	23	0	28	579	20	non-ERF		Uneven-aged regeneration	2015	oak	91
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	578	17	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	126
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	608	6	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	56
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	605	11	non-ERF		Uneven-aged regeneration	2013	oak	114
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	518	14	non-ERF		Uneven-aged regeneration	2019	oak	114
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	596	5	non-ERF		Uneven-aged regeneration	2015	oak	115
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	619	13	non-ERF		Uneven-aged regeneration	2015	oak	55

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	577	13	non-ERF		Uneven-aged regeneration	2015	oak	84
St.Louis Moraines	Aitkin	Aitkin	50	23	0	29	480	50	non-ERF		Uneven-aged regeneration	2013	oak	114
St.Louis Moraines	Aitkin	Aitkin	50	23	0	30	618	4	non-ERF		Uneven-aged regeneration	2019	oak	130
St.Louis Moraines	Aitkin	Aitkin	50	23	0	30	558	31	non-ERF		Uneven-aged regeneration	2019	oak	130
St.Louis Moraines	Aitkin	Aitkin	50	23	0	30	476	17	non-ERF		Uneven-aged regeneration	2019	oak	130
St.Louis Moraines	Aitkin	Aitkin	50	23	0	30	545	14	non-ERF		Uneven-aged regeneration	2019	oak	130
St.Louis Moraines	Aitkin	Aitkin	50	23	0	35	657	40	non-ERF		Uneven-aged regeneration	2014	oak	96
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	678	20	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	67
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	928	7	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	73
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	929	32	non-ERF		Uneven-aged regeneration	2010	oak	90
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	659	12	non-ERF	Y	Commercial thinning	2010	white spruce	16
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	684	14	ERF		Clearcut w/reserves	2017	birch	88
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	647	50	ERF	Y	Commercial thinning	2010	red pine	90
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	656	28	ERF		Commercial thinning	2010	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	50	24	0	18	213	67	non-ERF		Uneven-aged regeneration	2019	lowland hardwoods	99
St.Louis Moraines	Aitkin	Aitkin	50	24	0	24	87	9	non-ERF		Clearcut w/reserves	2012	tamarack	150
Tamarack Lowlands	Aitkin	Aitkin	50	24	0	26	92	35	non-ERF		Uneven-aged regeneration	2016	ash	123
St.Louis Moraines	Aitkin	Aitkin	50	24	0	36	123	35	non-ERF		Uneven-aged regeneration	2010	oak	94
St.Louis Moraines	Aitkin	Aitkin	50	24	0	36	116	18	non-ERF		Uneven-aged regeneration	2010	oak	90
St.Louis Moraines	Aitkin	Aitkin	50	24	0	36	125	23	non-ERF		Uneven-aged regeneration	2010	oak	91
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	2	240	15	non-ERF		Clearcut w/reserves	2016	tamarack	118
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	2	13	23	non-ERF		Clearcut w/reserves	2016	tamarack	132
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	3	243	28	non-ERF		Clearcut w/reserves	2016	tamarack	148
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	3	243	5	non-ERF		Clearcut w/reserves	2016	tamarack	148
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	3	243	15	non-ERF		Clearcut w/reserves	2016	tamarack	148
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	3	243	11	non-ERF		Clearcut w/reserves	2016	tamarack	148
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	4	260	5	non-ERF		Clearcut w/reserves	2014	balsam fir	70

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	4	246	54	ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	5	188	15	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	5	184	16	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	77
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	6	222	22	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	84
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	7	332	32	non-ERF		Clearcut w/reserves	2015	aspen	52
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	8	314	65	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	91
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	9	317	8	non-ERF		Clearcut w/reserves	2014	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	9	329	27	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	84
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	11	305	5	non-ERF		Clearcut w/reserves	2016	tamarack	153
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	13	122	10	non-ERF		Clearcut w/reserves	2017	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	13	31	21	non-ERF		Clearcut w/reserves	2017	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	13	121	11	non-ERF		Clearcut w/reserves	2017	balm of Gilead	71
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	16	375	22	non-ERF		Clearcut w/reserves	2011	lowland black spruce	85
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	17	384	12	non-ERF		Clearcut w/reserves	2015	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	17	362	7	non-ERF		Clearcut w/reserves	2011	tamarack	113
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	17	385	19	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	71
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	21	48	10	non-ERF		Clearcut w/reserves	2017	aspen	44
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	22	50	15	non-ERF		Clearcut w/reserves	2017	aspen	73
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	23	413	2	non-ERF		Clearcut w/reserves	2011	balm of Gilead	70
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	24	132	19	non-ERF		Clearcut w/reserves	2011	tamarack	160
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	26	149	10	non-ERF		Clearcut w/reserves	2011	balm of Gilead	68
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	27	156	8	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	28	425	18	non-ERF		Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	28	69	16	non-ERF		Clearcut w/reserves	2015	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	28	85	9	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	481	15	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	463	32	non-ERF		Clearcut w/reserves	2019	aspen	28
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	443	19	non-ERF		Clearcut w/reserves	2018	aspen	29
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	466	35	non-ERF		Clearcut w/reserves	2018	aspen	34

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	475	13	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	32	504	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	87
Tamarack Lowlands	Aitkin	Aitkin	50	25	0	33	442	30	non-ERF		Clearcut w/reserves	2013	aspen	48
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	2	16	31	non-ERF		Clearcut w/reserves	2017	aspen	39
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	2	81	18	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	2	37	26	ERF		Clearcut w/reserves	2017	lowland black spruce	94
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	3	87	3	non-ERF		Clearcut w/reserves	2016	aspen	66
St.Louis Moraines	Aitkin	Aitkin	50	26	0	4	72	9	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	57
St.Louis Moraines	Aitkin	Aitkin	50	26	0	4	587	6	non-ERF		Uneven-aged regeneration	2017	oak	70
St.Louis Moraines	Aitkin	Aitkin	50	26	0	4	578	29	non-ERF		Uneven-aged regeneration	2017	oak	89
St.Louis Moraines	Aitkin	Aitkin	50	26	0	4	77	9	non-ERF	Y	Commercial thinning	2017	white pine	111
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	552	5	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	81
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	588	4	non-ERF		Uneven-aged regeneration	2017	oak	75
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	568	4	non-ERF		Uneven-aged regeneration	2019	oak	104
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	782	7	non-ERF		Uneven-aged regeneration	2019	oak	80
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	567	6	ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	553	20	ERF		Clearcut w/reserves	2016	aspen	48
St.Louis Moraines	Aitkin	Aitkin	50	26	0	5	561	5	ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Aitkin	Aitkin	50	26	0	6	35	6	non-ERF		Clearcut w/reserves	2016	aspen	35
St.Louis Moraines	Aitkin	Aitkin	50	26	0	6	62	38	non-ERF		Clearcut w/reserves	2012	aspen	68
St.Louis Moraines	Aitkin	Aitkin	50	26	0	6	45	12	non-ERF		Clearcut w/reserves	2010	tamarack	123
St.Louis Moraines	Aitkin	Aitkin	50	26	0	6	86	20	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	50	26	0	7	127	35	ERF		Commercial thinning	2016	red pine	23
St.Louis Moraines	Aitkin	Aitkin	50	26	0	8	159	56	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	31
St.Louis Moraines	Aitkin	Aitkin	50	26	0	8	638	13	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	62
St.Louis Moraines	Aitkin	Aitkin	50	26	0	8	615	5	ERF		Clearcut w/reserves	2011	aspen	68
St.Louis Moraines	Aitkin	Aitkin	50	26	0	9	104	12	non-ERF		Clearcut w/reserves	2016	aspen	67

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	26	0	9	628	73	ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	10	139	1	non-ERF		Clearcut w/reserves	2016	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	10	146	6	non-ERF		Clearcut w/reserves	2016	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	10	106	24	non-ERF		Clearcut w/reserves	2016	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	10	175	3	ERF		Clearcut w/reserves	2013	jack pine	68
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	11	129	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	131
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	11	116	77	ERF		Clearcut w/reserves	2015	lowland black spruce	131
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	12	174	4	non-ERF		Clearcut w/reserves	2015	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	12	165	7	non-ERF		Clearcut w/reserves	2010	aspen	79
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	12	142	11	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	68
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	13	226	24	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	85
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	14	211	6	ERF		Clearcut w/reserves	2010	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	14	219	80	ERF		Clearcut w/reserves	2010	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	15	259	16	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	55
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	15	242	15	ERF		Clearcut w/reserves	2013	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	15	217	57	ERF		Clearcut w/reserves	2013	aspen	58
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	749	26	non-ERF		Uneven-aged regeneration	2016	oak	85
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	188	6	non-ERF		Uneven-aged regeneration	2010	oak	74
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	253	10	ERF		Clearcut w/reserves	2015	aspen	63
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	258	52	ERF		Clearcut w/reserves	2015	aspen	50
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	656	51	ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	196	41	ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	26	0	16	197	16	ERF		Clearcut w/reserves	2019	lowland black spruce	108
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	179	5	non-ERF		Uneven-aged regeneration	2018	oak	93
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	204	67	non-ERF	Y	Uneven-aged regeneration	2015	oak	79
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	191	117	non-ERF		Uneven-aged regeneration	2010	oak	74
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	210	12	ERF		Clearcut w/reserves	2019	aspen	32
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	178	3	ERF		Clearcut w/reserves	2018	lowland black spruce	151
St.Louis Moraines	Aitkin	Aitkin	50	26	0	18	663	31	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	30

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	26	0	18	254	4	non-ERF		Uneven-aged regeneration	2015	oak	86
St.Louis Moraines	Aitkin	Aitkin	50	26	0	20	336	1	non-ERF		Clearcut w/reserves	2016	tamarack	108
St.Louis Moraines	Aitkin	Aitkin	50	26	0	20	267	12	non-ERF		Uneven-aged regeneration	2010	oak	88
St.Louis Moraines	Aitkin	Aitkin	50	26	0	20	286	9	non-ERF		Uneven-aged regeneration	2015	oak	80
St.Louis Moraines	Aitkin	Aitkin	50	26	0	20	338	32	ERF		Commercial thinning	2016	white spruce	14
St.Louis Moraines	Aitkin	Aitkin	50	26	0	21	301	25	non-ERF		Clearcut w/reserves	2011	aspen	76
St.Louis Moraines	Aitkin	Aitkin	50	26	0	21	270	30	non-ERF		Uneven-aged regeneration	2011	ash	103
St.Louis Moraines	Aitkin	Aitkin	50	26	0	21	279	29	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	23	674	5	non-ERF		Clearcut w/reserves	2010	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	23	745	22	non-ERF		Clearcut w/reserves	2010	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	23	742	27	non-ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	24	683	4	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	24	682	15	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	26	369	15	non-ERF		Clearcut w/reserves	2014	aspen	58
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	755	15	non-ERF		Clearcut w/reserves	2017	aspen	40
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	394	12	non-ERF		Clearcut w/reserves	2019	aspen	27
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	386	9	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	366	12	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	364	22	non-ERF		Clearcut w/reserves	2016	aspen	47
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	714	4	non-ERF		Clearcut w/reserves	2017	aspen	73
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	424	11	non-ERF		Clearcut w/reserves	2017	tamarack	88
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	417	3	non-ERF		Clearcut w/reserves	2017	tamarack	88
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	418	4	non-ERF		Clearcut w/reserves	2011	tamarack	125
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	421	26	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	27
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	774	30	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	33
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	405	27	non-ERF		Uneven-aged regeneration	2017	oak	75
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	400	5	non-ERF		Uneven-aged regeneration	2017	oak	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	26	0	28	401	10	non-ERF		Uneven-aged regeneration	2019	oak	76
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	387	7	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	349	27	non-ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	706	5	non-ERF		Clearcut w/reserves	2017	tamarack	95
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	685	13	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	59
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	750	10	non-ERF		Uneven-aged regeneration	2017	oak	83
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	713	8	non-ERF		Uneven-aged regeneration	2017	oak	78
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	361	11	non-ERF		Uneven-aged regeneration	2016	oak	70
St.Louis Moraines	Aitkin	Aitkin	50	26	0	29	690	82	ERF		Clearcut w/reserves	2017	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	26	0	30	409	18	non-ERF		Clearcut w/reserves	2011	aspen	69
St.Louis Moraines	Aitkin	Aitkin	50	26	0	30	715	7	non-ERF		Clearcut w/reserves	2011	aspen	69
St.Louis Moraines	Aitkin	Aitkin	50	26	0	30	698	41	non-ERF		Uneven-aged regeneration	2011	oak	90
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	724	5	non-ERF		Clearcut w/reserves	2011	aspen	78
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	726	37	non-ERF		Clearcut w/reserves	2011	aspen	31
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	718	9	non-ERF		Clearcut w/reserves	2011	aspen	78
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	431	17	non-ERF		Clearcut w/reserves	2011	aspen	69
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	495	16	non-ERF		Clearcut w/reserves	2011	lowland black spruce	65
St.Louis Moraines	Aitkin	Aitkin	50	26	0	31	769	15	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	50	26	0	32	433	28	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Aitkin	Aitkin	50	26	0	32	478	3	non-ERF		Clearcut w/reserves	2017	tamarack	143
St.Louis Moraines	Aitkin	Aitkin	50	26	0	32	522	7	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	78
St.Louis Moraines	Aitkin	Aitkin	50	26	0	32	733	50	ERF		Commercial thinning	2018	red pine	23
St.Louis Moraines	Aitkin	Aitkin	50	26	0	33	544	7	non-ERF		Clearcut w/reserves	2012	aspen	76
St.Louis Moraines	Aitkin	Aitkin	50	26	0	33	518	5	non-ERF		Clearcut w/reserves	2017	tamarack	152
St.Louis Moraines	Aitkin	Aitkin	50	26	0	34	492	9	non-ERF		Clearcut w/reserves	2011	balsam fir	48
St.Louis Moraines	Aitkin	Aitkin	50	26	0	34	463	9	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	136
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	35	442	9	non-ERF		Clearcut w/reserves	2017	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	36	525	14	non-ERF		Clearcut w/reserves	2017	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	36	511	34	non-ERF		Clearcut w/reserves	2017	aspen	36

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	36	515	7	non-ERF	Y	Uneven-aged regeneration	2017	ash	137
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	36	531	3	non-ERF		Uneven-aged regeneration	2017	ash	137
St.Louis Moraines	Aitkin	Aitkin	50	27	0	4	16	9	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	108
St.Louis Moraines	Aitkin	Aitkin	50	27	0	4	24	11	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	105
St.Louis Moraines	Aitkin	Aitkin	50	27	0	4	8	13	non-ERF		Uneven-aged regeneration	2013	oak	78
St.Louis Moraines	Aitkin	Aitkin	50	27	0	16	49	19	non-ERF		Clearcut w/reserves	2015	aspen	67
St.Louis Moraines	Aitkin	Aitkin	50	27	0	16	52	6	non-ERF		Clearcut w/reserves	2015	aspen	50
St.Louis Moraines	Aitkin	Aitkin	50	27	0	16	144	28	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	80
St.Louis Moraines	Aitkin	Aitkin	50	27	0	16	41	10	non-ERF		Uneven-aged regeneration	2015	oak	72
St.Louis Moraines	Aitkin	Aitkin	50	27	0	16	145	104	ERF		Clearcut w/reserves	2010	aspen	65
St.Louis Moraines	Aitkin	Aitkin	50	27	0	22	55	10	non-ERF		Clearcut w/reserves	2015	aspen	61
St.Louis Moraines	Aitkin	Aitkin	50	27	0	22	157	6	non-ERF		Clearcut w/reserves	2015	aspen	60
St.Louis Moraines	Aitkin	Aitkin	50	27	0	22	66	7	non-ERF		Clearcut w/reserves	2015	balsam fir	60
St.Louis Moraines	Aitkin	Aitkin	50	27	0	24	122	10	non-ERF		Clearcut w/reserves	2011	aspen	66
St.Louis Moraines	Aitkin	Aitkin	50	27	0	25	88	12	non-ERF		Uneven-aged regeneration	2011	oak	77
St.Louis Moraines	Aitkin	Aitkin	50	27	0	36	162	22	non-ERF		Clearcut w/reserves	2011	aspen	30
St.Louis Moraines	Aitkin	Aitkin	50	27	0	36	104	7	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	50	27	0	36	105	36	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	83
St.Louis Moraines	Aitkin	Aitkin	50	27	0	36	170	32	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	16	99	56	non-ERF		Clearcut w/reserves	2013	aspen	71
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	16	120	5	non-ERF		Commercial thinning	2013	white spruce	17
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	16	123	9	non-ERF		Commercial thinning	2013	white spruce	29
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	16	127	17	non-ERF		Commercial thinning	2013	white spruce	17
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	16	129	3	non-ERF		Commercial thinning	2013	white spruce	17
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	27	171	13	non-ERF		Clearcut w/reserves	2013	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	28	169	11	non-ERF		Clearcut w/reserves	2013	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	28	158	9	non-ERF		Clearcut w/reserves	2013	aspen	68

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	29	151	3	non-ERF		Clearcut w/reserves	2013	aspen	68
Tamarack Lowlands	St.Louis	Cloquet	51	18	0	30	155	18	non-ERF		Clearcut w/reserves	2013	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	8	370	5	non-ERF		Clearcut w/reserves	2011	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	8	155	1	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	8	377	2	non-ERF		Clearcut w/reserves	2011	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	8	376	1	non-ERF		Clearcut w/reserves	2011	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	8	157	6	non-ERF		Commercial thinning	2011	white spruce	39
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	10	201	28	non-ERF		Clearcut w/reserves	2011	lowland black spruce	96
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	22	299	11	non-ERF		Clearcut w/reserves	2011	upland black spruce	78
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	30	344	14	non-ERF	Y	Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	30	338	7	non-ERF		Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	32	362	10	non-ERF		Commercial thinning	2010	white spruce	36
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	32	367	2	ERF		Commercial thinning	2010	red pine	32
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	16	16	13	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	16	31	8	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	26	88	12	non-ERF		Clearcut w/reserves	2011	aspen	60
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	108	68	non-ERF		Clearcut w/reserves	2011	aspen	31
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	109	4	non-ERF		Clearcut w/reserves	2010	aspen	73
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	114	9	non-ERF		Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	118	30	non-ERF		Clearcut w/reserves	2010	aspen	63
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	117	10	non-ERF		Clearcut w/reserves	2010	birch	94
Tamarack Lowlands	St.Louis	Cloquet	51	20	0	36	112	20	non-ERF		Clearcut w/reserves	2010	birch	89
Tamarack Lowlands	St.Louis	Cloquet	51	21	0	36	124	20	non-ERF	Y	Clearcut w/reserves	2011	aspen	49
Tamarack Lowlands	St.Louis	Cloquet	51	21	0	36	103	36	non-ERF		Uneven-aged regeneration	2011	ash	110
Tamarack Lowlands	St.Louis	Cloquet	51	21	0	36	98	9	non-ERF		Uneven-aged regeneration	2011	ash	136
Tamarack Lowlands	St.Louis	Cloquet	51	21	0	36	105	9	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	1	8	17	non-ERF		Clearcut w/reserves	2016	birch	114
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	3	7	36	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	51	22	0	6	101	100	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	93

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	51	22	0	7	11	18	non-ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	51	22	0	7	133	12	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	86
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	8	14	9	non-ERF		Clearcut w/reserves	2011	aspen	76
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	9	265	43	non-ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	9	305	20	non-ERF		Clearcut w/reserves	2014	birch	81
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	11	135	9	non-ERF		Uneven-aged regeneration	2015	balsam fir	114
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	12	15	34	non-ERF		Uneven-aged regeneration	2010	balsam fir	95
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	13	164	45	non-ERF		Clearcut w/reserves	2016	tamarack	135
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	14	149	7	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	14	38	3	non-ERF		Uneven-aged regeneration	2015	balsam fir	106
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	15	271	69	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	71
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	15	267	4	non-ERF		Uneven-aged regeneration	2015	balsam fir	78
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	15	49	6	non-ERF		Uneven-aged regeneration	2015	balsam fir	78
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	15	266	5	non-ERF		Uneven-aged regeneration	2015	balsam fir	78
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	16	163	202	ERF		Clearcut w/reserves	2014	tamarack	100
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	17	320	29	non-ERF		Clearcut w/reserves	2016	aspen	42
St.Louis Moraines	Aitkin	Aitkin	51	22	0	18	143	17	non-ERF		Clearcut w/reserves	2015	aspen	48
St.Louis Moraines	Aitkin	Aitkin	51	22	0	18	261	58	non-ERF		Clearcut w/reserves	2015	aspen	53
St.Louis Moraines	Aitkin	Aitkin	51	22	0	18	130	110	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	120
St.Louis Moraines	Aitkin	Aitkin	51	22	0	18	42	5	ERF	Y	Commercial thinning	2015	red pine	52
St.Louis Moraines	Aitkin	Aitkin	51	22	0	19	319	36	ERF		Clearcut w/reserves	2019	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	20	62	29	ERF	Y	Clearcut w/reserves	2019	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	20	59	13	ERF		Clearcut w/reserves	2019	aspen	27
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	23	183	99	non-ERF		Clearcut w/reserves	2019	tamarack	180
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	23	280	91	non-ERF		Uneven-aged regeneration	2019	balsam fir	84
St.Louis Moraines	Aitkin	Aitkin	51	22	0	29	225	18	ERF		Clearcut w/reserves	0	birch	60
St.Louis Moraines	Aitkin	Aitkin	51	23	0	1	574	19	non-ERF		Clearcut w/reserves	2017	aspen	40

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	51	23	0	1	583	21	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	154
St.Louis Moraines	Aitkin	Aitkin	51	23	0	1	554	6	ERF		Clearcut w/reserves	2011	aspen	67
St.Louis Moraines	Aitkin	Aitkin	51	23	0	1	10	28	ERF		Commercial thinning	2017	red pine	26
St.Louis Moraines	Aitkin	Aitkin	51	23	0	1	555	21	ERF		Commercial thinning	2017	red pine	26
St.Louis Moraines	Aitkin	Aitkin	51	23	0	3	540	20	non-ERF		Uneven-aged regeneration	2017	oak	84
St.Louis Moraines	Aitkin	Aitkin	51	23	0	4	571	34	non-ERF		Clearcut w/reserves	2017	aspen	39
St.Louis Moraines	Aitkin	Aitkin	51	23	0	4	863	25	non-ERF		Uneven-aged regeneration	2017	oak	39
St.Louis Moraines	Aitkin	Aitkin	51	23	0	4	573	4	ERF		Commercial thinning	2017	red pine	40
St.Louis Moraines	Aitkin	Aitkin	51	23	0	8	590	70	non-ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Aitkin	Aitkin	51	23	0	8	607	82	non-ERF		Clearcut w/reserves	2014	aspen	55
St.Louis Moraines	Aitkin	Aitkin	51	23	0	8	597	53	non-ERF		Clearcut w/reserves	2016	balsam fir	43
St.Louis Moraines	Aitkin	Aitkin	51	23	0	8	589	57	ERF		Clearcut w/reserves	2016	birch	82
St.Louis Moraines	Aitkin	Aitkin	51	23	0	8	600	17	ERF		Commercial thinning	2014	red pine	25
St.Louis Moraines	Aitkin	Aitkin	51	23	0	9	38	35	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	51	23	0	10	55	7	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	29
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	623	19	non-ERF	Y	Clearcut w/reserves	2016	aspen	46
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	651	4	non-ERF		Clearcut w/reserves	2016	aspen	86
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	212	38	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	220	7	non-ERF	Y	Commercial thinning	2011	white pine	109
St.Louis Moraines	Aitkin	Aitkin	51	23	0	17	142	43	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	71
St.Louis Moraines	Aitkin	Aitkin	51	23	0	17	141	16	ERF		Commercial thinning	2011	red pine	24
St.Louis Moraines	Aitkin	Aitkin	51	23	0	17	143	18	ERF		Commercial thinning	2011	red pine	24
St.Louis Moraines	Aitkin	Aitkin	51	23	0	18	654	8	ERF		Commercial thinning	2015	red pine	47
St.Louis Moraines	Aitkin	Aitkin	51	23	0	18	197	16	ERF		Commercial thinning	2015	red pine	24
St.Louis Moraines	Aitkin	Aitkin	51	23	0	20	741	27	non-ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	51	23	0	20	272	16	non-ERF		Clearcut w/reserves	2011	aspen	81
St.Louis Moraines	Aitkin	Aitkin	51	23	0	20	293	13	ERF		Commercial thinning	2013	red pine	40
St.Louis Moraines	Aitkin	Aitkin	51	23	0	22	725	28	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	76
St.Louis Moraines	Aitkin	Aitkin	51	23	0	22	271	7	non-ERF	Y	Commercial thinning	2011	white pine	61

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	51	23	0	22	679	65	ERF		Commercial thinning	2011	red pine	31
St.Louis Moraines	Aitkin	Aitkin	51	23	0	28	375	35	non-ERF		Clearcut w/reserves	2012	birch	56
St.Louis Moraines	Aitkin	Aitkin	51	23	0	28	331	10	non-ERF		Clearcut w/reserves	2012	lowland black spruce	97
St.Louis Moraines	Aitkin	Aitkin	51	23	0	28	879	14	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	89
St.Louis Moraines	Aitkin	Aitkin	51	23	0	28	813	54	ERF		Commercial thinning	2012	red pine	28
St.Louis Moraines	Aitkin	Aitkin	51	23	0	30	317	12	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	66
St.Louis Moraines	Aitkin	Aitkin	51	23	0	30	784	28	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	67
St.Louis Moraines	Aitkin	Aitkin	51	23	0	30	780	36	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	67
St.Louis Moraines	Aitkin	Aitkin	51	23	0	30	775	32	ERF		Commercial thinning	2017	red pine	24
St.Louis Moraines	Aitkin	Aitkin	51	23	0	32	431	14	non-ERF		Clearcut w/reserves	2015	aspen	53
St.Louis Moraines	Aitkin	Aitkin	51	23	0	32	441	5	non-ERF		Clearcut w/reserves	2015	aspen	53
St.Louis Moraines	Aitkin	Aitkin	51	23	0	32	448	22	non-ERF		Clearcut w/reserves	2015	aspen	62
St.Louis Moraines	Aitkin	Aitkin	51	23	0	34	493	23	non-ERF		Clearcut w/reserves	2012	aspen	76
St.Louis Moraines	Aitkin	Aitkin	51	23	0	34	470	13	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	104
St.Louis Moraines	Aitkin	Aitkin	51	23	0	36	832	11	non-ERF		Uneven-aged regeneration	2011	ash	168
St.Louis Moraines	Aitkin	Aitkin	51	23	0	36	516	18	non-ERF	Y	Uneven-aged regeneration	2011	northern hardwoods	93
St.Louis Moraines	Aitkin	Aitkin	51	23	0	36	841	6	ERF		Clearcut w/reserves	2011	aspen	91
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	3	74	8	non-ERF		Clearcut w/reserves	2010	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	3	77	10	non-ERF		Clearcut w/reserves	2010	tamarack	119
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	3	623	10	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	69
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	4	18	127	ERF		Clearcut w/reserves	2017	lowland black spruce	132
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	5	19	88	non-ERF		Clearcut w/reserves	2017	tamarack	162
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	6	44	39	non-ERF		Clearcut w/reserves	2018	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	6	45	17	non-ERF		Clearcut w/reserves	2018	aspen	49
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	6	4	43	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	59
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	728	27	non-ERF		Clearcut w/reserves	2018	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	164	26	non-ERF		Clearcut w/reserves	2018	aspen	36

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	187	9	non-ERF		Clearcut w/reserves	2018	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	93	23	non-ERF		Uneven-aged regeneration	2011	ash	74
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	177	12	non-ERF		Uneven-aged regeneration	2011	ash	90
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	7	183	17	ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	8	88	72	ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	8	151	206	ERF		Clearcut w/reserves	2015	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	9	186	20	non-ERF		Clearcut w/reserves	2015	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	9	118	16	non-ERF		Clearcut w/reserves	2010	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	9	154	36	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	137	40	non-ERF		Clearcut w/reserves	2010	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	81	7	non-ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	123	18	non-ERF		Clearcut w/reserves	2010	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	114	12	non-ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	735	5	non-ERF		Clearcut w/reserves	2010	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	731	21	non-ERF		Clearcut w/reserves	2010	balsam fir	67
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	194	18	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	193	10	non-ERF		Commercial thinning	2014	white spruce	41
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	10	188	6	non-ERF		Commercial thinning	2014	white spruce	41
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	11	185	14	non-ERF		Clearcut w/reserves	2017	aspen	34
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	12	138	24	non-ERF		Clearcut w/reserves	2011	balm of Gilead	72
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	14	234	8	non-ERF		Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	15	201	15	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	15	225	33	ERF		Commercial thinning	2019	white spruce	14
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	15	196	52	ERF		Commercial thinning	2017	white spruce	25
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	16	206	64	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	16	236	8	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	74
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	16	227	37	ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	17	242	24	non-ERF		Clearcut w/reserves	2015	balm of Gilead	93
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	17	209	100	ERF		Clearcut w/reserves	2015	aspen	62

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	18	290	18	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	18	275	7	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	18	213	11	non-ERF		Clearcut w/reserves	2018	aspen	34
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	18	214	3	ERF		Clearcut w/reserves	2018	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	18	211	65	ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	19	354	30	ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	19	372	23	ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	20	388	20	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	21	379	6	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	22	352	13	non-ERF		Uneven-aged regeneration	2018	ash	104
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	22	303	25	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	22	359	5	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	84
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	22	367	24	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	76
St.Louis Moraines	Aitkin	Aitkin	51	24	0	24	324	27	non-ERF		Clearcut w/reserves	2016	aspen	45
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	27	722	6	non-ERF		Clearcut w/reserves	2011	aspen	76
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	27	669	8	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	27	467	49	non-ERF		Uneven-aged regeneration	2011	oak	109
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	28	427	53	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	81
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	458	40	non-ERF	Y	Clearcut w/reserves	2011	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	405	1	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	516	10	non-ERF		Clearcut w/reserves	2012	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	406	11	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	503	18	non-ERF		Uneven-aged regeneration	2012	ash	108
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	31	702	19	non-ERF		Clearcut w/reserves	2014	lowland black spruce	111
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	31	698	46	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	82
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	31	685	13	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	98
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	31	693	19	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	54

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	527	14	non-ERF		Clearcut w/reserves	2012	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	563	19	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	721	8	non-ERF		Uneven-aged regeneration	2012	ash	84
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	617	15	non-ERF		Uneven-aged regeneration	2012	ash	75
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	719	10	non-ERF		Uneven-aged regeneration	2012	ash	88
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	32	591	56	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	33	601	11	non-ERF		Clearcut w/reserves	2018	lowland black spruce	135
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	680	6	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	536	30	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	535	6	non-ERF		Clearcut w/reserves	2018	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	602	8	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	74
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	706	16	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	58
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	34	725	33	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	74
St.Louis Moraines	Aitkin	Aitkin	51	24	0	35	582	24	ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	51	24	0	35	545	13	ERF		Clearcut w/reserves	2013	aspen	59
St.Louis Moraines	Aitkin	Aitkin	51	24	0	36	583	23	non-ERF		Uneven-aged regeneration	2013	oak	78
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	1	88	30	non-ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	1	59	7	non-ERF		Clearcut w/reserves	2014	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	2	106	39	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	2	37	31	non-ERF		Clearcut w/reserves	2011	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	3	68	13	non-ERF		Clearcut w/reserves	2011	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	3	101	23	non-ERF		Clearcut w/reserves	2011	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	3	785	29	non-ERF		Clearcut w/reserves	2019	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	3	24	30	non-ERF		Clearcut w/reserves	2016	aspen	43
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	3	78	7	non-ERF		Clearcut w/reserves	2016	balm of Gilead	43
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	4	39	10	non-ERF		Clearcut w/reserves	2016	aspen	43
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	4	56	10	non-ERF		Commercial thinning	2013	white spruce	48
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	4	13	8	non-ERF		Commercial thinning	2013	white spruce	48
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	5	109	21	non-ERF		Clearcut w/reserves	2012	aspen	60

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	5	33	33	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	5	119	8	non-ERF		Uneven-aged regeneration	2012	lowland hardwoods	151
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	5	691	35	ERF		Commercial thinning	2015	white spruce	44
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	6	75	11	ERF		Commercial thinning	2010	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	6	80	5	ERF		Commercial thinning	2019	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	6	97	5	ERF		Commercial thinning	2019	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	8	183	11	non-ERF		Clearcut w/reserves	2011	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	9	212	6	non-ERF		Clearcut w/reserves	2017	balm of Gilead	81
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	147	13	non-ERF		Clearcut w/reserves	2012	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	152	20	non-ERF		Clearcut w/reserves	2012	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	164	19	non-ERF		Clearcut w/reserves	2012	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	138	11	non-ERF		Clearcut w/reserves	2012	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	739	7	ERF		Clearcut w/reserves	2018	aspen	32
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	10	208	20	ERF		Clearcut w/reserves	2018	balm of Gilead	68
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	11	765	10	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	11	719	8	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	11	192	17	non-ERF		Clearcut w/reserves	2019	tamarack	149
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	11	169	21	non-ERF		Clearcut w/reserves	2019	tamarack	153
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	12	174	13	non-ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	12	166	76	ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	12	175	77	ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	15	232	25	non-ERF		Clearcut w/reserves	2017	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	290	2	non-ERF		Clearcut w/reserves	2017	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	315	18	non-ERF		Clearcut w/reserves	2017	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	330	8	non-ERF		Clearcut w/reserves	2017	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	227	30	non-ERF		Clearcut w/reserves	2013	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	778	10	non-ERF		Clearcut w/reserves	2017	aspen	80

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	314	13	non-ERF		Uneven-aged regeneration	2013	ash	132
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	322	26	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	50
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	273	29	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	69
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	16	229	44	ERF		Clearcut w/reserves	2017	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	17	270	12	non-ERF		Clearcut w/reserves	2011	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	18	598	20	non-ERF		Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	18	596	37	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	18	281	22	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	18	282	3	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	19	601	32	non-ERF		Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	19	396	3	non-ERF		Clearcut w/reserves	2011	balm of Gilead	69
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	20	432	16	non-ERF		Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	20	433	2	non-ERF		Clearcut w/reserves	2011	tamarack	66
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	20	431	7	non-ERF		Clearcut w/reserves	2011	tamarack	66
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	20	428	17	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	21	409	8	non-ERF		Clearcut w/reserves	2013	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	21	372	25	ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	23	407	18	non-ERF		Clearcut w/reserves	2014	tamarack	137
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	24	380	8	non-ERF		Clearcut w/reserves	2014	tamarack	95
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	24	608	34	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	63
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	24	603	28	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	88
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	24	607	8	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	25	499	3	non-ERF		Clearcut w/reserves	2012	lowland black spruce	109
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	25	618	4	non-ERF		Clearcut w/reserves	2012	tamarack	128
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	25	516	20	non-ERF		Clearcut w/reserves	2012	tamarack	119
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	26	783	49	non-ERF		Clearcut w/reserves	2010	tamarack	115
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	26	502	116	non-ERF		Clearcut w/reserves	2010	tamarack	115
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	26	480	14	non-ERF		Clearcut w/reserves	2010	tamarack	93
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	28	447	43	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	29	489	2	non-ERF		Clearcut w/reserves	2012	lowland black spruce	140
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	29	443	2	non-ERF		Clearcut w/reserves	2011	tamarack	140
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	31	572	2	non-ERF		Clearcut w/reserves	2012	aspen	79
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	31	521	12	non-ERF		Clearcut w/reserves	2012	tamarack	158
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	31	560	6	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	80
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	32	553	6	non-ERF		Clearcut w/reserves	2012	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	32	569	22	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	64
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	33	543	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	78
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	34	663	24	non-ERF		Clearcut w/reserves	2016	tamarack	151
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	34	529	16	non-ERF		Clearcut w/reserves	2016	tamarack	176
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	34	640	5	non-ERF		Clearcut w/reserves	2016	tamarack	165
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	34	643	14	ERF		Clearcut w/reserves	2016	tamarack	151
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	35	565	12	non-ERF		Clearcut w/reserves	2014	aspen	47
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	35	650	12	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	35	664	39	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	60
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	35	666	19	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	35	648	21	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	56
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	651	7	non-ERF		Clearcut w/reserves	2017	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	592	7	non-ERF		Clearcut w/reserves	2014	balsam fir	63
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	636	29	non-ERF		Clearcut w/reserves	2012	tamarack	95
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	652	11	non-ERF		Clearcut w/reserves	2012	tamarack	156
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	641	23	non-ERF		Clearcut w/reserves	2012	tamarack	143
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	594	13	non-ERF		Clearcut w/reserves	2014	tamarack	120
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	570	29	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	71
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	662	10	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	60
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	653	16	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	88
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	670	6	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	88

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	559	14	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	89
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	657	7	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	36	536	45	ERF		Clearcut w/reserves	2012	tamarack	127
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	1	998	3	ERF		Commercial thinning	2015	red pine	60
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	2	439	30	non-ERF		Clearcut w/reserves	2016	aspen	40
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	438	13	non-ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	47	5	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	444	8	non-ERF		Clearcut w/reserves	2019	lowland black spruce	77
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	441	84	ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	446	121	ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Aitkin	Aitkin	51	26	0	3	483	25	ERF		Clearcut w/reserves	2019	lowland black spruce	77
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	1018	4	non-ERF		Clearcut w/reserves	2015	aspen	48
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	580	54	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	97	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	75
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	88	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	87
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	89	6	non-ERF		Clearcut w/reserves	2017	tamarack	87
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	541	6	non-ERF		Uneven-aged regeneration	2017	balsam fir	67
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	545	19	non-ERF	Y	Uneven-aged regeneration	2017	balsam fir	86
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	588	12	non-ERF	Y	Commercial thinning	2018	white pine	112
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	565	16	non-ERF		Commercial thinning	2013	white spruce	26
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	571	20	ERF		Commercial thinning	2013	red pine	26
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	537	19	ERF		Commercial thinning	2017	red pine	24
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	11	526	6	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	11	70	25	non-ERF		Uneven-aged regeneration	2013	oak	74
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	12	79	5	non-ERF		Commercial thinning	2015	white spruce	25
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	12	577	21	ERF		Commercial thinning	2012	red pine	27
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	12	1001	3	ERF		Commercial thinning	2015	red pine	60
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	13	1024	5	non-ERF		Clearcut w/reserves	2013	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	13	211	5	non-ERF		Clearcut w/reserves	2013	aspen	58

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	13	646	18	non-ERF		Commercial thinning	2010	white spruce	25
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	13	675	13	ERF		Commercial thinning	2015	red pine	24
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	14	662	45	ERF		Commercial thinning	2012	red pine	11
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	14	610	63	ERF		Commercial thinning	2012	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	14	681	17	ERF		Commercial thinning	2012	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	14	1008	8	ERF		Commercial thinning	2012	red pine	30
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	14	1007	11	ERF		Commercial thinning	2012	red pine	30
St.Louis Moraines	Aitkin	Aitkin	51	26	0	15	602	12	non-ERF	Y	Clearcut w/reserves	2018	aspen	42
St.Louis Moraines	Aitkin	Aitkin	51	26	0	15	651	16	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Aitkin	Aitkin	51	26	0	15	660	18	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Aitkin	Aitkin	51	26	0	15	604	72	ERF		Clearcut w/reserves	2011	aspen	42
St.Louis Moraines	Aitkin	Aitkin	51	26	0	16	625	25	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	51	26	0	16	613	2	non-ERF		Uneven-aged regeneration	2017	ash	89
St.Louis Moraines	Aitkin	Aitkin	51	26	0	18	194	7	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	60
St.Louis Moraines	Aitkin	Aitkin	51	26	0	22	775	14	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	51	26	0	22	707	19	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	82
St.Louis Moraines	Aitkin	Aitkin	51	26	0	22	773	15	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	53
St.Louis Moraines	Aitkin	Aitkin	51	26	0	22	724	28	ERF		Commercial thinning	2018	red pine	22
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	23	711	18	ERF		Commercial thinning	2018	red pine	18
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	23	712	15	ERF		Commercial thinning	2018	red pine	27
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	23	223	10	ERF		Commercial thinning	2018	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	23	776	9	ERF		Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	24	770	14	ERF		Commercial thinning	2018	red pine	25
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	25	870	13	non-ERF		Uneven-aged regeneration	2012	oak	74
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	26	362	5	non-ERF	Y	Clearcut w/reserves	2017	tamarack	121
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	315	2	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	881	1	non-ERF		Clearcut w/reserves	2010	aspen	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	834	12	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	881	37	non-ERF		Clearcut w/reserves	2010	aspen	72
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	308	17	non-ERF		Uneven-aged regeneration	2017	ash	85
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	326	11	non-ERF		Uneven-aged regeneration	2013	oak	86
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	27	313	5	non-ERF		Uneven-aged regeneration	2017	balsam fir	84
St.Louis Moraines	Aitkin	Aitkin	51	26	0	32	1019	10	ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	34	385	9	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	34	899	29	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	35	1013	5	non-ERF		Clearcut w/reserves	2016	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	35	915	15	non-ERF		Clearcut w/reserves	2017	aspen	39
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	35	984	12	non-ERF		Clearcut w/reserves	2017	aspen	39
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	35	903	4	non-ERF		Clearcut w/reserves	2017	aspen	39
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	36	988	14	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	36	908	43	non-ERF		Clearcut w/reserves	2012	aspen	61
St.Louis Moraines	Aitkin	Aitkin	51	27	0	14	104	18	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	51	27	0	16	350	32	non-ERF		Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Aitkin	Aitkin	51	27	0	16	343	10	non-ERF		Clearcut w/reserves	2010	aspen	67
St.Louis Moraines	Aitkin	Aitkin	51	27	0	16	353	27	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	68
St.Louis Moraines	Aitkin	Aitkin	51	27	0	16	345	23	ERF		Commercial thinning	2010	red pine	25
St.Louis Moraines	Aitkin	Aitkin	51	27	0	16	358	15	ERF		Commercial thinning	2010	red pine	28
St.Louis Moraines	Aitkin	Aitkin	51	27	0	28	396	9	non-ERF		Clearcut w/reserves	2014	balsam fir	56
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	440	16	non-ERF		Clearcut w/reserves	2012	aspen	60
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	429	22	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	479	5	non-ERF	Y	Uneven-aged regeneration	2012	oak	62
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	481	16	non-ERF		Uneven-aged regeneration	2012	oak	79
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	484	12	non-ERF		Uneven-aged regeneration	2019	oak	68
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	485	19	non-ERF		Uneven-aged regeneration	2019	oak	68
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	441	14	ERF		Commercial thinning	2019	red pine	17
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	5	38	8	non-ERF		Clearcut w/reserves	2019	aspen	62

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	6	64	5	non-ERF		Clearcut w/reserves	2019	aspen	52
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	6	35	6	non-ERF		Clearcut w/reserves	2019	aspen	64
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	6	8	26	non-ERF		Clearcut w/reserves	2019	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	6	59	21	non-ERF		Clearcut w/reserves	2019	lowland black spruce	98
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	16	417	6	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	16	186	22	non-ERF		Clearcut w/reserves	2014	aspen	44
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	16	423	14	non-ERF		Clearcut w/reserves	2014	aspen	92
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	16	147	50	non-ERF		Clearcut w/reserves	2014	aspen	31
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	18	113	24	non-ERF	Y	Uneven-aged regeneration	2014	balsam fir	78
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	20	191	8	non-ERF		Commercial thinning	2014	white spruce	29
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	28	297	22	non-ERF		Clearcut w/reserves	2014	aspen	50
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	32	384	24	non-ERF		Clearcut w/reserves	2014	aspen	58
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	32	398	7	non-ERF		Clearcut w/reserves	2014	aspen	60
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	180	20	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	193	11	non-ERF		Clearcut w/reserves	2014	aspen	59
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	177	20	non-ERF		Clearcut w/reserves	2014	aspen	60
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	201	7	non-ERF		Clearcut w/reserves	2014	aspen	60
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	194	15	non-ERF		Clearcut w/reserves	2014	aspen	51
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	200	4	non-ERF		Clearcut w/reserves	2014	aspen	76
Tamarack Lowlands	St.Louis	Cloquet	52	18	0	36	189	6	non-ERF		Uneven-aged regeneration	2014	balsam fir	80
Tamarack Lowlands	St.Louis	Cloquet	52	19	0	2	21	15	non-ERF		Clearcut w/reserves	2014	balsam fir	71
Tamarack Lowlands	St.Louis	Cloquet	52	19	0	16	66	22	non-ERF		Clearcut w/reserves	2014	aspen	34
Tamarack Lowlands	St.Louis	Cloquet	52	19	0	16	71	5	non-ERF		Clearcut w/reserves	2014	aspen	36
Tamarack Lowlands	St.Louis	Cloquet	52	19	0	16	94	19	non-ERF		Commercial thinning	2014	white spruce	28
Tamarack Lowlands	St.Louis	Cloquet	52	19	0	30	143	7	non-ERF		Commercial thinning	2010	white spruce	46
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	26	50	23	non-ERF		Clearcut w/reserves	2011	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	34	63	21	non-ERF		Clearcut w/reserves	2011	aspen	80

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	36	93	8	non-ERF		Uneven-aged regeneration	2012	ash	101
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	36	88	28	non-ERF		Uneven-aged regeneration	2012	balsam fir	76
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	36	84	22	ERF		Clearcut w/reserves	2012	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	52	20	0	36	76	10	ERF		Commercial thinning	2010	white spruce	46
Tamarack Lowlands	St.Louis	Cloquet	52	21	0	10	20	9	non-ERF		Clearcut w/reserves	2012	aspen	68
Tamarack Lowlands	St.Louis	Cloquet	52	21	0	10	23	5	non-ERF		Clearcut w/reserves	2012	balsam fir	57
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	11	110	7	non-ERF		Clearcut w/reserves	2013	lowland black spruce	95
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	11	115	33	non-ERF		Uneven-aged regeneration	2013	ash	99
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	14	155	8	non-ERF		Uneven-aged regeneration	2013	balsam fir	99
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	16	35	15	non-ERF		Clearcut w/reserves	2014	lowland black spruce	95
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	16	149	76	ERF		Clearcut w/reserves	2014	tamarack	88
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	16	136	5	ERF		Commercial thinning	2012	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	16	32	11	ERF		Commercial thinning	2010	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	16	19	7	ERF		Commercial thinning	2012	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	17	142	10	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	17	222	7	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	17	228	22	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	254	2	non-ERF		Clearcut w/reserves	2015	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	98	13	non-ERF		Clearcut w/reserves	2015	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	304	27	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	257	11	non-ERF		Uneven-aged regeneration	2012	ash	98
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	238	2	ERF		Commercial thinning	2012	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	18	303	7	ERF		Commercial thinning	2014	red pine	41
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	20	50	22	non-ERF		Clearcut w/reserves	2014	aspen	37
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	20	162	3	non-ERF		Clearcut w/reserves	2014	tamarack	88
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	20	168	50	non-ERF		Clearcut w/reserves	2019	tamarack	118
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	21	209	368	ERF		Clearcut w/reserves	2018	tamarack	97
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	22	214	7	non-ERF		Clearcut w/reserves	2011	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	22	174	18	non-ERF		Clearcut w/reserves	2011	aspen	66

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	23	62	6	non-ERF	Y	Uneven-aged regeneration	2013	balsam fir	86
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	25	68	50	non-ERF		Clearcut w/reserves	2013	birch	81
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	25	65	6	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	96
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	25	182	5	non-ERF		Uneven-aged regeneration	2013	balsam fir	99
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	171	5	non-ERF		Clearcut w/reserves	2017	lowland black spruce	98
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	467	36	non-ERF		Uneven-aged regeneration	2013	ash	137
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	534	32	non-ERF		Uneven-aged regeneration	2017	ash	88
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	469	89	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	93
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	480	31	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	52	23	0	16	465	6	ERF		Commercial thinning	2012	red pine	47
St.Louis Moraines	Aitkin	Aitkin	52	23	0	22	266	13	non-ERF		Clearcut w/reserves	2011	aspen	69
St.Louis Moraines	Aitkin	Aitkin	52	23	0	22	267	9	non-ERF		Clearcut w/reserves	2011	birch	96
St.Louis Moraines	Aitkin	Aitkin	52	23	0	26	521	6	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	64
St.Louis Moraines	Aitkin	Aitkin	52	23	0	26	523	26	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	111
St.Louis Moraines	Aitkin	Aitkin	52	23	0	26	516	6	non-ERF		Commercial thinning	2011	white spruce	28
St.Louis Moraines	Aitkin	Aitkin	52	23	0	26	512	17	ERF		Commercial thinning	2011	red pine	28
St.Louis Moraines	Aitkin	Aitkin	52	23	0	27	346	5	non-ERF		Clearcut w/reserves	2011	tamarack	117
St.Louis Moraines	Aitkin	Aitkin	52	23	0	27	500	27	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	79
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	31	9	non-ERF		Clearcut w/reserves	2014	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	2	9	non-ERF		Clearcut w/reserves	2010	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	489	7	non-ERF		Clearcut w/reserves	2014	aspen	55
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	921	8	non-ERF		Clearcut w/reserves	2010	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	790	14	non-ERF		Clearcut w/reserves	2011	lowland black spruce	113
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	906	6	ERF		Commercial thinning	2010	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	799	47	ERF		Commercial thinning	2014	red pine	29
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	471	88	ERF		Commercial thinning	2014	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	788	24	ERF		Commercial thinning	2011	red pine	50

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	1	511	34	ERF		Commercial thinning	2013	white spruce	25
Tamarack Lowlands	Itasca	Aitkin	52	24	0	1	922	15	non-ERF		Clearcut w/reserves	2010	aspen	54
Tamarack Lowlands	Itasca	Aitkin	52	24	0	1	17	55	ERF		Commercial thinning	2010	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	789	18	non-ERF	Y	Clearcut w/reserves	2010	aspen	79
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	483	17	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	466	7	non-ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	763	23	non-ERF		Clearcut w/reserves	2015	aspen	52
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	465	23	non-ERF		Clearcut w/reserves	2011	lowland black spruce	112
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	784	26	non-ERF		Clearcut w/reserves	2015	lowland brush	0
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	926	10	ERF	Y	Commercial thinning	2011	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	794	12	ERF		Commercial thinning	2010	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	3	781	16	non-ERF		Clearcut w/reserves	2012	balsam fir	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	3	785	6	non-ERF		Uneven-aged regeneration	2012	ash	126
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	3	761	6	non-ERF		Uneven-aged regeneration	2012	balsam fir	89
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	3	38	7	non-ERF		Uneven-aged regeneration	2012	balsam fir	77
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	4	494	3	non-ERF		Uneven-aged regeneration	2015	balsam fir	87
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	5	936	13	non-ERF		Clearcut w/reserves	2015	birch	84
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	5	937	4	non-ERF		Clearcut w/reserves	2015	birch	84
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	6	29	10	non-ERF		Uneven-aged regeneration	2018	balsam fir	100
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	939	3	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	938	1	non-ERF		Clearcut w/reserves	2013	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	132	40	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	105	11	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	87	14	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	7	118	13	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	9	107	23	non-ERF		Clearcut w/reserves	2019	aspen	27
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	93	11	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	133	22	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	89	4	non-ERF		Clearcut w/reserves	2013	balm of Gilead	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	106	8	ERF		Clearcut w/reserves	2010	lowland black spruce	91
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	111	7	ERF		Commercial thinning	2010	red pine	24
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	10	90	5	ERF		Commercial thinning	2010	red pine	24
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	11	163	11	non-ERF		Clearcut w/reserves	2012	birch	66
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	11	149	6	non-ERF		Clearcut w/reserves	2012	tamarack	82
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	12	61	5	non-ERF		Clearcut w/reserves	2014	aspen	56
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	12	170	9	non-ERF	Y	Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	12	524	35	ERF		Commercial thinning	2014	red pine	29
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	597	30	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	583	49	non-ERF		Clearcut w/reserves	2014	aspen	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	592	14	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	577	9	non-ERF		Clearcut w/reserves	2014	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	827	21	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	558	26	non-ERF		Clearcut w/reserves	2014	balsam fir	53
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	814	3	non-ERF		Commercial thinning	2012	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	544	2	ERF		Commercial thinning	2012	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	13	813	5	ERF		Commercial thinning	2012	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	14	815	24	non-ERF		Clearcut w/reserves	2014	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	14	215	6	non-ERF		Clearcut w/reserves	2016	tamarack	77
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	14	808	10	non-ERF		Commercial thinning	2012	white spruce	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	14	818	3	ERF		Commercial thinning	2014	red pine	51
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	593	7	non-ERF		Clearcut w/reserves	2016	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	587	5	non-ERF		Clearcut w/reserves	2016	aspen	70
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	601	30	non-ERF		Clearcut w/reserves	2016	aspen	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	586	4	non-ERF		Clearcut w/reserves	2016	lowland black spruce	94
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	599	10	non-ERF		Clearcut w/reserves	2016	lowland black spruce	94
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	549	21	non-ERF		Clearcut w/reserves	2016	tamarack	98

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	15	622	3	ERF		Commercial thinning	2010	red pine	51
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	16	589	23	ERF		Commercial thinning	2010	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	17	180	14	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	17	973	5	non-ERF		Clearcut w/reserves	2011	aspen	42
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	17	225	48	non-ERF		Clearcut w/reserves	2013	tamarack	137
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	17	220	12	non-ERF		Clearcut w/reserves	2013	tamarack	124
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	17	228	45	non-ERF		Clearcut w/reserves	2013	tamarack	91
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	206	5	non-ERF		Clearcut w/reserves	2012	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	971	1	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	970	2	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	764	4	ERF		Commercial thinning	2014	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	607	38	ERF		Commercial thinning	2013	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	917	4	ERF		Commercial thinning	2014	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	18	918	2	ERF		Commercial thinning	2014	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	263	9	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	959	3	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	672	18	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	276	11	non-ERF	Y	Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	945	3	ERF		Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	864	26	ERF	Y	Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	866	8	ERF		Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	872	3	ERF		Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	679	9	ERF		Commercial thinning	2011	red pine	49
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	848	18	non-ERF		Clearcut w/reserves	2015	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	278	15	non-ERF		Clearcut w/reserves	2012	balm of Gilead	60
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	920	41	non-ERF		Clearcut w/reserves	2012	tamarack	134
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	250	62	non-ERF		Clearcut w/reserves	2013	tamarack	96
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	271	6	non-ERF		Clearcut w/reserves	2012	tamarack	144
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	632	26	non-ERF		Clearcut w/reserves	2013	tamarack	114

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	268	11	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	125
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	910	13	non-ERF	Y	Commercial thinning	2013	white spruce	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	844	24	ERF		Commercial thinning	2013	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	928	10	ERF		Commercial thinning	2013	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	660	26	ERF		Commercial thinning	2013	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	21	275	297	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	22	697	4	non-ERF		Clearcut w/reserves	2019	aspen	24
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	22	673	11	non-ERF		Clearcut w/reserves	2012	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	22	647	7	non-ERF		Clearcut w/reserves	2012	aspen	33
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	22	637	4	ERF		Commercial thinning	2010	red pine	51
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	23	867	20	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	24	972	7	non-ERF		Commercial thinning	2013	white spruce	49
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	24	668	6	non-ERF		Commercial thinning	2013	white spruce	49
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	24	639	21	ERF		Commercial thinning	2013	red pine	27
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	24	627	8	ERF		Commercial thinning	2013	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	24	662	3	ERF		Commercial thinning	2013	red pine	27
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	731	10	non-ERF		Clearcut w/reserves	2017	balsam fir	75
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	728	7	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	77
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	319	17	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	721	21	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	75
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	337	2	non-ERF		Uneven-aged regeneration	2017	balsam fir	88
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	25	310	20	ERF		Clearcut w/reserves	2011	lowland black spruce	122
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	26	706	16	non-ERF		Clearcut w/reserves	2011	balm of Gilead	84
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	26	305	10	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	100
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	26	705	17	non-ERF		Uneven-aged regeneration	2011	balsam fir	81
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	26	312	52	ERF		Clearcut w/reserves	2011	lowland black spruce	122
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	302	30	non-ERF		Clearcut w/reserves	2011	aspen	62

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	309	7	non-ERF	Y	Clearcut w/reserves	2019	aspen	25
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	333	42	non-ERF		Clearcut w/reserves	2014	aspen	60
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	313	37	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	709	29	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	342	6	non-ERF		Clearcut w/reserves	2011	balm of Gilead	79
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	326	46	non-ERF		Clearcut w/reserves	2011	balm of Gilead	79
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	332	17	non-ERF		Uneven-aged regeneration	2014	ash	124
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	299	11	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	89
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	315	41	ERF		Commercial thinning	2019	red pine	23
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	29	297	5	non-ERF		Clearcut w/reserves	2012	birch	101
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	769	11	non-ERF		Clearcut w/reserves	2015	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	336	5	non-ERF		Clearcut w/reserves	2015	tamarack	120
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	334	88	non-ERF		Clearcut w/reserves	2015	tamarack	119
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	343	11	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	96
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	888	3	non-ERF	Y	Commercial thinning	2015	white pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	981	9	ERF	Y	Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	962	4	ERF		Commercial thinning	2015	red pine	43
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	767	6	ERF		Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	883	3	ERF	Y	Commercial thinning	2015	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	878	9	ERF	Y	Commercial thinning	2015	red pine	52
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	877	7	ERF	Y	Commercial thinning	2015	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	765	7	ERF	Y	Commercial thinning	2015	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	880	16	ERF	Y	Commercial thinning	2015	red pine	66
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	387	12	non-ERF		Clearcut w/reserves	2013	aspen	43
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	393	12	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	410	8	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	419	9	non-ERF		Clearcut w/reserves	2013	birch	88
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	400	11	non-ERF		Uneven-aged regeneration	0	balsam fir	97
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	738	27	ERF		Commercial thinning	2013	white spruce	46

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	31	740	31	ERF		Commercial thinning	2013	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	33	440	13	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	33	433	8	non-ERF		Clearcut w/reserves	2011	tamarack	130
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	33	397	7	non-ERF		Clearcut w/reserves	2011	tamarack	144
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	899	12	non-ERF		Clearcut w/reserves	2011	lowland black spruce	131
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	904	16	non-ERF		Uneven-aged regeneration	2011	ash	112
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	894	18	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	900	16	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	903	33	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	34	896	150	ERF		Clearcut w/reserves	2010	lowland black spruce	108
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	1	51	8	ERF	Y	Commercial thinning	2013	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	1	43	105	ERF		Commercial thinning	2013	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	25	3	non-ERF		Clearcut w/reserves	2011	aspen	71
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	927	14	non-ERF		Clearcut w/reserves	2011	aspen	72
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	906	22	non-ERF		Clearcut w/reserves	2011	aspen	69
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	575	6	non-ERF	Y	Commercial thinning	2011	white pine	96
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	929	16	non-ERF		Commercial thinning	2013	white spruce	43
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	3	703	7	non-ERF		Clearcut w/reserves	2011	aspen	81
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	3	11	13	non-ERF		Clearcut w/reserves	2011	aspen	74
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	3	9	12	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	85
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	10	617	3	non-ERF		Uneven-aged regeneration	2016	ash	116
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	10	603	33	non-ERF		Uneven-aged regeneration	2012	balsam fir	76
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	578	13	non-ERF		Uneven-aged regeneration	2012	ash	121
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	612	16	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	56
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	614	18	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	72
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	716	23	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	104
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	713	14	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	95

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	1003	98	non-ERF	Y	Uneven-aged regeneration	0	white pine	117
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	811	8	ERF	Y	Commercial thinning	2019	red pine	16
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	940	4	ERF		Commercial thinning	2013	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	712	8	non-ERF		Clearcut w/reserves	2013	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	608	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	589	9	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	946	33	non-ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	750	8	non-ERF		Clearcut w/reserves	2013	balsam fir	49
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	723	25	non-ERF		Clearcut w/reserves	2013	balsam fir	63
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	77	6	non-ERF	Y	Commercial thinning	2013	white pine	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	114	2	non-ERF	Y	Commercial thinning	2013	white pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	592	4	non-ERF	Y	Commercial thinning	2013	white pine	57
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	96	6	non-ERF		Commercial thinning	2013	white spruce	43
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	65	12	ERF		Commercial thinning	2013	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	595	12	ERF		Commercial thinning	2013	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	1021	2	ERF		Commercial thinning	2013	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	596	16	ERF		Commercial thinning	2013	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1017	3	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	973	5	non-ERF		Clearcut w/reserves	2012	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	966	9	non-ERF		Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1028	4	non-ERF		Clearcut w/reserves	2012	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1029	3	non-ERF		Clearcut w/reserves	2012	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1039	4	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1040	2	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	210	3	non-ERF	Y	Commercial thinning	2014	white pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	751	7	non-ERF		Commercial thinning	2014	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	194	4	non-ERF		Commercial thinning	2014	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1037	3	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1036	2	ERF		Clearcut w/reserves	2012	aspen	61

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1035	4	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1038	1	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1023	3	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1022	5	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	972	10	ERF		Commercial thinning	2014	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	965	7	ERF		Commercial thinning	2014	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1024	4	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	956	8	ERF		Commercial thinning	2014	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	953	13	ERF	Y	Commercial thinning	2014	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	978	56	ERF		Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	1013	32	ERF		Commercial thinning	2014	red pine	44
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	164	8	non-ERF		Clearcut w/reserves	2011	aspen	106
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	212	12	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	87
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	150	9	non-ERF		Uneven-aged regeneration	2011	balsam fir	80
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	622	19	ERF		Clearcut w/reserves	2018	aspen	33
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	144	4	ERF		Clearcut w/reserves	2018	aspen	33
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	14	1012	4	ERF		Commercial thinning	2013	red pine	43
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	15	641	13	non-ERF		Uneven-aged regeneration	2016	ash	93
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	15	631	22	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	77
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	15	635	117	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	77
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	15	1019	14	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	52	25	0	16	633	36	non-ERF		Clearcut w/reserves	2011	aspen	78
St.Louis Moraines	Aitkin	Aitkin	52	25	0	16	156	27	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	52	25	0	16	657	26	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	52	25	0	16	1000	25	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	61
St.Louis Moraines	Aitkin	Aitkin	52	25	0	18	736	16	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	765	23	non-ERF		Clearcut w/reserves	2015	aspen	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	855	12	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	761	24	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	870	5	non-ERF		Uneven-aged regeneration	2018	ash	75
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	851	30	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	839	40	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	73
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	762	7	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	52	25	0	19	826	79	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	20	869	5	non-ERF		Uneven-aged regeneration	2018	ash	75
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	270	9	non-ERF		Uneven-aged regeneration	2012	lowland hardwoods	131
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	1007	14	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	85
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	247	23	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	81
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	995	63	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	72
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	274	20	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	669	58	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	85
St.Louis Moraines	Aitkin	Aitkin	52	25	0	21	667	69	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	22	252	12	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	67
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	23	278	7	non-ERF		Clearcut w/reserves	2018	aspen	36
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	865	8	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	853	6	non-ERF		Clearcut w/reserves	2011	aspen	54
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	779	5	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	62
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	849	69	ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	246	14	ERF		Commercial thinning	2011	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	854	17	ERF		Commercial thinning	2011	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	24	770	18	ERF		Commercial thinning	2011	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	316	17	non-ERF		Clearcut w/reserves	2015	aspen	51
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	312	26	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	305	6	non-ERF		Clearcut w/reserves	2018	aspen	33
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	333	5	non-ERF		Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	308	7	non-ERF		Clearcut w/reserves	2011	balm of Gilead	76

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	395	50	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	92
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	330	18	non-ERF		Commercial thinning	2013	white spruce	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	383	146	ERF		Clearcut w/reserves	2015	tamarack	126
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	382	8	ERF		Commercial thinning	2013	red pine	43
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	25	364	66	ERF		Commercial thinning	2013	white spruce	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	26	302	16	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	26	386	15	non-ERF		Clearcut w/reserves	2015	tamarack	92
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	307	9	non-ERF		Clearcut w/reserves	2019	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	306	3	non-ERF		Clearcut w/reserves	2019	aspen	66
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	389	48	non-ERF		Uneven-aged regeneration	2017	ash	81
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	300	2	non-ERF		Commercial thinning	2019	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	363	4	non-ERF		Commercial thinning	2019	white spruce	28
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	320	10	ERF		Commercial thinning	2019	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	28	346	3	ERF		Commercial thinning	2019	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	29	345	24	ERF		Clearcut w/reserves	2017	aspen	38
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	30	686	49	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	90
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	32	449	31	non-ERF		Clearcut w/reserves	2011	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	32	440	18	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	89
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	32	495	5	ERF		Commercial thinning	2013	red pine	62
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	551	7	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	993	108	non-ERF		Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	895	5	non-ERF		Clearcut w/reserves	2013	aspen	57
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	1016	5	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	451	4	non-ERF		Uneven-aged regeneration	2013	lowland hardwoods	93
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	793	6	ERF	Y	Commercial thinning	2013	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	792	3	ERF		Commercial thinning	2013	red pine	26
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	794	4	ERF		Commercial thinning	2013	red pine	26

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	34	490	8	non-ERF		Clearcut w/reserves	2013	aspen	59
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	34	539	21	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	544	19	non-ERF		Clearcut w/reserves	2019	aspen	29
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	464	15	non-ERF		Clearcut w/reserves	2015	tamarack	125
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	505	38	non-ERF		Clearcut w/reserves	2019	tamarack	125
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	482	5	non-ERF		Clearcut w/reserves	2015	tamarack	121
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	476	11	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	74
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	466	17	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	81
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	484	14	non-ERF		Commercial thinning	2013	white spruce	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	36	696	7	ERF		Commercial thinning	2013	white spruce	46
St.Louis Moraines	Aitkin	Aitkin	52	26	0	4	64	14	non-ERF		Uneven-aged regeneration	2011	balsam fir	79
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	10	149	6	non-ERF		Uneven-aged regeneration	2011	balsam fir	76
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	363	9	non-ERF		Clearcut w/reserves	2015	aspen	53
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	350	66	non-ERF		Clearcut w/reserves	2015	aspen	47
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	301	36	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	73
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	271	76	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	71
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	329	20	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	76
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	687	20	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	69
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	681	16	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	77
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	682	20	non-ERF		Uneven-aged regeneration	2012	oak	73
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	21	273	12	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	76
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	21	314	3	ERF		Commercial thinning	2017	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	21	359	9	ERF		Commercial thinning	2012	red pine	52
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	22	365	7	non-ERF		Uneven-aged regeneration	2017	lowland hardwoods	153
St.Louis Moraines	Aitkin	Aitkin	52	26	0	25	383	38	non-ERF		Uneven-aged regeneration	2012	oak	79
St.Louis Moraines	Aitkin	Aitkin	52	26	0	25	404	85	non-ERF		Uneven-aged regeneration	2012	oak	83
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	28	637	4	ERF		Clearcut w/reserves	2019	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	52	26	0	28	641	6	ERF		Commercial thinning	2019	white spruce	18
St.Louis Moraines	Aitkin	Aitkin	52	26	0	29	391	22	non-ERF		Clearcut w/reserves	2015	aspen	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	538	48	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	30
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	686	6	ERF		Clearcut w/reserves	2010	aspen	77
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	498	22	ERF		Clearcut w/reserves	2010	aspen	69
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	523	23	ERF		Clearcut w/reserves	2014	aspen	55
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	668	5	ERF		Clearcut w/reserves	2010	aspen	84
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	541	21	ERF		Commercial thinning	2014	red pine	24
St.Louis Moraines	Aitkin	Aitkin	52	26	0	32	556	24	ERF		Commercial thinning	2014	white spruce	24
St.Louis Moraines	Aitkin	Aitkin	52	26	0	33	565	11	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	57
St.Louis Moraines	Aitkin	Aitkin	52	26	0	34	673	5	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	52	26	0	34	607	13	non-ERF		Clearcut w/reserves	2016	aspen	38
St.Louis Moraines	Aitkin	Aitkin	52	26	0	34	609	3	non-ERF		Clearcut w/reserves	2016	aspen	41
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	603	14	non-ERF		Clearcut w/reserves	2014	aspen	54
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	527	10	non-ERF		Clearcut w/reserves	2012	aspen	39
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	540	5	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	529	7	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	76
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	522	20	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	63
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	548	18	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	79
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	536	13	non-ERF		Uneven-aged regeneration	2015	oak	82
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	685	9	non-ERF		Uneven-aged regeneration	2013	oak	56
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	469	53	non-ERF		Uneven-aged regeneration	2013	oak	83
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	684	9	non-ERF		Uneven-aged regeneration	2016	oak	68
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	473	20	non-ERF		Uneven-aged regeneration	2016	oak	82
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	598	12	non-ERF		Commercial thinning	2012	white spruce	36
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	554	7	non-ERF		Commercial thinning	2012	white spruce	36
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	513	3	ERF		Commercial thinning	2012	red pine	52
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	535	4	ERF		Commercial thinning	2012	red pine	52
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	533	3	ERF		Commercial thinning	2012	red pine	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	511	15	ERF		Commercial thinning	2012	red pine	52
St.Louis Moraines	Aitkin	Aitkin	52	26	0	36	547	2	ERF		Commercial thinning	2012	red pine	49
St.Louis Moraines	Aitkin	Aitkin	52	27	0	3	62	7	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	67
St.Louis Moraines	Aitkin	Aitkin	52	27	0	9	6	18	non-ERF		Clearcut w/reserves	2012	lowland black spruce	138
St.Louis Moraines	Aitkin	Aitkin	52	27	0	15	120	11	non-ERF		Clearcut w/reserves	2011	balsam fir	62
St.Louis Moraines	Aitkin	Aitkin	52	27	0	16	119	58	ERF		Clearcut w/reserves	2011	birch	87
St.Louis Moraines	Aitkin	Aitkin	52	27	0	16	125	33	ERF		Commercial thinning	2018	red pine	20
St.Louis Moraines	Aitkin	Aitkin	52	27	0	22	33	4	non-ERF		Clearcut w/reserves	2018	aspen	60
St.Louis Moraines	Aitkin	Aitkin	52	27	0	22	34	44	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Aitkin	Aitkin	52	27	0	22	40	15	non-ERF		Clearcut w/reserves	2018	lowland black spruce	79
St.Louis Moraines	Aitkin	Aitkin	52	27	0	36	97	32	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Aitkin	Aitkin	52	27	0	36	109	20	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	71
St.Louis Moraines	Aitkin	Aitkin	52	27	0	36	101	16	non-ERF		Commercial thinning	2019	white spruce	24
St.Louis Moraines	Aitkin	Aitkin	52	27	0	36	98	22	non-ERF		Commercial thinning	2019	white spruce	20
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	6	77	27	non-ERF		Clearcut w/reserves	2016	birch	65
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	6	78	10	ERF		Commercial thinning	2016	red pine	22
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	16	333	21	non-ERF		Clearcut w/reserves	2016	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	16	207	10	non-ERF		Clearcut w/reserves	2016	aspen	73
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	16	195	38	non-ERF		Clearcut w/reserves	2016	lowland black spruce	140
Tamarack Lowlands	St.Louis	Cloquet	53	16	0	16	175	6	non-ERF		Clearcut w/reserves	2016	lowland black spruce	95
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	2	15	22	ERF		Commercial thinning	2015	red pine	22
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	3	12	4	non-ERF		Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	4	411	38	non-ERF		Clearcut w/reserves	2015	aspen	52
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	6	422	16	non-ERF		Clearcut w/reserves	2015	aspen	57
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	6	449	43	non-ERF		Clearcut w/reserves	2015	aspen	42
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	8	473	24	non-ERF		Clearcut w/reserves	2015	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	14	167	51	non-ERF	Y	Clearcut w/reserves	2017	aspen	57
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	15	164	14	non-ERF		Clearcut w/reserves	2019	aspen	52
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	15	166	34	non-ERF		Clearcut w/reserves	2019	tamarack	98

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	15	575	16	non-ERF		Clearcut w/reserves	2019	tamarack	108
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	16	537	15	non-ERF		Clearcut w/reserves	2019	balsam fir	70
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	19	679	31	non-ERF		Clearcut w/reserves	2010	lowland black spruce	120
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	19	725	19	non-ERF		Clearcut w/reserves	2010	lowland black spruce	136
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	20	598	23	non-ERF		Clearcut w/reserves	2019	balm of Gilead	67
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	21	709	14	non-ERF		Clearcut w/reserves	2019	tamarack	142
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	22	653	30	non-ERF		Clearcut w/reserves	2019	aspen	50
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	22	607	8	non-ERF		Clearcut w/reserves	2019	balsam fir	42
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	23	659	9	non-ERF		Clearcut w/reserves	2017	balsam fir	42
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	23	211	28	non-ERF		Clearcut w/reserves	2017	lowland black spruce	124
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	23	664	15	ERF		Clearcut w/reserves	2017	lowland black spruce	124
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	24	978	4	non-ERF		Clearcut w/reserves	2017	balsam fir	69
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	24	722	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	94
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	24	695	7	ERF		Clearcut w/reserves	2017	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	24	656	15	ERF		Clearcut w/reserves	2017	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	26	801	5	non-ERF		Clearcut w/reserves	2019	aspen	60
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	26	802	6	non-ERF		Clearcut w/reserves	2019	aspen	56
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	26	793	14	non-ERF		Clearcut w/reserves	2019	aspen	55
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	26	810	11	non-ERF		Clearcut w/reserves	2019	aspen	54
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	27	861	8	non-ERF		Clearcut w/reserves	2019	balsam fir	75
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	30	769	10	non-ERF		Clearcut w/reserves	2010	lowland black spruce	136
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	36	927	14	non-ERF		Uneven-aged regeneration	2017	balsam fir	81
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	36	943	11	non-ERF		Uneven-aged regeneration	2017	balsam fir	80
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	36	935	14	non-ERF		Uneven-aged regeneration	2017	balsam fir	79
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	36	934	11	non-ERF		Uneven-aged regeneration	2017	balsam fir	84
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	36	947	6	non-ERF		Uneven-aged regeneration	2017	balsam fir	78
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	8	202	45	non-ERF		Clearcut w/reserves	2018	aspen	46

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	8	203	2	non-ERF		Clearcut w/reserves	2018	tamarack	80
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	216	6	non-ERF		Clearcut w/reserves	2010	aspen	67
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	208	4	non-ERF		Clearcut w/reserves	2010	aspen	57
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	214	9	non-ERF		Clearcut w/reserves	2010	aspen	53
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	204	4	non-ERF		Clearcut w/reserves	2018	aspen	49
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	217	18	non-ERF		Clearcut w/reserves	2010	aspen	62
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	215	3	non-ERF		Clearcut w/reserves	2010	aspen	42
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	209	2	non-ERF		Clearcut w/reserves	2010	aspen	53
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	205	2	non-ERF		Clearcut w/reserves	2010	aspen	68
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	212	9	non-ERF		Clearcut w/reserves	2010	aspen	43
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	9	207	4	non-ERF		Clearcut w/reserves	2010	balsam fir	58
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	16	22	30	non-ERF		Clearcut w/reserves	2010	aspen	46
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	16	99	20	non-ERF		Uneven-aged regeneration	2018	balsam fir	77
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	16	100	26	non-ERF		Commercial thinning	2018	white spruce	51
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	36	172	53	non-ERF		Clearcut w/reserves	2014	aspen	61
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	36	54	11	non-ERF		Clearcut w/reserves	2014	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	36	152	7	non-ERF		Clearcut w/reserves	2014	balsam fir	74
Tamarack Lowlands	St.Louis	Cloquet	53	18	0	36	149	6	non-ERF		Clearcut w/reserves	2014	balsam fir	72
Tamarack Lowlands	St.Louis	Cloquet	53	19	0	36	175	17	non-ERF		Clearcut w/reserves	2014	balsam fir	69
Tamarack Lowlands	St.Louis	Cloquet	53	19	0	36	54	6	non-ERF		Uneven-aged regeneration	2014	balsam fir	85
Tamarack Lowlands	St.Louis	Cloquet	53	19	0	36	156	25	ERF		Clearcut w/reserves	2014	tamarack	93
Tamarack Lowlands	St.Louis	Cloquet	53	21	0	16	43	13	non-ERF		Clearcut w/reserves	2012	aspen	66
Tamarack Lowlands	St.Louis	Cloquet	53	21	0	16	20	14	non-ERF		Clearcut w/reserves	2012	balsam fir	67
Tamarack Lowlands	St.Louis	Cloquet	53	21	0	16	34	8	non-ERF		Clearcut w/reserves	2012	balsam fir	62
Tamarack Lowlands	St.Louis	Cloquet	53	21	0	36	101	13	non-ERF		Uneven-aged regeneration	2010	balsam fir	82
Tamarack Lowlands	St.Louis	Cloquet	53	21	0	36	94	14	ERF		Commercial thinning	2010	red pine	41
Tamarack Lowlands	Itasca	Deer River	53	23	0	4	14	7	non-ERF		Uneven-aged regeneration	2015	ash	150
Tamarack Lowlands	Itasca	Deer River	53	23	0	13	140	8	non-ERF		Clearcut w/reserves	2019	tamarack	150
Tamarack Lowlands	Itasca	Deer River	53	23	0	16	566	6	non-ERF		Clearcut w/reserves	2012	aspen	60

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Itasca	Deer River	53	23	0	16	567	15	non-ERF		Clearcut w/reserves	2012	lowland black spruce	100
Tamarack Lowlands	Itasca	Deer River	53	23	0	16	586	16	non-ERF		Clearcut w/reserves	2012	tamarack	94
Tamarack Lowlands	Itasca	Deer River	53	23	0	18	91	3	non-ERF		Clearcut w/reserves	2016	tamarack	145
Tamarack Lowlands	Itasca	Deer River	53	23	0	23	223	7	non-ERF		Clearcut w/reserves	2019	balsam fir	71
Tamarack Lowlands	Itasca	Deer River	53	23	0	23	191	44	non-ERF		Clearcut w/reserves	2019	tamarack	96
Tamarack Lowlands	Itasca	Deer River	53	23	0	34	391	2	non-ERF		Clearcut w/reserves	2016	tamarack	121
Tamarack Lowlands	Itasca	Deer River	53	23	0	35	322	5	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	61
Tamarack Lowlands	Itasca	Deer River	53	23	0	36	535	33	non-ERF		Uneven-aged regeneration	2012	lowland hardwoods	154
Tamarack Lowlands	Itasca	Deer River	53	23	0	36	541	3	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	62
Tamarack Lowlands	Itasca	Deer River	53	23	0	36	543	5	ERF		Commercial thinning	2018	red pine	29
Tamarack Lowlands	Itasca	Deer River	53	24	0	30	189	3	non-ERF		Clearcut w/reserves	2019	aspen	68
Tamarack Lowlands	Itasca	Deer River	53	24	0	31	262	3	non-ERF		Clearcut w/reserves	2019	aspen	80
Tamarack Lowlands	Itasca	Deer River	53	24	0	34	249	9	non-ERF		Clearcut w/reserves	2019	aspen	53
Tamarack Lowlands	Itasca	Deer River	53	24	0	34	266	5	non-ERF		Clearcut w/reserves	2019	aspen	55
Tamarack Lowlands	Itasca	Deer River	53	24	0	34	250	9	non-ERF		Clearcut w/reserves	2019	tamarack	66
Tamarack Lowlands	Itasca	Deer River	53	24	0	36	300	10	non-ERF		Uneven-aged regeneration	2014	ash	150
Tamarack Lowlands	Itasca	Deer River	53	25	0	11	25	36	ERF		Clearcut w/reserves	2012	lowland black spruce	91
Tamarack Lowlands	Itasca	Deer River	53	25	0	12	43	22	non-ERF		Clearcut w/reserves	2012	tamarack	80
Tamarack Lowlands	Itasca	Deer River	53	25	0	25	80	20	ERF	Y	Commercial thinning	2019	red pine	12
Tamarack Lowlands	Itasca	Deer River	53	25	0	36	98	36	non-ERF		Clearcut w/reserves	2019	aspen	33
St.Louis Moraines	Itasca	Deer River	53	26	0	36	92	5	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Itasca	Deer River	53	26	0	36	88	17	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	69
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	18	294	28	non-ERF		Clearcut w/reserves	2016	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	19	180	3	non-ERF		Clearcut w/reserves	2016	jack pine	83
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	19	176	13	non-ERF		Clearcut w/reserves	2016	balsam fir	69
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	30	249	3	non-ERF	Y	Clearcut w/reserves	2016	aspen	76
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	30	253	17	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	81

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	1	97	10	non-ERF		Clearcut w/reserves	2019	aspen	51
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	1	3	85	non-ERF	Y	Clearcut w/reserves	2019	aspen	26
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	2	469	8	non-ERF		Clearcut w/reserves	2010	aspen	83
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	2	460	31	non-ERF		Clearcut w/reserves	2010	aspen	82
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	2	104	7	non-ERF		Clearcut w/reserves	2019	aspen	41
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	3	127	6	non-ERF		Clearcut w/reserves	2010	aspen	61
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	6	35	14	non-ERF		Clearcut w/reserves	2018	lowland black spruce	119
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	6	34	21	non-ERF		Clearcut w/reserves	2018	tamarack	95
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	10	148	4	non-ERF		Clearcut w/reserves	2010	aspen	61
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	16	477	37	ERF		Commercial thinning	2016	white spruce	40
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	36	505	17	non-ERF		Commercial thinning	2016	white spruce	24
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	16	420	4	non-ERF		Clearcut w/reserves	2015	aspen	73
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	16	95	13	non-ERF		Clearcut w/reserves	2015	lowland black spruce	118
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	16	77	6	non-ERF	Y	Commercial thinning	2015	white spruce	64
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	16	44	22	non-ERF		Commercial thinning	2015	white spruce	72
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	18	88	10	non-ERF		Clearcut w/reserves	2015	aspen	52
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	18	419	11	non-ERF		Commercial thinning	2015	white spruce	35
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	20	208	12	non-ERF		Clearcut w/reserves	2015	lowland black spruce	176
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	20	163	9	non-ERF		Clearcut w/reserves	2015	lowland black spruce	95
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	21	123	25	non-ERF		Clearcut w/reserves	2015	lowland black spruce	142
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	28	276	10	non-ERF		Clearcut w/reserves	2015	balm of Gilead	74
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	30	316	6	non-ERF		Clearcut w/reserves	2015	balsam fir	45
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	30	296	37	non-ERF		Clearcut w/reserves	2015	balsam fir	42
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	30	297	10	non-ERF		Uneven-aged regeneration	2015	balsam fir	83
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	417	5	non-ERF		Clearcut w/reserves	2016	aspen	70
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	376	67	non-ERF		Clearcut w/reserves	2016	aspen	33
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	395	9	non-ERF		Clearcut w/reserves	2016	balsam fir	44
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	327	23	non-ERF		Clearcut w/reserves	2016	tamarack	93
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	412	7	ERF		Commercial thinning	2016	red pine	31

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	36	416	5	ERF		Commercial thinning	2016	red pine	31
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	2	215	19	non-ERF		Clearcut w/reserves	2013	aspen	36
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	3	25	9	non-ERF		Clearcut w/reserves	2013	aspen	53
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	3	226	44	non-ERF		Clearcut w/reserves	2013	aspen	47
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	11	219	3	non-ERF		Clearcut w/reserves	2017	aspen	44
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	11	220	14	non-ERF		Clearcut w/reserves	2017	aspen	33
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	11	217	2	non-ERF		Clearcut w/reserves	2017	balm of Gilead	34
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	11	218	17	non-ERF		Clearcut w/reserves	2017	balm of Gilead	28
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	11	216	32	non-ERF		Clearcut w/reserves	2017	balm of Gilead	51
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	29	134	8	non-ERF		Uneven-aged regeneration	2015	balsam fir	77
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	29	127	23	ERF		Clearcut w/reserves	2015	aspen	58
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	30	148	14	ERF		Clearcut w/reserves	2015	balm of Gilead	64
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	31	185	18	non-ERF		Uneven-aged regeneration	2015	balsam fir	76
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	31	194	6	ERF		Clearcut w/reserves	2015	aspen	78
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	31	186	4	ERF		Clearcut w/reserves	2015	aspen	84
Tamarack Lowlands	St.Louis	Cloquet	54	18	0	31	199	23	ERF		Clearcut w/reserves	2015	aspen	50
Tamarack Lowlands	St.Louis	Cloquet	54	19	0	8	25	17	non-ERF	Y	Clearcut w/reserves	2014	aspen	61
Tamarack Lowlands	St.Louis	Cloquet	54	19	0	16	35	27	non-ERF		Clearcut w/reserves	2014	aspen	33
Tamarack Lowlands	St.Louis	Cloquet	54	19	0	32	98	10	non-ERF		Clearcut w/reserves	2014	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	54	19	0	33	97	16	non-ERF		Clearcut w/reserves	2014	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	2	227	13	non-ERF		Clearcut w/reserves	2010	balsam fir	70
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	313	24	non-ERF		Clearcut w/reserves	2015	aspen	88
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	341	15	non-ERF		Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	327	24	non-ERF		Clearcut w/reserves	2015	aspen	47
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	337	7	non-ERF		Clearcut w/reserves	2015	birch	90
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	76	6	non-ERF		Clearcut w/reserves	2015	balsam fir	71
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	16	307	16	non-ERF		Commercial thinning	2015	white spruce	35

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	34	560	6	non-ERF		Clearcut w/reserves	2015	lowland black spruce	93
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	34	557	9	non-ERF		Commercial thinning	2015	white spruce	29
Tamarack Lowlands	St.Louis	Cloquet	54	21	0	36	565	6	non-ERF		Commercial thinning	2015	white spruce	29
St.Louis Moraines	Itasca	Deer River	54	22	0	2	18	43	non-ERF		Clearcut w/reserves	2017	aspen	28
St.Louis Moraines	Itasca	Deer River	54	22	0	2	20	5	non-ERF		Clearcut w/reserves	2017	aspen	50
St.Louis Moraines	Itasca	Deer River	54	22	0	2	8	45	ERF		Clearcut w/reserves	2017	aspen	28
St.Louis Moraines	Itasca	Deer River	54	22	0	12	28	11	non-ERF		Clearcut w/reserves	2012	birch	76
St.Louis Moraines	Itasca	Deer River	54	22	0	12	24	4	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	84
St.Louis Moraines	Itasca	Deer River	54	22	0	12	26	17	non-ERF		Uneven-aged regeneration	2012	oak	85
Tamarack Lowlands	Itasca	Deer River	54	22	0	22	43	4	non-ERF		Clearcut w/reserves	2017	balm of Gilead	86
Tamarack Lowlands	Itasca	Deer River	54	22	0	26	56	21	non-ERF		Clearcut w/reserves	2017	aspen	39
Tamarack Lowlands	Itasca	Deer River	54	22	0	34	126	13	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Itasca	Deer River	54	23	0	16	249	2	ERF		Commercial thinning	2015	red pine	56
St.Louis Moraines	Itasca	Deer River	54	23	0	22	120	6	non-ERF		Clearcut w/reserves	2011	aspen	80
St.Louis Moraines	Itasca	Deer River	54	23	0	36	240	5	non-ERF	Y	Clearcut w/reserves	2016	birch	67
St.Louis Moraines	Itasca	Deer River	54	23	0	36	195	3	non-ERF		Clearcut w/reserves	2016	tamarack	151
St.Louis Moraines	Itasca	Deer River	54	23	0	36	185	16	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	90
Tamarack Lowlands	Itasca	Deer River	54	24	0	14	70	2	non-ERF		Clearcut w/reserves	2016	aspen	68
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	71	3	non-ERF	Y	Clearcut w/reserves	2014	aspen	68
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	19	4	non-ERF	Y	Commercial thinning	2010	white pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	12	7	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	72	17	ERF		Commercial thinning	2010	red pine	21
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	63	7	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	128	20	ERF	Y	Commercial thinning	2010	red pine	93
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	66	22	ERF		Commercial thinning	2010	red pine	113
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	130	56	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	127	9	ERF	Y	Commercial thinning	2010	red pine	62
St.Louis Moraines	Itasca	Deer River	54	24	0	30	99	20	non-ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	54	24	0	30	94	9	ERF	Y	Commercial thinning	2010	red pine	88

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St.Louis Moraines	Itasca	Deer River	54	24	0	30	93	7	ERF		Commercial thinning	2016	red pine	22
St.Louis Moraines	Itasca	Deer River	54	24	0	30	104	8	ERF		Commercial thinning	2010	red pine	43
St.Louis Moraines	Itasca	Deer River	54	24	0	30	98	4	ERF		Commercial thinning	2010	red pine	54
St.Louis Moraines	Itasca	Deer River	54	24	0	30	100	36	ERF		Commercial thinning	2010	red pine	113
St.Louis Moraines	Itasca	Deer River	54	24	0	30	101	13	ERF		Commercial thinning	2016	red pine	22
Tamarack Lowlands	Itasca	Deer River	54	24	0	34	38	3	non-ERF		Clearcut w/reserves	2016	aspen	68
Tamarack Lowlands	Itasca	Deer River	54	24	0	34	36	14	ERF		Commercial thinning	2016	red pine	20
St.Louis Moraines	Itasca	Deer River	54	25	0	30	71	3	non-ERF		Clearcut w/reserves	2011	aspen	67
St.Louis Moraines	Itasca	Deer River	54	25	0	31	107	5	non-ERF	Y	Uneven-aged regeneration	2011	northern hardwoods	69
St.Louis Moraines	Itasca	Deer River	54	25	0	31	108	23	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	56
St.Louis Moraines	Itasca	Deer River	54	25	0	31	104	25	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	76
St.Louis Moraines	Itasca	Deer River	54	25	0	31	117	5	non-ERF		Commercial thinning	2011	white spruce	25
St.Louis Moraines	Itasca	Deer River	54	25	0	32	102	5	non-ERF		Clearcut w/reserves	2011	aspen	31
St.Louis Moraines	Itasca	Deer River	54	25	0	32	94	9	non-ERF		Clearcut w/reserves	2011	birch	87
St.Louis Moraines	Itasca	Deer River	54	25	0	33	121	47	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Itasca	Deer River	54	25	0	33	138	2	non-ERF		Commercial thinning	2018	red pine	43
St.Louis Moraines	Itasca	Deer River	54	25	0	33	126	5	ERF		Commercial thinning	2018	red pine	43
St.Louis Moraines	Itasca	Deer River	54	26	0	18	30	8	non-ERF		Clearcut w/reserves	2013	balsam fir	43
St.Louis Moraines	Itasca	Deer River	54	26	0	19	43	23	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	57
St.Louis Moraines	Itasca	Deer River	54	26	0	36	85	14	non-ERF		Uneven-aged regeneration	2011	ash	97
St.Louis Moraines	Itasca	Deer River	54	26	0	36	79	16	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	76
St.Louis Moraines	Itasca	Deer River	54	27	0	21	25	22	non-ERF		Clearcut w/reserves	2010	lowland black spruce	93
St.Louis Moraines	Itasca	Deer River	54	27	0	28	35	8	non-ERF		Clearcut w/reserves	2010	birch	66
St.Louis Moraines	Itasca	Deer River	54	27	0	28	33	4	non-ERF		Clearcut w/reserves	2010	birch	62
St.Louis Moraines	Itasca	Deer River	54	27	0	28	39	26	non-ERF		Uneven-aged regeneration	2010	balsam fir	82
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	4	40	16	non-ERF		Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	5	65	5	non-ERF		Clearcut w/reserves	2011	aspen	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	83	26	non-ERF	Y	Clearcut w/reserves	2011	aspen	55
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	98	7	non-ERF		Clearcut w/reserves	2011	aspen	51
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	103	15	non-ERF	Y	Clearcut w/reserves	2011	birch	53
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	87	14	non-ERF	Y	Clearcut w/reserves	2011	birch	63
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	101	6	non-ERF		Clearcut w/reserves	2011	lowland black spruce	91
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	82	0	non-ERF	Y	Commercial thinning	2011	white pine	93
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	15	161	27	non-ERF	Y	Commercial thinning	2011	white pine	18
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	16	307	8	ERF	Y	Commercial thinning	2011	red pine	67
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	21	323	56	non-ERF		Clearcut w/reserves	2011	balsam fir	64
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	30	221	36	non-ERF		Clearcut w/reserves	2019	aspen	27
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	30	228	15	non-ERF		Clearcut w/reserves	2019	aspen	23
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	30	227	5	non-ERF		Clearcut w/reserves	2019	aspen	46
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	30	224	6	non-ERF		Clearcut w/reserves	2010	birch	74
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	30	233	3	ERF		Commercial thinning	2019	red pine	111
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	31	258	7	non-ERF		Clearcut w/reserves	2019	aspen	45
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	4	110	18	non-ERF		Clearcut w/reserves	2018	aspen	32
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	6	41	12	non-ERF		Clearcut w/reserves	2018	aspen	85
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	6	51	6	non-ERF		Clearcut w/reserves	2018	aspen	81
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	7	182	7	non-ERF		Clearcut w/reserves	2018	lowland black spruce	93
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	8	187	12	non-ERF		Clearcut w/reserves	2018	aspen	65
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	9	216	18	non-ERF		Clearcut w/reserves	2018	aspen	34
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	16	328	30	non-ERF		Clearcut w/reserves	2018	aspen	39
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	16	336	9	non-ERF		Commercial thinning	2018	white spruce	41
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	16	316	22	ERF		Commercial thinning	2018	red pine	41
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	18	324	8	non-ERF		Clearcut w/reserves	2018	upland black spruce	95
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	29	618	11	non-ERF		Clearcut w/reserves	2018	aspen	68
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	31	696	13	non-ERF		Clearcut w/reserves	2018	aspen	53
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	31	695	20	ERF		Commercial thinning	2018	red pine	45
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	35	764	6	ERF		Commercial thinning	2019	red pine	86

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	706	16	non-ERF		Clearcut w/reserves	2019	aspen	28
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	672	14	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	704	14	non-ERF		Clearcut w/reserves	2010	aspen	79
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	732	8	non-ERF		Clearcut w/reserves	2010	aspen	72
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	733	21	non-ERF		Clearcut w/reserves	2010	birch	78
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	710	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	89
Tamarack Lowlands	St.Louis	Cloquet	55	16	0	36	708	31	non-ERF		Commercial thinning	2019	white spruce	26
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	1	40	8	non-ERF		Clearcut w/reserves	2018	aspen	71
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	1	22	32	non-ERF		Clearcut w/reserves	2018	lowland black spruce	137
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	1	30	6	non-ERF		Clearcut w/reserves	2018	lowland black spruce	140
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	7	62	15	non-ERF		Clearcut w/reserves	2012	balsam fir	68
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	8	71	9	non-ERF		Clearcut w/reserves	2012	balsam fir	71
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	8	80	8	non-ERF		Clearcut w/reserves	2012	balsam fir	61
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	8	113	8	non-ERF		Clearcut w/reserves	2012	balsam fir	74
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	8	100	9	non-ERF		Uneven-aged regeneration	2012	balsam fir	78
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	16	175	11	non-ERF		Clearcut w/reserves	2012	aspen	32
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	16	130	21	non-ERF		Clearcut w/reserves	2012	balsam fir	51
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	16	148	95	ERF		Clearcut w/reserves	2012	lowland black spruce	109
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	17	176	9	non-ERF		Clearcut w/reserves	2012	aspen	32
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	17	167	4	non-ERF		Clearcut w/reserves	2012	lowland black spruce	86
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	17	173	4	non-ERF		Clearcut w/reserves	2012	lowland black spruce	86
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	17	126	18	non-ERF		Uneven-aged regeneration	2012	balsam fir	79
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	18	406	20	non-ERF		Clearcut w/reserves	2012	lowland black spruce	81
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	18	170	44	non-ERF		Clearcut w/reserves	2012	lowland black spruce	83
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	20	197	10	non-ERF		Clearcut w/reserves	2012	aspen	32
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	20	198	32	non-ERF		Clearcut w/reserves	2012	tamarack	140
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	21	196	7	non-ERF		Clearcut w/reserves	2012	aspen	32

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	21	195	15	non-ERF		Clearcut w/reserves	2012	lowland black spruce	88
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	28	342	9	non-ERF		Clearcut w/reserves	2013	lowland black spruce	133
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	28	344	14	non-ERF		Clearcut w/reserves	2013	lowland black spruce	140
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	30	341	49	non-ERF		Clearcut w/reserves	2013	lowland black spruce	84
Tamarack Lowlands	St.Louis	Cloquet	55	17	0	31	370	17	non-ERF		Clearcut w/reserves	2013	lowland black spruce	91
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	12	53	12	non-ERF		Clearcut w/reserves	2012	tamarack	132
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	12	77	23	non-ERF		Clearcut w/reserves	2012	tamarack	140
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	34	178	6	non-ERF		Clearcut w/reserves	2013	aspen	48
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	34	189	9	non-ERF		Clearcut w/reserves	2013	aspen	44
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	34	181	9	non-ERF		Clearcut w/reserves	2013	balm of Gilead	55
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	34	187	7	non-ERF		Clearcut w/reserves	2013	balm of Gilead	47
Tamarack Lowlands	St.Louis	Cloquet	55	18	0	36	172	166	non-ERF		Clearcut w/reserves	2013	lowland black spruce	81
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	238	3	non-ERF		Clearcut w/reserves	2011	aspen	46
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	231	7	non-ERF		Clearcut w/reserves	2011	aspen	65
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	227	4	non-ERF		Clearcut w/reserves	2011	aspen	43
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	228	5	non-ERF		Clearcut w/reserves	2011	balsam fir	63
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	241	12	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	83
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	2	240	18	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	83
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	3	26	7	non-ERF		Clearcut w/reserves	2013	aspen	67
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	3	23	5	non-ERF		Clearcut w/reserves	2013	balsam fir	30
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	3	16	8	non-ERF		Clearcut w/reserves	2013	lowland black spruce	138
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	3	7	7	non-ERF		Clearcut w/reserves	2013	tamarack	76
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	3	9	18	non-ERF		Uneven-aged regeneration	2013	balsam fir	84
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	10	244	6	non-ERF		Clearcut w/reserves	2013	aspen	65
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	10	222	10	non-ERF		Clearcut w/reserves	2018	birch	67
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	10	221	12	non-ERF		Uneven-aged regeneration	2018	balsam fir	81
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	194	23	non-ERF		Clearcut w/reserves	2011	aspen	54
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	200	1	non-ERF		Clearcut w/reserves	2013	aspen	49
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	201	7	non-ERF	Y	Clearcut w/reserves	2013	aspen	51

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	197	7	non-ERF		Clearcut w/reserves	2018	birch	85
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	199	14	non-ERF		Uneven-aged regeneration	2013	ash	118
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	16	84	4	non-ERF		Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	16	87	21	non-ERF		Clearcut w/reserves	2017	balsam fir	64
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	22	205	13	non-ERF		Uneven-aged regeneration	2013	lowland hardwoods	80
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	22	207	2	non-ERF		Uneven-aged regeneration	2013	lowland hardwoods	80
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	22	206	2	non-ERF		Uneven-aged regeneration	2013	lowland hardwoods	80
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	177	20	non-ERF		Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	171	10	non-ERF		Clearcut w/reserves	2012	birch	70
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	170	28	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	100
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	174	16	non-ERF		Uneven-aged regeneration	2012	lowland hardwoods	78
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	168	12	non-ERF		Uneven-aged regeneration	2012	lowland hardwoods	70
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	29	185	24	ERF		Clearcut w/reserves	2014	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	214	6	non-ERF		Clearcut w/reserves	2012	aspen	54
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	215	21	non-ERF		Clearcut w/reserves	2012	aspen	52
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	181	10	non-ERF		Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	190	20	non-ERF	Y	Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	187	3	non-ERF		Clearcut w/reserves	2014	balsam fir	34
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	186	6	non-ERF		Clearcut w/reserves	2014	balsam fir	33
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	180	10	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	68
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	36	135	8	non-ERF		Clearcut w/reserves	2016	aspen	74
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	36	162	9	non-ERF		Clearcut w/reserves	2016	aspen	48
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	36	151	78	non-ERF		Clearcut w/reserves	2016	lowland black spruce	94
Tamarack Lowlands	St.Louis	Hibbing	55	20	0	22	113	19	non-ERF		Clearcut w/reserves	2010	lowland black spruce	133
Tamarack Lowlands	St.Louis	Hibbing	55	20	0	22	102	24	non-ERF		Clearcut w/reserves	2010	lowland black spruce	116
Tamarack Lowlands	St.Louis	Hibbing	55	20	0	26	152	43	non-ERF		Clearcut w/reserves	2017	lowland black spruce	198
Tamarack Lowlands	St.Louis	Hibbing	55	20	0	27	137	8	non-ERF		Clearcut w/reserves	2017	lowland black spruce	141

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	55	20	0	27	143	57	non-ERF		Clearcut w/reserves	2017	lowland black spruce	141
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	22	59	non-ERF		Clearcut w/reserves	2011	aspen	44
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	27	94	non-ERF		Clearcut w/reserves	2016	aspen	34
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	17	12	non-ERF		Clearcut w/reserves	2011	aspen	40
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	28	17	non-ERF		Commercial thinning	2017	white spruce	33
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	24	5	ERF		Commercial thinning	2017	red pine	16
St.Louis Moraines	St.Louis	Hibbing	55	21	0	7	16	6	ERF		Commercial thinning	2017	red pine	43
Tamarack Lowlands	St.Louis	Hibbing	55	21	0	16	238	1	ERF		Commercial thinning	2015	red pine	45
St.Louis Moraines	St.Louis	Hibbing	55	21	0	18	68	10	non-ERF		Clearcut w/reserves	2015	aspen	43
St.Louis Moraines	St.Louis	Hibbing	55	21	0	18	58	22	non-ERF		Clearcut w/reserves	2015	aspen	33
St.Louis Moraines	St.Louis	Hibbing	55	21	0	18	78	12	non-ERF		Clearcut w/reserves	2015	birch	76
St.Louis Moraines	St.Louis	Hibbing	55	21	0	18	66	18	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	78
Tamarack Lowlands	St.Louis	Hibbing	55	21	0	22	119	5	non-ERF		Uneven-aged regeneration	2019	balsam fir	102
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	149	8	non-ERF		Clearcut w/reserves	2019	balsam fir	47
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	156	5	non-ERF		Uneven-aged regeneration	2012	ash	106
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	142	11	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	73
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	181	5	non-ERF		Commercial thinning	2012	white spruce	17
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	127	14	ERF	Y	Commercial thinning	2018	red pine	95
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	98	2	non-ERF	Y	Commercial thinning	2019	white pine	15
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	125	49	ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	135	12	ERF		Clearcut w/reserves	2019	aspen	39
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	132	21	ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	237	9	ERF		Clearcut w/reserves	2019	birch	74
Tamarack Lowlands	St.Louis	Hibbing	55	21	0	34	229	5	non-ERF		Clearcut w/reserves	2011	balsam fir	62
Nashwauk Uplands	Itasca	Hibbing	55	22	0	9	7	9	non-ERF		Uneven-aged regeneration	2010	balsam fir	76
Nashwauk Uplands	Itasca	Hibbing	55	22	0	9	4	22	non-ERF		Uneven-aged regeneration	2010	balsam fir	76
St.Louis Moraines	Itasca	Hibbing	55	22	0	10	10	25	non-ERF		Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Hibbing	55	22	0	15	37	5	non-ERF		Clearcut w/reserves	2010	lowland black spruce	141
St.Louis Moraines	Itasca	Hibbing	55	22	0	15	54	6	non-ERF		Clearcut w/reserves	2010	lowland black spruce	141

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	214	4	non-ERF		Clearcut w/reserves	2010	aspen	82
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	70	6	non-ERF		Clearcut w/reserves	2010	birch	84
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	24	20	non-ERF	Y	Clearcut w/reserves	2010	birch	95
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	34	24	ERF		Commercial thinning	2011	red pine	24
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	51	17	ERF		Commercial thinning	2019	red pine	28
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	36	11	ERF		Commercial thinning	2019	red pine	28
St.Louis Moraines	Itasca	Hibbing	55	22	0	22	89	13	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	79
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	113	17	non-ERF		Clearcut w/reserves	2015	aspen	52
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	96	42	non-ERF		Clearcut w/reserves	2015	aspen	46
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	132	26	non-ERF		Clearcut w/reserves	2015	aspen	60
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	88	20	non-ERF		Clearcut w/reserves	2015	aspen	34
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	120	13	non-ERF		Clearcut w/reserves	2015	aspen	46
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	130	7	non-ERF		Clearcut w/reserves	2015	lowland black spruce	128
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	148	11	non-ERF		Commercial thinning	2019	white spruce	23
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	145	13	ERF	Y	Commercial thinning	2019	red pine	45
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	164	10	ERF		Clearcut w/reserves	2018	aspen	89
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	161	7	ERF		Clearcut w/reserves	2018	aspen	89
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	188	76	ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	196	20	ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	173	8	ERF		Clearcut w/reserves	2018	tamarack	101
St.Louis Moraines	Itasca	Hibbing	55	22	0	36	209	7	ERF		Clearcut w/reserves	2018	tamarack	99
St.Louis Moraines	Itasca	Deer River	55	23	0	18	22	14	non-ERF		Clearcut w/reserves	2016	lowland black spruce	80
St.Louis Moraines	Itasca	Deer River	55	23	0	18	146	4	non-ERF		Uneven-aged regeneration	2016	balsam fir	67
St.Louis Moraines	Itasca	Deer River	55	23	0	28	98	10	ERF		Clearcut w/reserves	2019	lowland black spruce	85
St.Louis Moraines	Itasca	Deer River	55	23	0	28	96	12	ERF		Clearcut w/reserves	2019	lowland black spruce	86
St.Louis Moraines	Itasca	Deer River	55	23	0	28	97	7	ERF		Clearcut w/reserves	2019	tamarack	80
St.Louis Moraines	Itasca	Deer River	55	23	0	36	128	22	ERF		Clearcut w/reserves	2015	tamarack	128

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	55	25	0	6	2	8	ERF		Commercial thinning	2011	red pine	46
St.Louis Moraines	Itasca	Deer River	55	25	0	36	55	26	ERF		Commercial thinning	2013	red pine	26
St.Louis Moraines	Itasca	Deer River	55	26	0	1	16	27	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	55	26	0	13	194	33	non-ERF	Y	Clearcut w/reserves	2019	aspen	46
St.Louis Moraines	Itasca	Deer River	55	26	0	13	178	2	non-ERF		Clearcut w/reserves	2016	aspen	57
St.Louis Moraines	Itasca	Deer River	55	26	0	13	192	6	non-ERF	Y	Clearcut w/reserves	2014	aspen	66
St.Louis Moraines	Itasca	Deer River	55	26	0	13	190	2	non-ERF		Clearcut w/reserves	2010	aspen	49
St.Louis Moraines	Itasca	Deer River	55	26	0	13	187	7	non-ERF		Clearcut w/reserves	2010	aspen	55
St.Louis Moraines	Itasca	Deer River	55	26	0	13	179	2	non-ERF		Clearcut w/reserves	2014	aspen	56
St.Louis Moraines	Itasca	Deer River	55	26	0	13	189	4	non-ERF	Y	Commercial thinning	2014	white pine	82
St.Louis Moraines	Itasca	Deer River	55	26	0	13	170	23	ERF	Y	Commercial thinning	2014	red pine	44
St.Louis Moraines	Itasca	Deer River	55	26	0	14	177	6	non-ERF		Clearcut w/reserves	2016	aspen	57
St.Louis Moraines	Itasca	Deer River	55	26	0	14	175	4	non-ERF		Clearcut w/reserves	2018	aspen	55
St.Louis Moraines	Itasca	Deer River	55	26	0	14	188	1	non-ERF		Clearcut w/reserves	2010	aspen	55
St.Louis Moraines	Itasca	Deer River	55	26	0	14	166	1	ERF		Commercial thinning	2014	red pine	34
St.Louis Moraines	Itasca	Deer River	55	26	0	14	169	12	ERF	Y	Commercial thinning	2014	red pine	44
St.Louis Moraines	Itasca	Deer River	55	26	0	26	127	18	non-ERF		Clearcut w/reserves	2017	aspen	30
St.Louis Moraines	Itasca	Deer River	55	26	0	26	122	7	non-ERF		Clearcut w/reserves	2017	balm of Gilead	39
St.Louis Moraines	Itasca	Deer River	55	26	0	26	121	10	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	65
St.Louis Moraines	Itasca	Deer River	55	26	0	26	198	8	ERF		Commercial thinning	2017	red pine	40
St.Louis Moraines	Itasca	Deer River	55	26	0	26	199	3	ERF		Commercial thinning	2017	red pine	33
St.Louis Moraines	Itasca	Deer River	55	26	0	26	107	56	ERF		Commercial thinning	2017	red pine	38
St.Louis Moraines	Itasca	Deer River	55	26	0	33	154	12	non-ERF		Clearcut w/reserves	2015	aspen	94
St.Louis Moraines	Itasca	Deer River	55	26	0	33	146	25	ERF		Commercial thinning	2015	red pine	25
St.Louis Moraines	Itasca	Deer River	55	26	0	34	148	31	non-ERF		Clearcut w/reserves	2015	aspen	34
St.Louis Moraines	Itasca	Deer River	55	26	0	35	137	148	non-ERF		Uneven-aged regeneration	2017	northern hardwoods	122
St.Louis Moraines	Itasca	Deer River	55	27	0	36	144	12	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	73
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	16	41	8	non-ERF		Clearcut w/reserves	2013	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	16	20	47	non-ERF		Clearcut w/reserves	2013	aspen	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	16	48	15	non-ERF		Clearcut w/reserves	2013	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	16	33	9	non-ERF		Uneven-aged regeneration	2013	balsam fir	83
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	19	106	2	non-ERF		Clearcut w/reserves	2016	aspen	49
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	19	107	27	non-ERF		Clearcut w/reserves	2016	aspen	49
Tamarack Lowlands	St.Louis	Hibbing	56	15	0	19	109	5	non-ERF		Commercial thinning	2016	white spruce	20
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	11	122	26	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	12	135	28	non-ERF		Clearcut w/reserves	2011	aspen	60
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	14	214	8	non-ERF		Clearcut w/reserves	2010	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	25	338	7	non-ERF		Clearcut w/reserves	2016	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	25	343	23	non-ERF		Clearcut w/reserves	2016	lowland black spruce	137
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	25	394	18	non-ERF		Clearcut w/reserves	2016	lowland black spruce	158
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	30	399	12	non-ERF		Commercial thinning	2019	white spruce	31
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	30	389	8	ERF		Commercial thinning	2019	red pine	27
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	519	6	non-ERF		Clearcut w/reserves	2016	aspen	52
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	509	18	non-ERF		Clearcut w/reserves	2016	aspen	39
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	520	11	non-ERF		Clearcut w/reserves	2016	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	503	16	non-ERF		Clearcut w/reserves	2016	aspen	79
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	481	7	non-ERF		Clearcut w/reserves	2016	aspen	39
Tamarack Lowlands	St.Louis	Hibbing	56	16	0	36	464	14	non-ERF		Clearcut w/reserves	2016	lowland black spruce	137
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	3	590	12	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	3	594	31	non-ERF		Clearcut w/reserves	2019	aspen	33
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	3	588	29	non-ERF		Clearcut w/reserves	2019	aspen	36
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	3	591	51	non-ERF		Uneven-aged regeneration	2019	balsam fir	81
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	4	602	7	ERF		Commercial thinning	2019	red pine	41
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	11	40	17	non-ERF		Clearcut w/reserves	2010	aspen	81
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	14	560	2	non-ERF		Clearcut w/reserves	2010	birch	75
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	325	29	non-ERF		Clearcut w/reserves	2017	aspen	34

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	365	7	non-ERF		Clearcut w/reserves	2017	balm of Gilead	75
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	351	8	non-ERF		Clearcut w/reserves	2017	lowland black spruce	100
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	340	21	non-ERF		Clearcut w/reserves	2017	tamarack	125
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	359	19	non-ERF		Clearcut w/reserves	2017	tamarack	118
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	380	8	ERF		Commercial thinning	2017	red pine	89
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	338	13	ERF	Y	Commercial thinning	2017	red pine	111
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	388	6	ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	21	125	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	88
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	21	396	19	ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	22	607	35	non-ERF		Clearcut w/reserves	2010	aspen	51
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	22	605	2	non-ERF		Clearcut w/reserves	2010	aspen	58
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	22	610	36	non-ERF		Clearcut w/reserves	2010	birch	58
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	22	604	14	non-ERF		Clearcut w/reserves	2010	birch	87
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	23	429	22	non-ERF		Clearcut w/reserves	2010	lowland black spruce	119
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	23	415	14	non-ERF		Clearcut w/reserves	2010	lowland black spruce	176
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	31	527	6	non-ERF		Clearcut w/reserves	2010	aspen	67
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	32	523	8	non-ERF		Clearcut w/reserves	2010	balm of Gilead	90
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	32	519	7	non-ERF		Uneven-aged regeneration	2010	ash	106
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	4	29	7	non-ERF		Clearcut w/reserves	2010	aspen	68
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	6	25	4	non-ERF		Clearcut w/reserves	2010	upland black spruce	79
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	121	49	non-ERF		Clearcut w/reserves	2012	aspen	36
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	122	26	non-ERF		Clearcut w/reserves	2012	aspen	60
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	166	17	ERF		Commercial thinning	2012	red pine	26
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	175	29	ERF		Commercial thinning	2012	red pine	31
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	273	7	ERF		Commercial thinning	2012	red pine	30
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	167	11	ERF		Commercial thinning	2012	red pine	28
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	139	24	ERF		Commercial thinning	2012	red pine	30
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	161	40	ERF		Commercial thinning	2012	red pine	30
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	16	163	7	ERF		Commercial thinning	2012	red pine	23

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	17	279	10	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	67
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	19	308	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	59
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	29	332	9	non-ERF		Clearcut w/reserves	2015	balsam fir	73
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	29	323	13	non-ERF		Clearcut w/reserves	2015	balsam fir	61
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	31	282	46	non-ERF		Clearcut w/reserves	2015	aspen	61
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	31	284	16	non-ERF		Clearcut w/reserves	2015	birch	64
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	31	313	3	non-ERF		Uneven-aged regeneration	2015	ash	79
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	32	319	6	non-ERF		Uneven-aged regeneration	2015	balsam fir	79
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	36	267	16	non-ERF		Clearcut w/reserves	2010	aspen	58
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	2	135	37	ERF		Clearcut w/reserves	2010	jack pine	76
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	73	7	non-ERF		Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	81	10	non-ERF		Clearcut w/reserves	2011	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	53	4	non-ERF		Clearcut w/reserves	2011	aspen	59
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	86	8	non-ERF		Clearcut w/reserves	2011	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	131	6	non-ERF		Clearcut w/reserves	2011	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	36	11	non-ERF		Clearcut w/reserves	2011	jack pine	70
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	94	4	non-ERF		Clearcut w/reserves	2011	jack pine	69
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	5	22	10	non-ERF		Uneven-aged regeneration	2011	balsam fir	79
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	92	18	non-ERF		Clearcut w/reserves	2014	aspen	59
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	80	8	non-ERF		Clearcut w/reserves	2014	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	102	14	non-ERF		Clearcut w/reserves	2014	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	74	16	non-ERF		Clearcut w/reserves	2014	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	89	4	non-ERF		Clearcut w/reserves	2014	aspen	61
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	121	5	non-ERF		Clearcut w/reserves	2014	aspen	57
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	120	9	non-ERF		Clearcut w/reserves	2014	aspen	58
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	700	5	non-ERF		Clearcut w/reserves	2014	aspen	49
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	32	15	non-ERF		Clearcut w/reserves	2011	aspen	59

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	6	25	9	non-ERF		Clearcut w/reserves	2011	jack pine	66
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	7	203	6	non-ERF		Clearcut w/reserves	2014	aspen	73
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	11	219	23	non-ERF	Y	Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	11	209	9	non-ERF		Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	11	165	8	ERF		Clearcut w/reserves	2010	jack pine	76
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	14	285	7	non-ERF		Clearcut w/reserves	2010	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	14	329	3	non-ERF		Clearcut w/reserves	2010	aspen	73
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	14	319	5	non-ERF		Clearcut w/reserves	2011	upland black spruce	76
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	14	275	9	non-ERF		Clearcut w/reserves	2011	upland black spruce	77
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	16	351	5	non-ERF		Clearcut w/reserves	2010	aspen	83
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	24	423	3	non-ERF		Clearcut w/reserves	2019	jack pine	86
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	27	524	7	non-ERF		Clearcut w/reserves	2013	aspen	82
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	28	541	16	non-ERF		Clearcut w/reserves	2019	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	30	540	8	non-ERF		Clearcut w/reserves	2018	aspen	76
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	30	538	8	non-ERF		Clearcut w/reserves	2018	upland black spruce	81
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	31	680	16	non-ERF		Uneven-aged regeneration	2019	ash	77
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	32	612	8	non-ERF		Clearcut w/reserves	2019	aspen	28
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	32	596	18	non-ERF		Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	34	626	10	non-ERF		Clearcut w/reserves	2013	aspen	56
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	34	654	7	non-ERF		Clearcut w/reserves	2013	aspen	53
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	34	662	5	non-ERF		Clearcut w/reserves	2013	aspen	46
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	34	605	5	non-ERF		Clearcut w/reserves	2013	aspen	47
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	35	694	8	non-ERF	Y	Clearcut w/reserves	2011	birch	77
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	36	638	44	non-ERF		Clearcut w/reserves	2011	aspen	53
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	36	685	5	non-ERF		Clearcut w/reserves	2011	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	36	684	6	non-ERF		Clearcut w/reserves	2011	balsam fir	58
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	36	695	7	non-ERF		Clearcut w/reserves	2011	tamarack	80
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	36	692	43	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	129
Tamarack Lowlands	St.Louis	Hibbing	56	20	0	36	57	10	non-ERF		Clearcut w/reserves	2018	aspen	57

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	56	20	0	36	58	3	non-ERF		Commercial thinning	2018	white spruce	19
Nashwauk Uplands	Itasca	Hibbing	56	23	0	1	15	3	non-ERF		Clearcut w/reserves	2011	birch	49
Nashwauk Uplands	Itasca	Hibbing	56	23	0	8	69	13	non-ERF		Clearcut w/reserves	2010	aspen	54
Nashwauk Uplands	Itasca	Hibbing	56	23	0	8	60	20	non-ERF		Clearcut w/reserves	2010	aspen	47
Nashwauk Uplands	Itasca	Hibbing	56	23	0	8	43	20	non-ERF		Clearcut w/reserves	2010	birch	84
Nashwauk Uplands	Itasca	Hibbing	56	23	0	9	72	30	non-ERF		Clearcut w/reserves	2010	aspen	54
Nashwauk Uplands	Itasca	Hibbing	56	23	0	10	25	9	non-ERF		Clearcut w/reserves	2010	aspen	47
Nashwauk Uplands	Itasca	Hibbing	56	23	0	11	73	14	non-ERF		Clearcut w/reserves	2012	aspen	37
Nashwauk Uplands	Itasca	Hibbing	56	23	0	11	34	11	non-ERF		Clearcut w/reserves	2010	aspen	47
Nashwauk Uplands	Itasca	Hibbing	56	23	0	14	112	14	non-ERF		Clearcut w/reserves	2012	aspen	59
Nashwauk Uplands	Itasca	Hibbing	56	23	0	14	113	26	non-ERF		Clearcut w/reserves	2012	aspen	54
Nashwauk Uplands	Itasca	Hibbing	56	23	0	14	108	3	non-ERF		Clearcut w/reserves	2012	birch	77
Nashwauk Uplands	Itasca	Hibbing	56	23	0	15	90	5	non-ERF		Clearcut w/reserves	2015	aspen	56
Nashwauk Uplands	Itasca	Hibbing	56	23	0	15	107	9	non-ERF		Clearcut w/reserves	2015	aspen	66
Nashwauk Uplands	Itasca	Hibbing	56	23	0	15	86	13	non-ERF		Clearcut w/reserves	2015	aspen	61
Nashwauk Uplands	Itasca	Hibbing	56	23	0	22	121	14	non-ERF		Clearcut w/reserves	2013	birch	89
Nashwauk Uplands	Itasca	Hibbing	56	23	0	34	194	7	non-ERF	Y	Clearcut w/reserves	2010	birch	84
Nashwauk Uplands	Itasca	Hibbing	56	23	0	34	182	6	non-ERF		Clearcut w/reserves	2010	birch	67
Nashwauk Uplands	Itasca	Hibbing	56	23	0	36	184	6	non-ERF		Clearcut w/reserves	2011	birch	92
Nashwauk Uplands	Itasca	Hibbing	56	23	0	36	188	12	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	87
Nashwauk Uplands	Itasca	Hibbing	56	23	0	36	186	3	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	82
St.Louis Moraines	Itasca	Deer River	56	24	0	4	99	2	non-ERF		Clearcut w/reserves	2014	aspen	75
St.Louis Moraines	Itasca	Deer River	56	24	0	4	16	4	non-ERF		Clearcut w/reserves	2014	aspen	75
St.Louis Moraines	Itasca	Deer River	56	24	0	4	100	4	non-ERF		Clearcut w/reserves	2014	aspen	75
St.Louis Moraines	Itasca	Deer River	56	24	0	4	10	12	non-ERF		Clearcut w/reserves	2014	aspen	57
St.Louis Moraines	Itasca	Deer River	56	24	0	16	39	2	non-ERF		Clearcut w/reserves	2016	aspen	72
St.Louis Moraines	Itasca	Deer River	56	24	0	36	93	5	non-ERF		Clearcut w/reserves	2018	aspen	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	56	24	0	36	101	5	non-ERF		Clearcut w/reserves	2018	aspen	69
St.Louis Moraines	Itasca	Deer River	56	24	0	36	73	5	non-ERF		Clearcut w/reserves	2018	aspen	63
St.Louis Moraines	Itasca	Deer River	56	24	0	36	91	0	non-ERF		Clearcut w/reserves	2018	birch	74
St.Louis Moraines	Itasca	Deer River	56	24	0	36	67	11	non-ERF		Clearcut w/reserves	2018	birch	73
St.Louis Moraines	Itasca	Deer River	56	24	0	36	95	3	non-ERF	Y	Uneven-aged regeneration	2018	white pine	159
St.Louis Moraines	Itasca	Deer River	56	24	0	36	71	3	ERF		Commercial thinning	2018	red pine	18
St.Louis Moraines	Itasca	Deer River	56	25	0	10	9	22	non-ERF		Clearcut w/reserves	2016	aspen	36
St.Louis Moraines	Itasca	Deer River	56	25	0	10	18	5	non-ERF		Clearcut w/reserves	2014	aspen	61
St.Louis Moraines	Itasca	Deer River	56	25	0	10	7	19	non-ERF		Clearcut w/reserves	2014	balm of Gilead	68
St.Louis Moraines	Itasca	Deer River	56	25	0	10	20	26	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	67
St.Louis Moraines	Itasca	Deer River	56	25	0	16	128	25	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Itasca	Deer River	56	25	0	36	87	41	non-ERF		Clearcut w/reserves	2012	aspen	52
St.Louis Moraines	Itasca	Deer River	56	25	0	36	90	20	non-ERF		Clearcut w/reserves	2012	aspen	49
St.Louis Moraines	Itasca	Deer River	56	26	0	12	20	10	non-ERF		Clearcut w/reserves	2017	aspen	49
St.Louis Moraines	Itasca	Deer River	56	26	0	12	14	24	non-ERF		Clearcut w/reserves	2016	lowland black spruce	86
St.Louis Moraines	Itasca	Deer River	56	26	0	26	87	2	non-ERF		Clearcut w/reserves	2016	aspen	74
St.Louis Moraines	Itasca	Deer River	56	26	0	26	93	12	non-ERF		Clearcut w/reserves	2016	aspen	44
St.Louis Moraines	Itasca	Deer River	56	26	0	26	86	35	non-ERF		Clearcut w/reserves	2016	aspen	34
St.Louis Moraines	Itasca	Deer River	56	26	0	36	113	4	non-ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	56	26	0	36	148	3	non-ERF		Clearcut w/reserves	2016	aspen	37
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	2	60	25	non-ERF		Clearcut w/reserves	2015	aspen	55
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	5	24	79	non-ERF		Clearcut w/reserves	2015	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	10	108	8	non-ERF		Clearcut w/reserves	2015	aspen	32
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	10	104	11	non-ERF		Clearcut w/reserves	2015	aspen	18
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	11	70	6	non-ERF		Clearcut w/reserves	2015	birch	69
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	16	155	13	non-ERF		Clearcut w/reserves	2015	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	16	172	8	non-ERF		Clearcut w/reserves	2015	aspen	53
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	16	157	10	non-ERF		Clearcut w/reserves	2015	aspen	52
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	16	153	5	non-ERF		Clearcut w/reserves	2015	aspen	34

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	16	133	13	non-ERF		Clearcut w/reserves	2015	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	256	64	non-ERF		Clearcut w/reserves	2018	aspen	41
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	263	20	non-ERF		Clearcut w/reserves	2018	aspen	39
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	254	4	non-ERF		Clearcut w/reserves	2018	aspen	41
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	232	1	non-ERF		Clearcut w/reserves	2018	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	258	19	non-ERF		Clearcut w/reserves	2018	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	235	3	non-ERF		Clearcut w/reserves	2018	aspen	68
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	261	13	non-ERF		Clearcut w/reserves	2018	aspen	57
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	264	3	non-ERF		Clearcut w/reserves	2018	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	260	25	non-ERF		Commercial thinning	2018	white spruce	38
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	251	28	non-ERF		Commercial thinning	2018	white spruce	38
Tamarack Lowlands	St.Louis	Hibbing	57	15	0	36	262	6	non-ERF		Commercial thinning	2018	white spruce	38
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	13	71	33	non-ERF		Clearcut w/reserves	2016	aspen	36
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	13	19	5	non-ERF		Uneven-aged regeneration	2016	jack pine	29
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	13	20	17	non-ERF		Uneven-aged regeneration	2016	jack pine	30
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	13	34	11	ERF		Commercial thinning	2016	red pine	22
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	13	32	5	ERF		Commercial thinning	2016	red pine	43
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	40	5	non-ERF		Uneven-aged regeneration	2013	jack pine	23
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	33	4	non-ERF		Uneven-aged regeneration	2013	jack pine	22
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	41	11	non-ERF		Uneven-aged regeneration	2013	jack pine	23
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	22	6	non-ERF		Uneven-aged regeneration	2013	jack pine	23
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	43	15	non-ERF		Uneven-aged regeneration	2013	jack pine	30
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	35	22	ERF		Uneven-aged regeneration	2013	jack pine	36
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	38	28	ERF		Uneven-aged regeneration	2013	jack pine	24
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	39	14	ERF		Commercial thinning	2013	red pine	38
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	31	22	ERF		Commercial thinning	2013	red pine	44
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	16	44	14	ERF		Commercial thinning	2013	red pine	38

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	20	146	6	non-ERF		Uneven-aged regeneration	2019	jack pine	42
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	20	145	10	ERF		Commercial thinning	2019	red pine	42
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	22	114	5	ERF		Commercial thinning	2019	red pine	26
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	24	152	10	ERF		Commercial thinning	2019	red pine	19
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	25	323	10	non-ERF		Clearcut w/reserves	2019	lowland black spruce	97
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	27	266	10	non-ERF		Commercial thinning	2019	white spruce	25
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	28	314	4	non-ERF	Y	Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	28	288	32	non-ERF		Clearcut w/reserves	2011	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	28	301	3	ERF		Commercial thinning	2017	red pine	21
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	28	293	21	ERF		Commercial thinning	2017	red pine	77
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	31	379	12	non-ERF		Commercial thinning	2019	white spruce	27
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	462	24	non-ERF		Clearcut w/reserves	2011	aspen	37
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	396	7	non-ERF		Clearcut w/reserves	2011	aspen	38
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	337	10	non-ERF		Clearcut w/reserves	2011	aspen	42
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	338	42	non-ERF		Clearcut w/reserves	2011	aspen	72
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	340	33	non-ERF		Clearcut w/reserves	2011	aspen	44
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	448	37	non-ERF		Clearcut w/reserves	2011	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	334	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	97
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	497	11	non-ERF		Uneven-aged regeneration	2011	balsam fir	83
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	494	9	non-ERF		Uneven-aged regeneration	2011	balsam fir	80
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	486	5	non-ERF		Commercial thinning	2011	white spruce	33
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	36	435	33	non-ERF		Commercial thinning	2011	white spruce	21
Tamarack Lowlands	St.Louis	Hibbing	57	17	0	16	31	26	non-ERF		Clearcut w/reserves	2012	aspen	63
Tamarack Lowlands	St.Louis	Hibbing	57	17	0	16	36	41	non-ERF	Y	Clearcut w/reserves	2012	birch	68
Tamarack Lowlands	St.Louis	Hibbing	57	17	0	33	145	10	ERF	Y	Commercial thinning	2010	red pine	83
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	22	249	6	non-ERF		Clearcut w/reserves	2010	aspen	66
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	26	150	16	non-ERF		Clearcut w/reserves	2010	aspen	68
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	26	151	10	non-ERF		Commercial thinning	2010	white spruce	24
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	26	154	18	ERF		Commercial thinning	2010	red pine	24

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	32	214	8	non-ERF		Clearcut w/reserves	2010	lowland black spruce	145
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	32	285	18	non-ERF		Clearcut w/reserves	2010	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	32	209	8	non-ERF		Clearcut w/reserves	2010	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	32	283	6	non-ERF		Clearcut w/reserves	2010	lowland black spruce	94
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	32	286	14	non-ERF		Commercial thinning	2010	white spruce	25
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	36	179	13	non-ERF		Clearcut w/reserves	2010	aspen	43
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	36	192	12	non-ERF		Clearcut w/reserves	2010	lowland black spruce	95
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	36	188	28	ERF		Clearcut w/reserves	2010	jack pine	64
Tamarack Lowlands	St.Louis	Hibbing	57	18	0	36	200	7	ERF		Commercial thinning	2010	red pine	27
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	46	5	non-ERF		Clearcut w/reserves	2011	aspen	40
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	33	13	non-ERF	Y	Clearcut w/reserves	2011	aspen	47
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	45	13	non-ERF		Clearcut w/reserves	2011	aspen	68
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	49	4	non-ERF		Clearcut w/reserves	2011	aspen	74
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	20	7	non-ERF		Commercial thinning	2019	white spruce	91
St.Louis Moraines	St.Louis	Hibbing	57	19	0	4	62	20	non-ERF		Clearcut w/reserves	2018	aspen	63
St.Louis Moraines	St.Louis	Hibbing	57	19	0	4	32	5	non-ERF		Clearcut w/reserves	2015	aspen	65
St.Louis Moraines	St.Louis	Hibbing	57	19	0	4	28	5	non-ERF		Clearcut w/reserves	2015	aspen	67
St.Louis Moraines	St.Louis	Hibbing	57	19	0	4	15	9	non-ERF		Clearcut w/reserves	2015	aspen	39
St.Louis Moraines	St.Louis	Hibbing	57	19	0	4	26	10	non-ERF		Clearcut w/reserves	2015	aspen	63
St.Louis Moraines	St.Louis	Hibbing	57	19	0	8	83	20	non-ERF		Clearcut w/reserves	2018	aspen	62
St.Louis Moraines	St.Louis	Hibbing	57	19	0	8	95	23	non-ERF		Clearcut w/reserves	2018	aspen	62
St.Louis Moraines	St.Louis	Hibbing	57	19	0	8	86	29	non-ERF		Clearcut w/reserves	2018	aspen	39
St.Louis Moraines	St.Louis	Hibbing	57	19	0	18	197	19	non-ERF		Clearcut w/reserves	2019	aspen	54
St.Louis Moraines	St.Louis	Hibbing	57	19	0	18	174	18	non-ERF		Clearcut w/reserves	2019	aspen	52
St.Louis Moraines	St.Louis	Hibbing	57	19	0	18	164	19	non-ERF		Clearcut w/reserves	2019	aspen	50
Nashwauk Uplands	St.Louis	Hibbing	57	20	0	8	37	10	non-ERF		Clearcut w/reserves	2013	aspen	51
Nashwauk Uplands	St.Louis	Hibbing	57	20	0	8	25	11	non-ERF		Clearcut w/reserves	2013	balm of Gilead	57

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	57	20	0	8	29	5	non-ERF		Commercial thinning	2013	white spruce	28
Nashwauk Uplands	St.Louis	Hibbing	57	20	0	8	26	8	ERF		Commercial thinning	2010	red pine	46
Nashwauk Uplands	St.Louis	Hibbing	57	20	0	8	35	6	ERF		Commercial thinning	2010	red pine	46
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	2	12	5	non-ERF		Clearcut w/reserves	2011	birch	59
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	12	57	7	non-ERF		Clearcut w/reserves	2011	aspen	65
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	12	49	6	non-ERF		Clearcut w/reserves	2011	aspen	55
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	12	43	7	non-ERF		Clearcut w/reserves	2011	aspen	58
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	70	26	non-ERF		Clearcut w/reserves	2012	aspen	50
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	81	6	non-ERF		Clearcut w/reserves	2012	aspen	62
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	87	22	non-ERF		Clearcut w/reserves	2012	aspen	55
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	98	14	non-ERF		Clearcut w/reserves	2012	aspen	61
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	79	36	non-ERF		Clearcut w/reserves	2012	aspen	55
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	111	11	non-ERF		Clearcut w/reserves	2012	aspen	60
Nashwauk Uplands	St.Louis	Hibbing	57	21	0	16	68	35	non-ERF		Clearcut w/reserves	2012	aspen	60
Nashwauk Uplands	Itasca	Hibbing	57	22	0	16	37	9	non-ERF		Commercial thinning	2016	white spruce	19
Nashwauk Uplands	Itasca	Hibbing	57	22	0	35	74	3	non-ERF		Clearcut w/reserves	2015	aspen	81
Nashwauk Uplands	Itasca	Hibbing	57	22	0	35	70	12	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Nashwauk Uplands	Itasca	Hibbing	57	23	0	16	77	11	ERF		Commercial thinning	2018	red pine	14
Nashwauk Uplands	Itasca	Hibbing	57	23	0	16	66	9	ERF	Y	Commercial thinning	2019	red pine	91
Nashwauk Uplands	Itasca	Hibbing	57	23	0	16	72	19	ERF	Y	Commercial thinning	2019	red pine	81
Nashwauk Uplands	Itasca	Hibbing	57	23	0	25	108	2	non-ERF		Clearcut w/reserves	2011	aspen	81
St.Louis Moraines	Itasca	Deer River	57	24	0	31	49	14	ERF		Clearcut w/reserves	2012	aspen	57
St.Louis Moraines	Itasca	Deer River	57	25	0	8	20	11	non-ERF		Clearcut w/reserves	2011	birch	96
St.Louis Moraines	Itasca	Deer River	57	25	0	34	91	24	non-ERF		Clearcut w/reserves	2012	aspen	40
St.Louis Moraines	Itasca	Deer River	57	26	0	16	72	8	non-ERF		Clearcut w/reserves	2011	aspen	56
St.Louis Moraines	Itasca	Deer River	57	26	0	16	58	70	non-ERF		Clearcut w/reserves	2014	aspen	35
St.Louis Moraines	Itasca	Deer River	57	26	0	16	141	16	non-ERF		Clearcut w/reserves	2014	aspen	71
St.Louis Moraines	Itasca	Deer River	57	26	0	16	136	12	non-ERF		Clearcut w/reserves	2011	birch	77
St.Louis Moraines	Itasca	Deer River	57	26	0	16	74	18	non-ERF		Clearcut w/reserves	2011	birch	57

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	57	26	0	18	140	3	non-ERF		Commercial thinning	2015	white spruce	52
St.Louis Moraines	Itasca	Deer River	57	26	0	18	53	9	ERF	Y	Commercial thinning	2015	red pine	52
St.Louis Moraines	Itasca	Deer River	57	26	0	36	112	8	non-ERF		Clearcut w/reserves	2017	aspen	70
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	102	19	non-ERF		Clearcut w/reserves	2017	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	103	10	non-ERF		Clearcut w/reserves	2017	aspen	83
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	79	12	non-ERF		Clearcut w/reserves	2017	aspen	81
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	118	7	non-ERF		Clearcut w/reserves	2017	aspen	83
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	119	7	non-ERF		Clearcut w/reserves	2017	aspen	75
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	90	6	non-ERF		Clearcut w/reserves	2017	aspen	81
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	78	9	non-ERF	Y	Clearcut w/reserves	2017	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	112	17	non-ERF		Clearcut w/reserves	2017	aspen	38
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	116	9	non-ERF		Clearcut w/reserves	2017	aspen	32
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	93	27	non-ERF		Clearcut w/reserves	2017	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	115	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	92
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	111	13	non-ERF		Commercial thinning	2017	white spruce	28
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	97	15	non-ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	117	7	non-ERF		Commercial thinning	2017	white spruce	28
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	106	5	non-ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	113	26	non-ERF		Commercial thinning	2017	white spruce	38
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	98	10	non-ERF		Commercial thinning	2017	white spruce	23
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	18	77	11	non-ERF	Y	Uneven-aged regeneration	2019	balsam fir	109
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	158	6	non-ERF		Clearcut w/reserves	2014	aspen	71
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	160	9	non-ERF		Clearcut w/reserves	2014	aspen	41
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	98	15	non-ERF		Clearcut w/reserves	2014	aspen	42
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	146	24	ERF		Commercial thinning	2014	red pine	25
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	139	10	ERF		Commercial thinning	2014	red pine	31
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	126	15	ERF		Commercial thinning	2014	red pine	25

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	36	116	13	ERF		Commercial thinning	2014	red pine	39
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	2	10	49	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	73
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	2	19	47	ERF		Clearcut w/reserves	2015	aspen	68
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	16	49	20	non-ERF		Clearcut w/reserves	2010	balm of Gilead	74
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	16	48	9	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	65
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	27	81	8	non-ERF	Y	Commercial thinning	2019	white pine	12
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	195	0	non-ERF		Clearcut w/reserves	2010	aspen	45
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	193	17	non-ERF	Y	Clearcut w/reserves	2010	aspen	50
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	194	18	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	45
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	104	22	non-ERF		Uneven-aged regeneration	2010	oak	76
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	106	43	ERF	Y	Clearcut w/reserves	2010	birch	78
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	33	196	20	non-ERF		Clearcut w/reserves	2010	aspen	44
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	192	5	non-ERF		Clearcut w/reserves	2013	aspen	66
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	124	36	non-ERF		Clearcut w/reserves	2010	aspen	61
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	176	4	non-ERF		Clearcut w/reserves	2013	aspen	67
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	165	18	non-ERF		Clearcut w/reserves	2013	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	134	19	non-ERF		Clearcut w/reserves	2013	aspen	80
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	140	7	non-ERF		Clearcut w/reserves	2013	aspen	66
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	187	9	non-ERF		Clearcut w/reserves	2013	birch	73
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	156	4	non-ERF		Clearcut w/reserves	2013	lowland black spruce	153
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	178	20	non-ERF	Y	Commercial thinning	2013	white pine	25
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	182	15	non-ERF	Y	Commercial thinning	2013	white pine	16
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	172	4	non-ERF		Commercial thinning	2013	white spruce	26
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	190	7	ERF		Commercial thinning	2013	red pine	30
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	189	12	ERF		Commercial thinning	2013	red pine	37
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	191	8	ERF		Commercial thinning	2013	red pine	30
Nashwauk Uplands	St.Louis	Hibbing	58	18	0	3	42	10	ERF		Commercial thinning	2013	red pine	58
Tamarack Lowlands	St.Louis	Hibbing	58	18	0	10	80	20	non-ERF		Clearcut w/reserves	2013	aspen	56
St.Louis Moraines	St.Louis	Hibbing	58	18	0	18	153	9	non-ERF		Clearcut w/reserves	2013	aspen	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	St.Louis	Hibbing	58	18	0	18	167	6	non-ERF		Clearcut w/reserves	2013	aspen	46
St.Louis Moraines	St.Louis	Hibbing	58	18	0	18	158	13	non-ERF		Clearcut w/reserves	2013	aspen	63
St.Louis Moraines	St.Louis	Hibbing	58	18	0	33	287	5	ERF		Commercial thinning	2019	red pine	39
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	3	11	8	non-ERF		Clearcut w/reserves	2015	birch	79
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	3	10	31	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	92
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	3	7	40	non-ERF		Uneven-aged regeneration	2015	oak	87
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	5	82	6	non-ERF		Clearcut w/reserves	2016	birch	65
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	5	19	5	non-ERF		Clearcut w/reserves	2016	balsam fir	62
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	8	137	44	non-ERF	Y	Uneven-aged regeneration	2013	northern hardwoods	80
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	8	122	16	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	69
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	8	107	4	ERF	Y	Commercial thinning	2013	red pine	93
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	9	136	15	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	79
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	11	607	10	non-ERF		Clearcut w/reserves	2010	aspen	75
St.Louis Moraines	St.Louis	Hibbing	58	19	0	12	148	33	non-ERF		Clearcut w/reserves	2010	aspen	66
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	280	28	non-ERF		Clearcut w/reserves	2015	aspen	65
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	180	15	non-ERF		Clearcut w/reserves	2010	aspen	52
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	178	21	non-ERF		Clearcut w/reserves	2010	aspen	66
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	290	8	non-ERF		Clearcut w/reserves	2015	birch	71
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	294	10	non-ERF		Commercial thinning	2015	white spruce	19
St.Louis Moraines	St.Louis	Hibbing	58	19	0	13	284	19	non-ERF		Commercial thinning	2015	white spruce	19
St.Louis Moraines	St.Louis	Hibbing	58	19	0	14	599	25	non-ERF		Clearcut w/reserves	2010	aspen	55
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	15	201	4	non-ERF		Commercial thinning	2018	white spruce	30
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	291	10	non-ERF		Clearcut w/reserves	2011	aspen	56
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	296	9	non-ERF		Clearcut w/reserves	2017	aspen	38
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	256	37	non-ERF		Clearcut w/reserves	2011	aspen	69
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	292	23	non-ERF		Clearcut w/reserves	2017	aspen	36
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	247	13	non-ERF		Clearcut w/reserves	2011	aspen	58

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	286	35	non-ERF		Clearcut w/reserves	2017	aspen	31
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	251	21	non-ERF		Clearcut w/reserves	2011	aspen	57
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	200	6	non-ERF		Clearcut w/reserves	2017	birch	37
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	206	39	ERF		Clearcut w/reserves	2017	aspen	30
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	16	195	102	ERF		Clearcut w/reserves	2017	aspen	31
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	18	252	34	non-ERF		Clearcut w/reserves	2017	birch	76
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	18	260	13	non-ERF		Commercial thinning	2017	white spruce	18
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	20	337	7	non-ERF		Clearcut w/reserves	2018	aspen	56
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	20	344	44	non-ERF		Clearcut w/reserves	2016	aspen	57
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	20	343	12	non-ERF		Clearcut w/reserves	2018	aspen	34
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	20	350	40	non-ERF		Clearcut w/reserves	2018	balm of Gilead	31
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	20	339	26	non-ERF		Clearcut w/reserves	2018	balm of Gilead	33
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	611	1	non-ERF		Clearcut w/reserves	2012	aspen	56
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	609	1	non-ERF		Clearcut w/reserves	2012	aspen	48
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	616	2	non-ERF		Clearcut w/reserves	2012	aspen	58
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	489	7	non-ERF		Clearcut w/reserves	2012	aspen	61
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	467	10	non-ERF		Clearcut w/reserves	2012	aspen	71
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	614	4	non-ERF		Clearcut w/reserves	2012	aspen	65
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	581	5	non-ERF		Clearcut w/reserves	2012	aspen	52
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	615	3	non-ERF		Clearcut w/reserves	2012	aspen	57
St.Louis Moraines	St.Louis	Hibbing	58	19	0	33	610	1	non-ERF		Clearcut w/reserves	2012	balsam fir	56
St.Louis Moraines	St.Louis	Hibbing	58	19	0	36	463	18	non-ERF		Clearcut w/reserves	2011	tamarack	104
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	1	43	12	non-ERF		Clearcut w/reserves	2016	aspen	64
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	1	22	20	non-ERF		Clearcut w/reserves	2016	aspen	64
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	1	23	27	non-ERF		Clearcut w/reserves	2016	balsam fir	52
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	3	92	20	non-ERF		Commercial thinning	2016	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	4	86	27	non-ERF		Clearcut w/reserves	2016	aspen	60
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	4	89	14	non-ERF		Clearcut w/reserves	2016	jack pine	68
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	11	173	33	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	12	172	46	ERF		Clearcut w/reserves	2011	birch	78
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	232	8	non-ERF	Y	Clearcut w/reserves	2013	aspen	74
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	242	9	non-ERF	Y	Clearcut w/reserves	2013	birch	65
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	229	21	non-ERF	Y	Clearcut w/reserves	2013	birch	72
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	14	226	27	non-ERF		Clearcut w/reserves	2013	aspen	71
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	14	239	17	non-ERF		Clearcut w/reserves	2013	birch	78
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	279	12	non-ERF		Clearcut w/reserves	2014	aspen	56
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	253	20	non-ERF		Clearcut w/reserves	2014	aspen	72
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	255	20	non-ERF		Clearcut w/reserves	2012	birch	65
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	244	14	non-ERF		Clearcut w/reserves	2012	birch	73
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	216	8	non-ERF		Clearcut w/reserves	2012	birch	80
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	227	6	non-ERF		Clearcut w/reserves	2012	birch	77
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	272	36	non-ERF		Clearcut w/reserves	2012	birch	78
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	271	31	non-ERF		Clearcut w/reserves	2012	birch	65
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	273	4	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	73
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	15	215	63	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	73
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	16	247	27	non-ERF		Clearcut w/reserves	2015	aspen	54
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	16	249	17	non-ERF		Clearcut w/reserves	2015	aspen	62
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	16	208	21	non-ERF		Clearcut w/reserves	2015	aspen	46
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	16	218	31	ERF		Clearcut w/reserves	2015	jack pine	59
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	1	42	9	ERF		Commercial thinning	2017	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	1	31	5	ERF		Commercial thinning	2017	red pine	26
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	6	18	23	non-ERF		Clearcut w/reserves	2013	aspen	49
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	6	2	9	non-ERF		Clearcut w/reserves	2013	tamarack	92
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	6	10	11	non-ERF		Uneven-aged regeneration	2013	balsam fir	69
Nashwauk Uplands	St.Louis	Hibbing	58	21	0	32	186	16	ERF		Commercial thinning	2019	red pine	32
Nashwauk Uplands	Itasca	Hibbing	58	22	0	10	65	18	non-ERF		Clearcut w/reserves	2010	aspen	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	58	22	0	16	165	9	non-ERF		Clearcut w/reserves	2010	aspen	78
Nashwauk Uplands	Itasca	Hibbing	58	22	0	16	173	8	non-ERF		Clearcut w/reserves	2010	aspen	91
Nashwauk Uplands	Itasca	Hibbing	58	22	0	16	156	9	non-ERF		Clearcut w/reserves	2010	aspen	78
Nashwauk Uplands	Itasca	Hibbing	58	22	0	18	176	7	non-ERF		Clearcut w/reserves	2018	aspen	32
Nashwauk Uplands	Itasca	Hibbing	58	22	0	18	158	19	non-ERF		Clearcut w/reserves	2018	aspen	34
Nashwauk Uplands	Itasca	Hibbing	58	22	0	22	222	34	non-ERF		Clearcut w/reserves	2010	aspen	68
Nashwauk Uplands	Itasca	Hibbing	58	22	0	29	284	12	non-ERF		Clearcut w/reserves	2010	aspen	72
Nashwauk Uplands	Itasca	Hibbing	58	23	0	30	76	7	non-ERF		Clearcut w/reserves	2017	birch	69
St.Louis Moraines	Itasca	Deer River	58	24	0	15	410	7	non-ERF		Clearcut w/reserves	2019	aspen	38
St.Louis Moraines	Itasca	Deer River	58	24	0	16	373	79	non-ERF		Clearcut w/reserves	2019	aspen	34
St.Louis Moraines	Itasca	Deer River	58	24	0	16	409	17	non-ERF		Clearcut w/reserves	2019	aspen	34
St.Louis Moraines	Itasca	Deer River	58	24	0	16	390	27	non-ERF		Clearcut w/reserves	2016	aspen	41
St.Louis Moraines	Itasca	Deer River	58	24	0	16	306	46	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Itasca	Deer River	58	24	0	16	344	39	ERF		Commercial thinning	2019	white spruce	23
St.Louis Moraines	Itasca	Deer River	58	24	0	20	465	1	non-ERF	Y	Clearcut w/reserves	2016	aspen	60
St.Louis Moraines	Itasca	Deer River	58	24	0	20	449	37	ERF		Commercial thinning	2012	red pine	27
St.Louis Moraines	Itasca	Deer River	58	24	0	21	479	17	non-ERF		Clearcut w/reserves	2012	aspen	30
St.Louis Moraines	Itasca	Deer River	58	24	0	21	493	19	ERF	Y	Commercial thinning	2012	red pine	44
St.Louis Moraines	Itasca	Deer River	58	24	0	21	878	13	ERF	Y	Commercial thinning	2012	red pine	44
St.Louis Moraines	Itasca	Deer River	58	24	0	22	552	20	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Itasca	Deer River	58	24	0	22	431	30	non-ERF		Clearcut w/reserves	2016	aspen	49
St.Louis Moraines	Itasca	Deer River	58	24	0	22	892	5	non-ERF		Clearcut w/reserves	2018	birch	97
St.Louis Moraines	Itasca	Deer River	58	24	0	26	678	19	non-ERF		Commercial thinning	2016	white spruce	25
St.Louis Moraines	Itasca	Deer River	58	24	0	26	703	18	ERF		Commercial thinning	2016	red pine	25
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	763	26	non-ERF		Clearcut w/reserves	2018	aspen	33
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	806	14	non-ERF		Clearcut w/reserves	2018	aspen	47
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	871	6	non-ERF		Clearcut w/reserves	2013	aspen	85
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	765	21	non-ERF		Clearcut w/reserves	2018	aspen	49
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	815	7	non-ERF		Clearcut w/reserves	2016	aspen	53

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	817	11	non-ERF		Clearcut w/reserves	2010	aspen	52
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	787	7	non-ERF		Uneven-aged regeneration	2016	ash	32
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	829	7	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	62
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	759	9	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	103
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	906	5	non-ERF		Commercial thinning	2010	red pine	112
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	801	10	non-ERF		Commercial thinning	2018	white spruce	27
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	818	19	ERF		Commercial thinning	2018	red pine	19
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	826	24	ERF		Commercial thinning	2016	red pine	25
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	762	6	ERF		Commercial thinning	2018	red pine	20
Nashwauk Uplands	Itasca	Deer River	58	24	0	36	807	13	ERF		Commercial thinning	2016	red pine	25
St.Louis Moraines	Itasca	Deer River	58	25	0	11	239	34	non-ERF		Clearcut w/reserves	2016	aspen	35
St.Louis Moraines	Itasca	Deer River	58	25	0	11	214	14	ERF		Commercial thinning	2016	red pine	24
St.Louis Moraines	Itasca	Deer River	58	25	0	12	241	9	non-ERF		Clearcut w/reserves	2019	aspen	35
St.Louis Moraines	Itasca	Deer River	58	25	0	12	268	7	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Itasca	Deer River	58	25	0	14	424	24	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Itasca	Deer River	58	25	0	26	637	6	non-ERF		Commercial thinning	2014	white spruce	25
St.Louis Moraines	Itasca	Deer River	58	25	0	26	636	12	non-ERF		Commercial thinning	2014	white spruce	25
St.Louis Moraines	Itasca	Deer River	58	25	0	26	619	11	ERF		Commercial thinning	2014	red pine	25
St.Louis Moraines	Itasca	Deer River	58	25	0	35	768	5	non-ERF		Clearcut w/reserves	2016	aspen	84
St.Louis Moraines	Itasca	Deer River	58	25	0	36	706	114	non-ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Itasca	Deer River	58	25	0	36	728	7	non-ERF		Clearcut w/reserves	2016	balm of Gilead	75
St.Louis Moraines	Itasca	Deer River	58	25	0	36	737	5	non-ERF		Uneven-aged regeneration	2016	ash	89
St.Louis Moraines	Itasca	Deer River	58	26	0	16	78	30	non-ERF	Y	Clearcut w/reserves	2010	aspen	79
St.Louis Moraines	Itasca	Deer River	58	26	0	16	71	9	non-ERF		Clearcut w/reserves	2019	aspen	26
St.Louis Moraines	Itasca	Deer River	58	26	0	16	116	6	non-ERF		Clearcut w/reserves	2019	aspen	83
St.Louis Moraines	Itasca	Deer River	58	26	0	16	62	31	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	58	26	0	16	115	11	non-ERF		Clearcut w/reserves	2019	aspen	30

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	58	26	0	16	85	20	non-ERF		Clearcut w/reserves	2019	aspen	21
St.Louis Moraines	Itasca	Deer River	58	26	0	16	80	86	ERF		Commercial thinning	2012	red pine	27
St.Louis Moraines	Itasca	Deer River	58	26	0	36	99	3	ERF	Y	Clearcut w/reserves	2011	birch	85
Nashwauk Uplands	St.Louis	Tower	59	15	0	16	38	15	non-ERF		Clearcut w/reserves	2019	birch	89
Nashwauk Uplands	St.Louis	Tower	59	15	0	16	20	8	non-ERF	Y	Commercial thinning	2019	white spruce	20
Nashwauk Uplands	St.Louis	Tower	59	15	0	16	17	129	ERF		Clearcut w/reserves	2019	aspen	25
Nashwauk Uplands	St.Louis	Tower	59	15	0	16	101	14	ERF		Commercial thinning	2019	white spruce	12
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	73	17	ERF		Clearcut w/reserves	2019	aspen	94
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	80	4	ERF		Clearcut w/reserves	2019	aspen	24
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	75	2	ERF		Clearcut w/reserves	2019	aspen	24
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	74	32	ERF		Clearcut w/reserves	2019	aspen	24
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	67	5	ERF		Clearcut w/reserves	2019	birch	93
Nashwauk Uplands	St.Louis	Hibbing	59	16	0	36	65	6	ERF		Clearcut w/reserves	2019	birch	91
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	122	4	non-ERF		Commercial thinning	2014	white spruce	23
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	108	11	non-ERF		Commercial thinning	2014	white spruce	23
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	118	16	non-ERF		Commercial thinning	2014	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	116	5	non-ERF		Commercial thinning	2014	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	84	35	ERF		Clearcut w/reserves	2014	aspen	76
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	117	16	ERF		Commercial thinning	2014	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	82	5	ERF		Commercial thinning	2014	red pine	20
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	103	24	ERF		Commercial thinning	2014	white spruce	23
Nashwauk Uplands	St.Louis	Hibbing	59	17	0	16	125	37	ERF		Commercial thinning	2014	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	2	16	20	non-ERF		Clearcut w/reserves	2018	aspen	47
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	2	10	21	non-ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	2	5	27	non-ERF		Clearcut w/reserves	2018	balsam fir	42
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	88	11	non-ERF		Clearcut w/reserves	2019	aspen	36
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	263	13	non-ERF		Clearcut w/reserves	2019	aspen	79
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	87	13	non-ERF		Clearcut w/reserves	2019	aspen	74
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	65	76	non-ERF		Clearcut w/reserves	2019	aspen	25

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	264	14	non-ERF		Clearcut w/reserves	2014	aspen	77
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	265	19	non-ERF		Clearcut w/reserves	2014	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	76	18	non-ERF		Clearcut w/reserves	2014	lowland black spruce	93
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	91	13	non-ERF		Clearcut w/reserves	2019	lowland black spruce	92
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	80	9	non-ERF		Commercial thinning	2019	white spruce	27
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	16	74	36	non-ERF		Commercial thinning	2014	white spruce	27
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	21	149	9	non-ERF		Clearcut w/reserves	2017	balsam fir	65
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	32	253	14	non-ERF		Clearcut w/reserves	2016	balsam fir	66
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	36	214	21	non-ERF	Y	Uneven-aged regeneration	2015	oak	90
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	36	228	22	non-ERF	Y	Uneven-aged regeneration	2015	oak	88
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	5	54	11	ERF		Commercial thinning	2019	red pine	26
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	7	120	4	non-ERF		Clearcut w/reserves	2016	aspen	38
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	36	271	6	non-ERF		Clearcut w/reserves	2014	aspen	57
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	36	277	30	non-ERF		Clearcut w/reserves	2014	aspen	57
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	36	265	38	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	57
Nashwauk Uplands	St.Louis	Hibbing	59	20	0	36	276	6	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	57
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	1	88	14	non-ERF		Clearcut w/reserves	2019	lowland black spruce	95
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	1	111	10	ERF		Commercial thinning	2019	red pine	11
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	2	796	5	ERF		Commercial thinning	2012	red pine	36
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	2	785	14	ERF		Commercial thinning	2019	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	2	183	10	ERF		Commercial thinning	2019	red pine	60
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	2	188	6	ERF		Commercial thinning	2015	red pine	14
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	75	7	non-ERF		Clearcut w/reserves	2011	aspen	69
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	20	22	non-ERF		Clearcut w/reserves	2017	aspen	31
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	132	14	non-ERF		Clearcut w/reserves	2013	lowland black spruce	123
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	847	1	ERF		Commercial thinning	2014	red pine	79
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	848	1	ERF		Commercial thinning	2014	red pine	79

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	159	12	ERF		Commercial thinning	2015	red pine	84
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	700	6	ERF		Commercial thinning	2015	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	193	4	ERF		Commercial thinning	2018	red pine	77
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	3	85	8	ERF		Commercial thinning	2013	red pine	22
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	4	100	8	non-ERF		Clearcut w/reserves	2011	aspen	64
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	4	61	8	non-ERF		Commercial thinning	2014	white spruce	20
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	4	97	8	ERF		Commercial thinning	2013	red pine	23
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	6	770	18	non-ERF		Clearcut w/reserves	2011	jack pine	63
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	6	761	14	ERF	Y	Commercial thinning	2019	red pine	13
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	10	242	17	non-ERF		Clearcut w/reserves	2016	aspen	37
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	10	264	19	ERF		Commercial thinning	2019	red pine	13
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	10	716	5	ERF		Commercial thinning	2017	red pine	84
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	321	10	non-ERF		Clearcut w/reserves	2016	aspen	38
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	824	15	non-ERF		Clearcut w/reserves	2016	aspen	33
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	735	7	non-ERF		Clearcut w/reserves	2016	jack pine	103
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	816	4	non-ERF		Clearcut w/reserves	2016	white spruce	71
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	829	35	ERF		Commercial thinning	2014	red pine	73
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	841	6	ERF		Commercial thinning	2019	red pine	33
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	823	14	ERF		Commercial thinning	2014	red pine	64
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	11	319	46	ERF		Commercial thinning	2014	red pine	69
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	729	22	non-ERF		Clearcut w/reserves	2016	aspen	39
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	828	4	non-ERF		Clearcut w/reserves	2014	white spruce	71
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	844	1	non-ERF		Clearcut w/reserves	2016	white spruce	68
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	843	3	non-ERF		Clearcut w/reserves	2016	white spruce	68
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	825	4	non-ERF		Clearcut w/reserves	2014	upland black spruce	76
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	814	21	ERF		Clearcut w/reserves	2016	upland black spruce	76
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	820	14	ERF		Commercial thinning	2014	red pine	68
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	232	7	ERF		Commercial thinning	2017	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	822	13	ERF		Commercial thinning	2014	red pine	70

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	832	40	ERF		Commercial thinning	2016	red pine	40
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	12	731	26	ERF		Commercial thinning	2016	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	16	452	7	non-ERF		Clearcut w/reserves	2011	aspen	74
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	16	390	6	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	49
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	16	384	37	ERF		Clearcut w/reserves	2010	aspen	77
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	30	595	15	non-ERF		Clearcut w/reserves	2011	lowland black spruce	171
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	36	638	23	non-ERF		Clearcut w/reserves	2011	aspen	70
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	36	622	33	ERF		Commercial thinning	2017	red pine	35
Nashwauk Uplands	Itasca	Hibbing	59	22	0	2	5	9	non-ERF		Clearcut w/reserves	2014	upland black spruce	80
Nashwauk Uplands	Itasca	Hibbing	59	22	0	2	33	5	ERF		Commercial thinning	2014	red pine	68
Nashwauk Uplands	Itasca	Hibbing	59	22	0	2	42	5	ERF		Commercial thinning	2014	red pine	30
Nashwauk Uplands	Itasca	Hibbing	59	22	0	4	66	10	non-ERF		Clearcut w/reserves	2011	aspen	74
Nashwauk Uplands	Itasca	Hibbing	59	22	0	8	1028	3	non-ERF		Clearcut w/reserves	2011	aspen	76
Nashwauk Uplands	Itasca	Hibbing	59	22	0	11	126	11	non-ERF		Clearcut w/reserves	2013	balsam fir	41
Nashwauk Uplands	Itasca	Hibbing	59	22	0	16	1007	9	ERF		Clearcut w/reserves	2013	birch	74
Nashwauk Uplands	Itasca	Hibbing	59	22	0	16	1013	9	ERF		Clearcut w/reserves	2013	birch	751
Nashwauk Uplands	Itasca	Hibbing	59	22	0	18	299	16	ERF		Commercial thinning	2018	red pine	14
Nashwauk Uplands	Itasca	Hibbing	59	22	0	19	463	11	non-ERF		Clearcut w/reserves	2014	birch	72
Nashwauk Uplands	Itasca	Hibbing	59	22	0	20	615	16	ERF		Clearcut w/reserves	2019	aspen	150
Nashwauk Uplands	Itasca	Hibbing	59	22	0	20	1031	4	ERF		Clearcut w/reserves	2011	aspen	85
Nashwauk Uplands	Itasca	Hibbing	59	22	0	20	613	5	ERF		Commercial thinning	2018	red pine	82
Nashwauk Uplands	Itasca	Hibbing	59	22	0	20	1014	5	ERF		Commercial thinning	2018	red pine	81
Nashwauk Uplands	Itasca	Hibbing	59	22	0	22	547	18	non-ERF		Clearcut w/reserves	2019	aspen	36
Nashwauk Uplands	Itasca	Hibbing	59	22	0	22	551	12	non-ERF		Clearcut w/reserves	2019	aspen	39
Nashwauk Uplands	Itasca	Hibbing	59	22	0	22	500	13	non-ERF		Clearcut w/reserves	2019	tamarack	96
Nashwauk Uplands	Itasca	Hibbing	59	22	0	22	595	15	non-ERF		Commercial thinning	2019	white spruce	45
Nashwauk Uplands	Itasca	Hibbing	59	22	0	22	587	8	ERF		Commercial thinning	2017	red pine	45

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	59	22	0	27	768	7	non-ERF		Clearcut w/reserves	2017	aspen	34
Nashwauk Uplands	Itasca	Hibbing	59	22	0	27	654	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	99
Nashwauk Uplands	Itasca	Hibbing	59	22	0	29	705	17	non-ERF		Clearcut w/reserves	2019	aspen	31
Nashwauk Uplands	Itasca	Hibbing	59	22	0	29	668	24	non-ERF		Clearcut w/reserves	2019	aspen	32
Nashwauk Uplands	Itasca	Hibbing	59	22	0	29	711	4	non-ERF		Clearcut w/reserves	2019	aspen	31
Nashwauk Uplands	Itasca	Hibbing	59	22	0	30	794	15	non-ERF		Clearcut w/reserves	2016	aspen	75
Nashwauk Uplands	Itasca	Hibbing	59	22	0	33	855	6	non-ERF		Clearcut w/reserves	2017	aspen	48
Nashwauk Uplands	Itasca	Hibbing	59	22	0	36	939	6	non-ERF		Clearcut w/reserves	2013	aspen	53
Nashwauk Uplands	Itasca	Hibbing	59	22	0	36	966	8	non-ERF		Clearcut w/reserves	2013	aspen	34
St.Louis Moraines	Itasca	Hibbing	59	23	0	7	834	4	non-ERF		Clearcut w/reserves	2010	balsam fir	53
St.Louis Moraines	Itasca	Hibbing	59	23	0	8	162	8	non-ERF		Clearcut w/reserves	2012	jack pine	51
St.Louis Moraines	Itasca	Hibbing	59	23	0	9	118	6	non-ERF		Clearcut w/reserves	2012	aspen	49
St.Louis Moraines	Itasca	Hibbing	59	23	0	9	72	25	non-ERF		Clearcut w/reserves	2012	lowland black spruce	87
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	169	12	non-ERF		Clearcut w/reserves	2013	aspen	66
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	144	32	non-ERF		Clearcut w/reserves	2013	aspen	35
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	113	56	non-ERF		Clearcut w/reserves	2013	aspen	34
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	109	7	non-ERF		Clearcut w/reserves	2013	aspen	39
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	114	21	non-ERF		Clearcut w/reserves	2013	aspen	67
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	152	11	non-ERF		Clearcut w/reserves	2013	aspen	69
St.Louis Moraines	Itasca	Hibbing	59	23	0	10	159	8	non-ERF		Clearcut w/reserves	2013	lowland black spruce	71
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	336	20	non-ERF		Clearcut w/reserves	2019	aspen	39
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	260	15	non-ERF		Clearcut w/reserves	2013	aspen	65
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	240	8	non-ERF		Clearcut w/reserves	2013	aspen	31
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	305	9	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	245	8	non-ERF		Clearcut w/reserves	2013	aspen	36
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	300	4	non-ERF		Clearcut w/reserves	2019	aspen	78
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	241	11	non-ERF		Clearcut w/reserves	2013	lowland black spruce	76
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	268	6	non-ERF		Clearcut w/reserves	2013	lowland black spruce	88
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	248	6	non-ERF		Clearcut w/reserves	2013	lowland black spruce	99

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	59	23	0	15	318	5	non-ERF		Commercial thinning	2017	white spruce	27
St.Louis Moraines	Itasca	Hibbing	59	23	0	16	284	30	non-ERF		Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Hibbing	59	23	0	16	319	14	non-ERF		Clearcut w/reserves	2017	aspen	32
St.Louis Moraines	Itasca	Hibbing	59	23	0	16	316	17	non-ERF		Commercial thinning	2017	white spruce	27
St.Louis Moraines	Itasca	Hibbing	59	23	0	16	342	24	non-ERF		Commercial thinning	2017	white spruce	28
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	290	27	non-ERF		Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	957	3	non-ERF		Clearcut w/reserves	2010	balsam fir	62
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	354	5	ERF		Commercial thinning	2019	red pine	38
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	253	5	ERF		Commercial thinning	2010	red pine	82
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	362	4	ERF		Commercial thinning	2010	red pine	67
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	355	24	ERF		Commercial thinning	2019	red pine	71
St.Louis Moraines	Itasca	Hibbing	59	23	0	17	959	5	ERF		Commercial thinning	2010	red pine	74
St.Louis Moraines	Itasca	Hibbing	59	23	0	20	425	4	non-ERF		Clearcut w/reserves	2019	birch	72
St.Louis Moraines	Itasca	Hibbing	59	23	0	20	955	4	non-ERF		Clearcut w/reserves	2019	birch	72
St.Louis Moraines	Itasca	Hibbing	59	23	0	20	378	6	ERF		Commercial thinning	2010	red pine	67
St.Louis Moraines	Itasca	Hibbing	59	23	0	20	423	21	ERF		Commercial thinning	2019	red pine	67
St.Louis Moraines	Itasca	Hibbing	59	23	0	20	847	11	ERF		Commercial thinning	2019	red pine	69
St.Louis Moraines	Itasca	Hibbing	59	23	0	22	477	17	non-ERF		Clearcut w/reserves	2014	jack pine	75
St.Louis Moraines	Itasca	Hibbing	59	23	0	23	493	7	non-ERF		Clearcut w/reserves	2014	jack pine	68
Nashwauk Uplands	Itasca	Hibbing	59	23	0	24	926	12	non-ERF		Uneven-aged regeneration	2010	ash	92
Nashwauk Uplands	Itasca	Hibbing	59	23	0	24	395	12	non-ERF		Commercial thinning	2018	white spruce	29
Nashwauk Uplands	Itasca	Hibbing	59	23	0	24	923	22	ERF		Commercial thinning	2018	white spruce	27
Nashwauk Uplands	Itasca	Hibbing	59	23	0	25	543	6	non-ERF		Uneven-aged regeneration	2010	ash	148
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	613	9	non-ERF		Clearcut w/reserves	2016	aspen	86
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	573	19	non-ERF		Clearcut w/reserves	2016	aspen	86
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	849	19	non-ERF		Clearcut w/reserves	2014	jack pine	82
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	944	2	non-ERF		Commercial thinning	2019	white spruce	46

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	589	21	non-ERF		Commercial thinning	2019	white spruce	49
St.Louis Moraines	Itasca	Hibbing	59	23	0	26	850	5	ERF		Commercial thinning	2014	red pine	61
St.Louis Moraines	Itasca	Hibbing	59	23	0	27	630	8	non-ERF		Clearcut w/reserves	2016	jack pine	75
St.Louis Moraines	Itasca	Hibbing	59	23	0	27	640	29	ERF		Clearcut w/reserves	2016	jack pine	73
St.Louis Moraines	Itasca	Hibbing	59	23	0	27	657	11	ERF		Commercial thinning	2019	red pine	21
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	629	8	non-ERF		Clearcut w/reserves	2016	aspen	27
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	601	18	non-ERF		Clearcut w/reserves	2016	aspen	29
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	600	23	non-ERF		Clearcut w/reserves	2016	aspen	26
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	588	16	non-ERF		Clearcut w/reserves	2016	aspen	21
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	602	3	non-ERF		Clearcut w/reserves	2016	birch	82
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	966	1	ERF		Clearcut w/reserves	2016	aspen	21
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	560	14	ERF	Y	Commercial thinning	2016	red pine	70
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	562	13	ERF	Y	Commercial thinning	2016	red pine	93
St.Louis Moraines	Itasca	Hibbing	59	23	0	31	779	15	ERF		Commercial thinning	2010	red pine	98
St.Louis Moraines	Itasca	Hibbing	59	23	0	32	727	7	non-ERF		Clearcut w/reserves	2017	jack pine	56
St.Louis Moraines	Itasca	Hibbing	59	23	0	32	946	3	ERF	Y	Commercial thinning	2017	red pine	44
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	891	7	non-ERF		Clearcut w/reserves	2018	aspen	60
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	731	8	non-ERF		Clearcut w/reserves	2015	aspen	64
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	729	8	non-ERF		Clearcut w/reserves	2015	aspen	64
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	734	21	non-ERF		Clearcut w/reserves	2015	jack pine	75
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	893	5	non-ERF		Clearcut w/reserves	2018	jack pine	70
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	736	17	non-ERF		Clearcut w/reserves	2015	jack pine	65
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	732	12	non-ERF		Clearcut w/reserves	2015	lowland black spruce	108
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	730	9	non-ERF		Clearcut w/reserves	2015	lowland black spruce	94
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	689	8	ERF		Commercial thinning	2019	red pine	42
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	735	13	ERF		Commercial thinning	2019	red pine	42
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	953	8	ERF	Y	Commercial thinning	2019	red pine	82
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	679	17	non-ERF		Clearcut w/reserves	2014	aspen	69
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	741	15	non-ERF		Clearcut w/reserves	2014	aspen	66

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	711	13	non-ERF		Clearcut w/reserves	2014	aspen	65
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	754	16	non-ERF		Clearcut w/reserves	2014	aspen	66
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	772	6	non-ERF		Clearcut w/reserves	2014	lowland black spruce	80
St.Louis Moraines	Itasca	Hibbing	59	23	0	36	758	15	non-ERF		Uneven-aged regeneration	2014	balsam fir	88
St.Louis Moraines	Itasca	Deer River	59	24	0	1	142	10	non-ERF		Clearcut w/reserves	2012	aspen	39
St.Louis Moraines	Itasca	Deer River	59	24	0	1	145	8	non-ERF		Clearcut w/reserves	2012	aspen	44
St.Louis Moraines	Itasca	Deer River	59	24	0	1	994	4	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Itasca	Deer River	59	24	0	1	100	11	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	67
St.Louis Moraines	Itasca	Deer River	59	24	0	3	42	7	non-ERF		Clearcut w/reserves	2011	aspen	47
St.Louis Moraines	Itasca	Deer River	59	24	0	4	67	6	non-ERF		Clearcut w/reserves	2012	lowland black spruce	99
St.Louis Moraines	Itasca	Deer River	59	24	0	4	1040	14	non-ERF	Y	Commercial thinning	2012	white pine	66
St.Louis Moraines	Itasca	Deer River	59	24	0	4	160	13	non-ERF		Commercial thinning	2018	white spruce	27
St.Louis Moraines	Itasca	Deer River	59	24	0	4	128	3	ERF		Commercial thinning	2012	red pine	78
St.Louis Moraines	Itasca	Deer River	59	24	0	4	149	15	ERF		Commercial thinning	2018	red pine	26
St.Louis Moraines	Itasca	Deer River	59	24	0	4	71	5	ERF		Commercial thinning	2018	red pine	28
St.Louis Moraines	Itasca	Deer River	59	24	0	6	137	33	non-ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Itasca	Deer River	59	24	0	9	174	4	non-ERF		Clearcut w/reserves	2012	aspen	76
St.Louis Moraines	Itasca	Deer River	59	24	0	9	222	5	non-ERF		Clearcut w/reserves	2018	aspen	48
St.Louis Moraines	Itasca	Deer River	59	24	0	9	176	4	non-ERF		Commercial thinning	2018	white spruce	27
St.Louis Moraines	Itasca	Deer River	59	24	0	9	206	5	ERF	Y	Commercial thinning	2012	red pine	61
St.Louis Moraines	Itasca	Deer River	59	24	0	9	226	6	ERF		Commercial thinning	2018	red pine	27
St.Louis Moraines	Itasca	Deer River	59	24	0	9	209	3	ERF		Commercial thinning	2018	red pine	22
St.Louis Moraines	Itasca	Deer River	59	24	0	10	317	32	ERF		Commercial thinning	2018	red pine	20
St.Louis Moraines	Itasca	Deer River	59	24	0	12	231	15	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Itasca	Deer River	59	24	0	12	216	7	non-ERF		Clearcut w/reserves	2012	lowland black spruce	97
St.Louis Moraines	Itasca	Deer River	59	24	0	12	340	5	ERF		Commercial thinning	2018	red pine	15
St.Louis Moraines	Itasca	Deer River	59	24	0	16	477	26	non-ERF		Clearcut w/reserves	2015	aspen	40

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	59	24	0	16	427	5	non-ERF		Clearcut w/reserves	2018	aspen	80
St.Louis Moraines	Itasca	Deer River	59	24	0	16	350	53	non-ERF		Clearcut w/reserves	2018	aspen	31
St.Louis Moraines	Itasca	Deer River	59	24	0	16	435	100	ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Itasca	Deer River	59	24	0	16	484	7	ERF	Y	Commercial thinning	2015	red pine	101
St.Louis Moraines	Itasca	Deer River	59	24	0	19	592	47	non-ERF		Clearcut w/reserves	2019	aspen	32
St.Louis Moraines	Itasca	Deer River	59	24	0	20	531	21	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Itasca	Deer River	59	24	0	21	1042	41	non-ERF		Clearcut w/reserves	2018	aspen	24
St.Louis Moraines	Itasca	Deer River	59	24	0	21	497	12	non-ERF		Clearcut w/reserves	2018	aspen	22
St.Louis Moraines	Itasca	Deer River	59	24	0	21	599	2	non-ERF		Clearcut w/reserves	2018	aspen	24
St.Louis Moraines	Itasca	Deer River	59	24	0	21	596	8	non-ERF		Clearcut w/reserves	2015	aspen	44
St.Louis Moraines	Itasca	Deer River	59	24	0	21	1041	4	non-ERF	Y	Clearcut w/reserves	2015	birch	79
St.Louis Moraines	Itasca	Deer River	59	24	0	21	573	5	non-ERF		Uneven-aged regeneration	2018	jack pine	23
St.Louis Moraines	Itasca	Deer River	59	24	0	21	587	21	ERF		Commercial thinning	2018	red pine	23
St.Louis Moraines	Itasca	Deer River	59	24	0	22	661	6	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Itasca	Deer River	59	24	0	22	642	14	non-ERF		Clearcut w/reserves	2018	aspen	39
St.Louis Moraines	Itasca	Deer River	59	24	0	22	979	4	non-ERF		Commercial thinning	2018	white spruce	17
St.Louis Moraines	Itasca	Deer River	59	24	0	22	978	7	ERF		Commercial thinning	2018	red pine	23
St.Louis Moraines	Itasca	Deer River	59	24	0	22	981	8	ERF		Commercial thinning	2018	red pine	26
St.Louis Moraines	Itasca	Deer River	59	24	0	25	809	9	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Itasca	Deer River	59	24	0	25	1011	4	non-ERF		Clearcut w/reserves	2016	aspen	48
St.Louis Moraines	Itasca	Deer River	59	24	0	27	833	3	non-ERF		Clearcut w/reserves	2018	aspen	57
St.Louis Moraines	Itasca	Deer River	59	24	0	27	777	11	ERF		Commercial thinning	2018	red pine	65
St.Louis Moraines	Itasca	Deer River	59	24	0	27	786	6	ERF		Commercial thinning	2018	red pine	17
St.Louis Moraines	Itasca	Deer River	59	24	0	27	795	1	ERF		Commercial thinning	2018	red pine	59
St.Louis Moraines	Itasca	Deer River	59	24	0	27	844	8	ERF		Commercial thinning	2018	red pine	59
St.Louis Moraines	Itasca	Deer River	59	24	0	27	841	3	ERF		Commercial thinning	2018	red pine	17
St.Louis Moraines	Itasca	Deer River	59	24	0	27	796	17	ERF		Commercial thinning	2018	red pine	20
St.Louis Moraines	Itasca	Deer River	59	24	0	28	719	25	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Itasca	Deer River	59	24	0	28	674	49	non-ERF		Clearcut w/reserves	2019	aspen	22

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	59	24	0	28	738	17	ERF		Commercial thinning	2019	red pine	25
St.Louis Moraines	Itasca	Deer River	59	24	0	28	703	41	ERF		Commercial thinning	2019	red pine	22
St.Louis Moraines	Itasca	Deer River	59	24	0	29	828	4	non-ERF		Clearcut w/reserves	2012	aspen	76
St.Louis Moraines	Itasca	Deer River	59	24	0	29	712	14	non-ERF		Clearcut w/reserves	2018	aspen	90
St.Louis Moraines	Itasca	Deer River	59	24	0	29	729	17	non-ERF		Clearcut w/reserves	2018	aspen	24
St.Louis Moraines	Itasca	Deer River	59	24	0	29	669	9	non-ERF		Uneven-aged regeneration	2018	ash	100
St.Louis Moraines	Itasca	Deer River	59	24	0	29	843	2	ERF		Commercial thinning	2019	red pine	20
St.Louis Moraines	Itasca	Deer River	59	24	0	30	775	13	non-ERF		Clearcut w/reserves	2016	aspen	36
St.Louis Moraines	Itasca	Deer River	59	24	0	30	690	9	non-ERF		Uneven-aged regeneration	2016	ash	89
St.Louis Moraines	Itasca	Deer River	59	24	0	30	688	65	ERF		Commercial thinning	2016	white spruce	29
St.Louis Moraines	Itasca	Deer River	59	24	0	31	880	6	non-ERF	Y	Clearcut w/reserves	2011	aspen	85
St.Louis Moraines	Itasca	Deer River	59	24	0	32	909	11	non-ERF		Clearcut w/reserves	2012	aspen	79
St.Louis Moraines	Itasca	Deer River	59	24	0	32	885	32	ERF		Commercial thinning	2010	red pine	110
St.Louis Moraines	Itasca	Deer River	59	24	0	32	849	32	ERF		Commercial thinning	2019	red pine	20
St.Louis Moraines	Itasca	Deer River	59	24	0	34	1048	4	non-ERF		Clearcut w/reserves	2014	aspen	40
St.Louis Moraines	Itasca	Deer River	59	24	0	34	862	52	non-ERF		Clearcut w/reserves	2014	aspen	48
St.Louis Moraines	Itasca	Deer River	59	24	0	34	895	19	non-ERF		Commercial thinning	2014	white spruce	27
St.Louis Moraines	Itasca	Deer River	59	24	0	34	1028	2	non-ERF		Commercial thinning	2014	white spruce	27
St.Louis Moraines	Itasca	Deer River	59	24	0	35	894	23	non-ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	59	24	0	36	916	39	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	59	24	0	36	850	79	non-ERF		Clearcut w/reserves	2016	aspen	36
St.Louis Moraines	Itasca	Deer River	59	24	0	36	926	4	non-ERF		Clearcut w/reserves	2016	aspen	86
St.Louis Moraines	Itasca	Deer River	59	24	0	36	935	51	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Itasca	Deer River	59	24	0	36	954	20	non-ERF		Clearcut w/reserves	2019	aspen	34
St.Louis Moraines	Itasca	Deer River	59	24	0	36	1061	3	non-ERF		Clearcut w/reserves	2019	aspen	34
St.Louis Moraines	Itasca	Deer River	59	24	0	36	915	12	ERF		Commercial thinning	2019	red pine	23
St.Louis Moraines	Itasca	Deer River	59	25	0	1	154	15	non-ERF		Clearcut w/reserves	2017	aspen	37

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	59	25	0	1	125	33	non-ERF	Y	Clearcut w/reserves	2019	aspen	19
St.Louis Moraines	Itasca	Deer River	59	25	0	1	78	11	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Itasca	Deer River	59	25	0	1	48	22	ERF		Clearcut w/reserves	2012	lowland black spruce	117
St.Louis Moraines	Itasca	Deer River	59	25	0	1	122	12	ERF		Commercial thinning	2012	red pine	95
St.Louis Moraines	Itasca	Deer River	59	25	0	1	44	8	ERF		Commercial thinning	2012	red pine	108
St.Louis Moraines	Itasca	Deer River	59	25	0	2	1058	5	non-ERF		Clearcut w/reserves	2012	balsam fir	58
St.Louis Moraines	Itasca	Deer River	59	25	0	2	999	2	non-ERF		Clearcut w/reserves	2012	lowland black spruce	121
St.Louis Moraines	Itasca	Deer River	59	25	0	2	121	15	ERF		Commercial thinning	2012	red pine	104
St.Louis Moraines	Itasca	Deer River	59	25	0	4	94	41	ERF		Clearcut w/reserves	2018	aspen	25
St.Louis Moraines	Itasca	Deer River	59	25	0	4	1040	2	ERF		Clearcut w/reserves	2012	birch	69
St.Louis Moraines	Itasca	Deer River	59	25	0	4	1039	3	ERF		Clearcut w/reserves	2012	birch	69
St.Louis Moraines	Itasca	Deer River	59	25	0	4	1068	11	ERF	Y	Clearcut w/reserves	2012	birch	73
St.Louis Moraines	Itasca	Deer River	59	25	0	10	1059	3	non-ERF		Clearcut w/reserves	2011	aspen	88
St.Louis Moraines	Itasca	Deer River	59	25	0	10	275	23	ERF		Clearcut w/reserves	2011	birch	78
St.Louis Moraines	Itasca	Deer River	59	25	0	10	228	20	ERF		Clearcut w/reserves	2011	birch	73
St.Louis Moraines	Itasca	Deer River	59	25	0	16	336	34	non-ERF		Clearcut w/reserves	2014	aspen	44
St.Louis Moraines	Itasca	Deer River	59	25	0	16	981	16	non-ERF		Clearcut w/reserves	2019	aspen	36
St.Louis Moraines	Itasca	Deer River	59	25	0	16	972	15	non-ERF		Uneven-aged regeneration	2019	ash	124
St.Louis Moraines	Itasca	Deer River	59	25	0	17	407	10	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Itasca	Deer River	59	25	0	17	974	9	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	59	25	0	17	414	8	non-ERF		Clearcut w/reserves	2011	aspen	87
St.Louis Moraines	Itasca	Deer River	59	25	0	17	1061	5	non-ERF	Y	Clearcut w/reserves	2011	aspen	89
St.Louis Moraines	Itasca	Deer River	59	25	0	17	438	8	ERF		Commercial thinning	2019	red pine	17
St.Louis Moraines	Itasca	Deer River	59	25	0	23	1053	12	non-ERF		Clearcut w/reserves	2010	birch	71
St.Louis Moraines	Itasca	Deer River	59	25	0	23	527	52	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	84
St.Louis Moraines	Itasca	Deer River	59	25	0	23	541	10	non-ERF		Uneven-aged regeneration	2010	balsam fir	76
St.Louis Moraines	Itasca	Deer River	59	25	0	24	529	18	non-ERF		Clearcut w/reserves	2018	birch	21
St.Louis Moraines	Itasca	Deer River	59	25	0	24	526	21	non-ERF		Uneven-aged regeneration	2018	northern hardwoods	67
St.Louis Moraines	Itasca	Deer River	59	25	0	25	658	10	non-ERF		Uneven-aged regeneration	2016	northern hardwoods	69

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	59	25	0	25	654	46	ERF		Clearcut w/reserves	2016	aspen	40
St.Louis Moraines	Itasca	Deer River	59	25	0	29	766	22	non-ERF		Uneven-aged regeneration	2011	balsam fir	79
St.Louis Moraines	Itasca	Deer River	59	25	0	29	721	27	ERF		Clearcut w/reserves	2011	birch	79
St.Louis Moraines	Itasca	Deer River	59	25	0	30	613	11	non-ERF		Clearcut w/reserves	2011	lowland black spruce	131
St.Louis Moraines	Itasca	Deer River	59	25	0	34	1066	6	non-ERF		Clearcut w/reserves	2011	balsam fir	57
St.Louis Moraines	Itasca	Deer River	59	25	0	34	882	13	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	68
St.Louis Moraines	Itasca	Deer River	59	25	0	34	929	13	non-ERF	Y	Uneven-aged regeneration	2011	balsam fir	74
St.Louis Moraines	Itasca	Deer River	59	25	0	35	948	25	non-ERF		Clearcut w/reserves	2018	aspen	30
St.Louis Moraines	Itasca	Deer River	59	25	0	35	1067	7	non-ERF	Y	Clearcut w/reserves	2011	birch	87
St.Louis Moraines	Itasca	Deer River	59	25	0	35	893	12	non-ERF		Commercial thinning	2018	white spruce	18
St.Louis Moraines	Itasca	Deer River	59	26	0	16	82	28	non-ERF		Clearcut w/reserves	2015	aspen	40
St.Louis Moraines	Itasca	Deer River	59	26	0	16	108	3	non-ERF		Clearcut w/reserves	2011	aspen	65
St.Louis Moraines	Itasca	Deer River	59	26	0	16	10	7	non-ERF		Clearcut w/reserves	2011	aspen	51
St.Louis Moraines	Itasca	Deer River	59	26	0	16	115	4	non-ERF		Uneven-aged regeneration	2011	ash	91
St.Louis Moraines	Itasca	Deer River	59	26	0	30	71	4	non-ERF		Clearcut w/reserves	2010	aspen	49
St.Louis Moraines	Itasca	Deer River	59	26	0	30	91	20	non-ERF		Clearcut w/reserves	2010	aspen	44
St.Louis Moraines	Itasca	Deer River	59	26	0	30	70	19	non-ERF		Clearcut w/reserves	2010	tamarack	113
St.Louis Moraines	Itasca	Deer River	59	26	0	36	28	28	non-ERF		Clearcut w/reserves	2012	aspen	25
St.Louis Moraines	Itasca	Deer River	59	26	0	36	36	36	non-ERF		Clearcut w/reserves	2016	aspen	47
St.Louis Moraines	Itasca	Deer River	59	26	0	36	107	4	non-ERF		Clearcut w/reserves	2012	aspen	50
St.Louis Moraines	Itasca	Deer River	59	26	0	36	27	11	non-ERF	Y	Clearcut w/reserves	2012	aspen	96
St.Louis Moraines	Itasca	Deer River	59	26	0	36	54	37	non-ERF		Clearcut w/reserves	2012	aspen	39
St.Louis Moraines	Itasca	Deer River	59	26	0	36	79	6	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Itasca	Deer River	59	26	0	36	106	3	non-ERF		Clearcut w/reserves	2012	birch	88
St.Louis Moraines	Itasca	Deer River	59	26	0	36	31	105	ERF		Clearcut w/reserves	2016	aspen	47
St.Louis Moraines	Itasca	Deer River	59	26	0	36	78	8	ERF		Commercial thinning	2013	red pine	30
St.Louis Moraines	Itasca	Deer River	59	26	0	36	32	6	ERF	Y	Commercial thinning	2016	red pine	101

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	59	26	0	36	80	5	ERF	Y	Commercial thinning	2013	red pine	26
St.Louis Moraines	Itasca	Deer River	59	26	0	36	47	5	ERF		Commercial thinning	2016	red pine	108
St.Louis Moraines	Itasca	Deer River	59	26	0	36	77	83	ERF		Commercial thinning	2013	red pine	28
St.Louis Moraines	Itasca	Deer River	59	26	0	36	76	37	ERF		Commercial thinning	2013	red pine	96
St.Louis Moraines	Itasca	Deer River	59	27	0	12	5	12	non-ERF		Uneven-aged regeneration	2011	balsam fir	65
St.Louis Moraines	Itasca	Deer River	59	27	0	12	6	9	non-ERF		Commercial thinning	2011	white spruce	16
Nashwauk Uplands	St.Louis	Tower	60	13	0	4	16	7	non-ERF		Clearcut w/reserves	2016	lowland black spruce	96
Nashwauk Uplands	St.Louis	Tower	60	13	0	4	18	6	non-ERF		Clearcut w/reserves	2016	lowland black spruce	91
Nashwauk Uplands	St.Louis	Tower	60	13	0	4	15	25	ERF		Clearcut w/reserves	2016	tamarack	89
Nashwauk Uplands	St.Louis	Tower	60	13	0	4	13	23	ERF		Commercial thinning	2016	red pine	17
Nashwauk Uplands	St.Louis	Tower	60	13	0	9	23	9	non-ERF		Clearcut w/reserves	2015	aspen	93
Nashwauk Uplands	St.Louis	Tower	60	13	0	10	40	7	non-ERF		Clearcut w/reserves	2015	aspen	31
Nashwauk Uplands	St.Louis	Tower	60	13	0	10	36	16	non-ERF		Clearcut w/reserves	2015	aspen	33
Nashwauk Uplands	St.Louis	Tower	60	13	0	10	42	33	non-ERF		Clearcut w/reserves	2015	aspen	33
Nashwauk Uplands	St.Louis	Tower	60	13	0	10	31	5	non-ERF		Clearcut w/reserves	2015	birch	61
Nashwauk Uplands	St.Louis	Tower	60	13	0	10	28	12	non-ERF		Clearcut w/reserves	2015	birch	69
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	126	14	non-ERF		Clearcut w/reserves	2014	aspen	79
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	128	7	ERF		Commercial thinning	2019	red pine	12
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	110	5	ERF		Commercial thinning	2019	red pine	15
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	111	4	ERF		Commercial thinning	2019	red pine	12
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	127	7	ERF		Commercial thinning	2019	red pine	12
Nashwauk Uplands	St.Louis	Tower	60	13	0	16	114	13	ERF		Commercial thinning	2019	red pine	12
Nashwauk Uplands	St.Louis	Tower	60	14	0	36	51	30	non-ERF		Clearcut w/reserves	2014	aspen	69
Nashwauk Uplands	St.Louis	Tower	60	14	0	36	55	11	non-ERF		Clearcut w/reserves	2014	aspen	83
Nashwauk Uplands	St.Louis	Tower	60	14	0	36	58	42	non-ERF		Clearcut w/reserves	2014	birch	83
Nashwauk Uplands	St.Louis	Tower	60	15	0	36	61	13	non-ERF		Clearcut w/reserves	2016	aspen	42
Nashwauk Uplands	St.Louis	Tower	60	15	0	36	66	5	non-ERF		Clearcut w/reserves	2016	aspen	39
Nashwauk Uplands	St.Louis	Tower	60	15	0	36	68	3	non-ERF		Clearcut w/reserves	2016	aspen	45
Nashwauk Uplands	St.Louis	Tower	60	15	0	36	64	28	ERF		Commercial thinning	2016	white spruce	20

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	60	16	0	16	24	7	non-ERF	Y	Clearcut w/reserves	2017	aspen	78
Nashwauk Uplands	St.Louis	Tower	60	16	0	16	23	19	non-ERF		Clearcut w/reserves	2017	birch	86
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	81	8	ERF		Clearcut w/reserves	2016	aspen	61
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	74	31	ERF		Clearcut w/reserves	2016	lowland black spruce	81
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	71	21	ERF		Clearcut w/reserves	2016	lowland black spruce	80
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	69	36	ERF		Commercial thinning	2016	red pine	18
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	100	34	ERF		Commercial thinning	2017	red pine	18
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	88	11	ERF		Commercial thinning	2016	red pine	18
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	68	24	ERF	Y	Commercial thinning	2016	white spruce	23
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	72	55	ERF		Commercial thinning	2016	white spruce	25
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	15	524	10	non-ERF		Uneven-aged regeneration	2011	ash	187
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	15	117	8	non-ERF	Y	Uneven-aged regeneration	2011	ash	112
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	16	119	32	non-ERF	Y	Uneven-aged regeneration	2011	ash	112
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	17	49	22	ERF		Commercial thinning	2016	red pine	25
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	18	116	17	ERF		Commercial thinning	2016	red pine	25
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	23	541	8	non-ERF		Uneven-aged regeneration	2018	balsam fir	67
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	23	540	16	ERF		Clearcut w/reserves	2018	upland black spruce	74
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	27	259	6	non-ERF		Clearcut w/reserves	2018	aspen	69
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	27	292	27	ERF		Clearcut w/reserves	2018	aspen	51
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	28	266	9	non-ERF		Clearcut w/reserves	2018	aspen	78
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	28	260	6	non-ERF		Clearcut w/reserves	2018	tamarack	95
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	28	278	9	non-ERF		Clearcut w/reserves	2018	tamarack	89
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	28	251	9	non-ERF		Uneven-aged regeneration	2018	balsam fir	85
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	28	255	17	non-ERF		Commercial thinning	2018	white spruce	26
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	32	409	18	ERF		Commercial thinning	2014	red pine	41
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	36	423	20	ERF		Commercial thinning	2014	red pine	26
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	36	369	14	ERF		Commercial thinning	2014	red pine	26

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	272	17	non-ERF	Y	Clearcut w/reserves	2012	aspen	75
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	224	20	non-ERF		Clearcut w/reserves	2012	aspen	37
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	214	8	non-ERF	Y	Clearcut w/reserves	2012	aspen	83
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	219	6	non-ERF		Clearcut w/reserves	2012	aspen	37
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	228	3	non-ERF		Clearcut w/reserves	2012	aspen	78
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	215	18	non-ERF		Clearcut w/reserves	2012	aspen	78
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	275	17	non-ERF	Y	Clearcut w/reserves	2012	birch	92
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	269	25	non-ERF	Y	Clearcut w/reserves	2012	birch	84
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	279	33	ERF	Y	Clearcut w/reserves	2012	aspen	91
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	235	6	ERF		Commercial thinning	2012	red pine	25
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	233	7	ERF		Commercial thinning	2012	red pine	25
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	30	106	9	non-ERF		Clearcut w/reserves	2018	aspen	78
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	30	93	28	non-ERF	Y	Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	34	149	7	non-ERF		Clearcut w/reserves	2018	lowland black spruce	100
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	188	18	ERF		Commercial thinning	2015	red pine	70
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	200	6	ERF		Commercial thinning	2015	red pine	42
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	185	6	ERF		Commercial thinning	2015	red pine	98
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	192	17	ERF		Commercial thinning	2015	red pine	98
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	169	23	ERF		Commercial thinning	2015	red pine	19
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	177	8	ERF		Commercial thinning	2015	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	36	153	21	ERF		Commercial thinning	2018	white spruce	24
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	19	0	3	354	9	non-ERF		Clearcut w/reserves	2019	birch	70
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	19	0	3	363	10	non-ERF		Commercial thinning	2019	balsam fir	18
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	19	0	9	115	12	non-ERF		Commercial thinning	2019	white spruce	28
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	405	25	non-ERF		Clearcut w/reserves	2019	aspen	51
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	144	4	ERF		Commercial thinning	2019	red pine	17
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	412	18	ERF		Commercial thinning	2019	red pine	31
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	410	14	ERF		Commercial thinning	2019	red pine	23
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	411	4	ERF		Commercial thinning	2019	red pine	17

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	391	42	ERF		Commercial thinning	2019	red pine	18
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	404	5	ERF		Commercial thinning	2019	red pine	33
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	16	392	23	ERF		Commercial thinning	2019	red pine	25
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	26	419	10	non-ERF		Commercial thinning	2018	balsam fir	34
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	27	169	10	non-ERF		Clearcut w/reserves	2010	aspen	35
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	27	172	23	ERF		Commercial thinning	2010	red pine	26
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	28	197	14	non-ERF		Clearcut w/reserves	2010	lowland black spruce	119
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	34	330	25	non-ERF	Y	Clearcut w/reserves	2018	aspen	32
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	36	296	8	non-ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	36	285	11	non-ERF		Clearcut w/reserves	2018	aspen	38
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	36	238	19	non-ERF		Clearcut w/reserves	2018	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	1	74	5	non-ERF		Clearcut w/reserves	2011	aspen	70
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	7	95	13	non-ERF		Clearcut w/reserves	2010	lowland black spruce	95
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	7	143	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	87
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	7	110	8	non-ERF		Clearcut w/reserves	2010	lowland black spruce	93
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	429	3	non-ERF		Commercial thinning	2019	white spruce	43
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	186	8	non-ERF		Commercial thinning	2011	white spruce	68
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	191	7	ERF		Commercial thinning	2010	red pine	23
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	184	7	ERF		Commercial thinning	2010	red pine	26
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	177	10	ERF		Commercial thinning	2017	red pine	17
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	194	13	ERF		Commercial thinning	2017	red pine	37
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	424	33	ERF		Commercial thinning	2014	red pine	67
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	168	4	ERF		Commercial thinning	2017	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	434	16	ERF		Commercial thinning	2019	red pine	12
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	430	10	ERF		Commercial thinning	2019	red pine	12
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	20	0	16	159	38	ERF		Commercial thinning	2017	white spruce	25
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	19	441	5	non-ERF		Clearcut w/reserves	2015	birch	88

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	19	444	15	ERF		Commercial thinning	2017	red pine	17
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	19	438	2	ERF		Commercial thinning	2017	red pine	19
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	19	439	20	ERF		Commercial thinning	2015	red pine	33
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	20	251	8	non-ERF		Commercial thinning	2017	white spruce	23
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	36	465	4	ERF		Clearcut w/reserves	2018	birch	84
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	36	368	29	ERF		Commercial thinning	2018	white spruce	25
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	36	391	13	ERF		Commercial thinning	2018	white spruce	25
Nashwauk Uplands	St.Louis	Hibbing	60	20	0	36	466	19	ERF		Commercial thinning	2018	white spruce	17
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	921	11	non-ERF		Clearcut w/reserves	2010	balsam fir	71
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	922	28	non-ERF		Clearcut w/reserves	2010	lowland black spruce	93
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	947	9	non-ERF		Clearcut w/reserves	2011	tamarack	131
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	909	9	non-ERF		Uneven-aged regeneration	2011	white spruce	80
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	917	2	non-ERF		Commercial thinning	2011	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	1	913	5	non-ERF		Commercial thinning	2011	white spruce	40
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	2	1051	3	ERF		Commercial thinning	2016	red pine	85
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	2	959	28	ERF		Commercial thinning	2012	white spruce	44
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	3	127	9	ERF		Clearcut w/reserves	2011	aspen	62
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	3	128	16	ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	3	16	8	ERF		Clearcut w/reserves	2016	lowland black spruce	89
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	5	45	17	non-ERF		Clearcut w/reserves	2013	balsam fir	91
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	5	51	16	ERF		Commercial thinning	2013	red pine	42
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	5	67	24	ERF		Commercial thinning	2013	red pine	52
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	206	10	non-ERF		Commercial thinning	2017	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	257	30	ERF	Y	Commercial thinning	2017	red pine	36
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	220	8	ERF		Commercial thinning	2017	red pine	23
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	840	16	ERF		Commercial thinning	2017	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	833	18	ERF		Commercial thinning	2017	white spruce	20
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	857	9	non-ERF		Clearcut w/reserves	2013	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	173	6	non-ERF	Y	Clearcut w/reserves	2012	birch	84

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	154	6	non-ERF		Clearcut w/reserves	2012	balsam fir	75
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	769	6	non-ERF	Y	Commercial thinning	2019	white pine	12
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	862	21	ERF		Commercial thinning	2019	red pine	18
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	266	7	ERF		Commercial thinning	2019	red pine	28
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	11	211	6	non-ERF		Clearcut w/reserves	2015	balsam fir	70
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	11	181	8	non-ERF		Clearcut w/reserves	2015	balsam fir	70
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	11	199	11	ERF		Commercial thinning	2019	white spruce	24
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	408	3	non-ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	305	8	non-ERF		Clearcut w/reserves	2011	birch	67
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	997	19	ERF		Clearcut w/reserves	2016	birch	68
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	14	812	7	ERF		Commercial thinning	2010	red pine	90
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	810	10	ERF	Y	Commercial thinning	2019	red pine	11
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	807	5	ERF		Commercial thinning	2010	red pine	28
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	809	6	ERF		Commercial thinning	2010	red pine	30
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	1032	2	ERF		Commercial thinning	2016	red pine	86
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	418	7	ERF		Commercial thinning	2017	red pine	17
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	15	386	23	ERF		Commercial thinning	2010	red pine	81
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	375	11	ERF		Commercial thinning	2010	red pine	83
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	373	8	ERF		Commercial thinning	2010	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	395	11	ERF		Commercial thinning	2010	red pine	83
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	298	15	ERF		Commercial thinning	2010	red pine	28
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	297	10	ERF		Commercial thinning	2010	red pine	85
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	352	15	ERF		Commercial thinning	2010	red pine	30
Littlefork-Vermilion Uplands	St.Louis	Hibbing	60	21	0	15	364	28	ERF		Commercial thinning	2010	red pine	75
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	804	10	non-ERF	Y	Commercial thinning	2011	white pine	72
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	801	19	non-ERF	Y	Commercial thinning	2018	white pine	70
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	802	5	non-ERF	Y	Commercial thinning	2018	white pine	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	311	3	non-ERF	Y	Commercial thinning	2018	white pine	15
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	797	42	ERF	Y	Commercial thinning	2011	red pine	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	357	12	ERF		Commercial thinning	2016	red pine	26
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	803	18	ERF	Y	Commercial thinning	2018	red pine	12
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	382	4	ERF		Commercial thinning	2016	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	799	2	ERF	Y	Commercial thinning	2011	red pine	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	1037	4	ERF		Commercial thinning	2011	red pine	76
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	292	36	ERF	Y	Commercial thinning	2018	red pine	78
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	1058	3	ERF		Commercial thinning	2013	red pine	49
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	328	5	ERF		Commercial thinning	2016	red pine	21
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	1036	11	ERF	Y	Commercial thinning	2011	red pine	73
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	396	8	ERF	Y	Commercial thinning	2011	red pine	75
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	21	493	10	non-ERF	Y	Commercial thinning	2017	white pine	45
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	21	506	18	ERF	Y	Commercial thinning	2017	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	462	16	non-ERF		Commercial thinning	2017	white spruce	20
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	1045	0	ERF		Commercial thinning	2018	red pine	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	527	5	ERF		Commercial thinning	2012	red pine	95
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	455	10	ERF		Commercial thinning	2010	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	459	17	ERF		Commercial thinning	2010	red pine	31
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	820	22	ERF		Commercial thinning	2018	red pine	19
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	825	17	ERF		Commercial thinning	2012	red pine	72
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	479	10	ERF		Commercial thinning	2017	red pine	79
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	497	20	ERF	Y	Commercial thinning	2018	red pine	98
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	522	12	ERF	Y	Commercial thinning	2018	red pine	17
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	824	6	ERF		Commercial thinning	2017	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	461	22	ERF		Commercial thinning	2010	red pine	22
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	463	9	ERF		Commercial thinning	2017	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	1029	4	ERF		Commercial thinning	2012	red pine	92
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	496	45	ERF		Commercial thinning	2016	red pine	39

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	487	28	ERF		Commercial thinning	2016	red pine	47
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	460	13	ERF		Commercial thinning	2018	red pine	14
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	499	26	non-ERF		Clearcut w/reserves	2013	aspen	61
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	502	12	ERF		Commercial thinning	2017	red pine	29
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	512	15	ERF		Commercial thinning	2018	red pine	61
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	1041	1	ERF		Commercial thinning	2011	red pine	82
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	503	3	ERF		Commercial thinning	2011	red pine	89
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	24	524	18	ERF		Commercial thinning	2018	red pine	61
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	25	597	7	non-ERF		Clearcut w/reserves	2018	aspen	33
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	25	596	8	non-ERF		Clearcut w/reserves	2018	aspen	35
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	25	869	31	non-ERF		Clearcut w/reserves	2018	aspen	25
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	25	586	13	non-ERF		Commercial thinning	2018	white spruce	22
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	29	637	4	non-ERF		Commercial thinning	2014	white spruce	24
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	29	649	9	non-ERF		Commercial thinning	2014	balsam fir	18
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	1072	7	non-ERF		Clearcut w/reserves	2015	aspen	43
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	1069	7	non-ERF		Clearcut w/reserves	2015	aspen	43
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	693	11	non-ERF		Clearcut w/reserves	2015	aspen	39
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	676	24	ERF		Commercial thinning	2014	white spruce	39
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	657	33	ERF		Commercial thinning	2014	white spruce	43
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	33	658	19	ERF		Commercial thinning	2014	white spruce	32
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	727	11	non-ERF		Clearcut w/reserves	2015	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	720	9	non-ERF		Clearcut w/reserves	2015	aspen	35
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	1021	4	non-ERF		Clearcut w/reserves	2015	aspen	35
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	687	9	non-ERF		Commercial thinning	2015	white spruce	30
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	1016	10	non-ERF		Commercial thinning	2015	white spruce	22
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	665	3	non-ERF		Commercial thinning	2015	white spruce	32
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	1024	3	ERF		Commercial thinning	2015	red pine	28

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	34	1027	5	ERF		Commercial thinning	2015	red pine	24
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	1074	16	non-ERF		Clearcut w/reserves	2010	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	887	10	non-ERF		Clearcut w/reserves	2010	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	686	43	non-ERF		Clearcut w/reserves	2010	aspen	86
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	889	11	non-ERF		Clearcut w/reserves	2010	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	1076	14	non-ERF		Clearcut w/reserves	2010	aspen	75
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	35	748	7	ERF		Commercial thinning	2012	red pine	42
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	939	25	non-ERF		Clearcut w/reserves	2010	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	890	40	non-ERF		Clearcut w/reserves	2019	aspen	24
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	725	12	non-ERF		Clearcut w/reserves	2019	aspen	24
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	896	17	non-ERF		Clearcut w/reserves	2019	aspen	22
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	899	10	non-ERF		Clearcut w/reserves	2019	aspen	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	733	13	non-ERF		Clearcut w/reserves	2019	aspen	30
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	36	751	8	ERF		Commercial thinning	2016	red pine	24
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	516	1	non-ERF		Clearcut w/reserves	2011	birch	79
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	446	4	non-ERF		Clearcut w/reserves	2012	birch	83
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	454	7	non-ERF		Clearcut w/reserves	2011	lowland black spruce	130
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	422	2	non-ERF	Y	Commercial thinning	2013	white pine	15
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	423	5	ERF		Clearcut w/reserves	2013	birch	65
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	518	10	ERF		Clearcut w/reserves	2011	birch	66
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	415	29	ERF		Clearcut w/reserves	2012	birch	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	425	56	ERF		Clearcut w/reserves	2012	birch	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	447	12	ERF		Clearcut w/reserves	2011	jack pine	69
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	327	9	ERF		Commercial thinning	2012	red pine	87
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	420	20	ERF		Commercial thinning	2013	red pine	91
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	419	13	ERF		Commercial thinning	2012	red pine	87
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	53	11	ERF		Commercial thinning	2018	red pine	19
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	267	2	ERF		Commercial thinning	2013	red pine	91
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	277	5	non-ERF	Y	Clearcut w/reserves	2018	birch	75

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	51	7	non-ERF	Y	Clearcut w/reserves	2015	birch	79
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	21	4	non-ERF		Clearcut w/reserves	2017	balsam fir	60
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	32	6	non-ERF	Y	Commercial thinning	2017	white pine	89
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	61	10	non-ERF	Y	Commercial thinning	2015	white pine	12
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	453	8	non-ERF	Y	Commercial thinning	2017	white pine	21
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	439	11	ERF	Y	Commercial thinning	2018	red pine	69
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	45	20	ERF	Y	Commercial thinning	2015	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	432	36	ERF	Y	Commercial thinning	2018	red pine	84
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	445	16	ERF	Y	Commercial thinning	2014	red pine	77
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	330	35	ERF	Y	Commercial thinning	2018	red pine	83
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	16	27	ERF	Y	Commercial thinning	2010	red pine	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	456	12	ERF		Commercial thinning	2011	red pine	72
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	10	22	ERF		Commercial thinning	2010	red pine	44
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	430	15	ERF	Y	Commercial thinning	2014	red pine	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	444	37	ERF	Y	Commercial thinning	2014	red pine	77
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	459	12	ERF		Commercial thinning	2017	red pine	21
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	12	9	ERF	Y	Commercial thinning	2010	red pine	70
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	531	6	ERF		Commercial thinning	2013	red pine	72
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	530	6	ERF	Y	Commercial thinning	2013	red pine	54
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	436	6	ERF	Y	Commercial thinning	2018	red pine	38
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	276	8	ERF		Commercial thinning	2017	red pine	24
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	23	8	ERF		Commercial thinning	2017	red pine	24
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	64	13	ERF	Y	Commercial thinning	2018	red pine	67
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	341	14	ERF	Y	Commercial thinning	2017	red pine	23
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	332	7	non-ERF		Clearcut w/reserves	2019	aspen	33
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	62	5	non-ERF		Clearcut w/reserves	2019	aspen	33
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	452	11	non-ERF		Clearcut w/reserves	2012	lowland black spruce	140

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	31	11	ERF		Clearcut w/reserves	2013	birch	84
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	433	15	ERF		Commercial thinning	2016	red pine	22
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	443	34	ERF	Y	Commercial thinning	2012	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	435	6	ERF		Commercial thinning	2016	red pine	24
St.Louis Moraines	Itasca	Hibbing	60	22	0	5	6	8	ERF		Clearcut w/reserves	2012	birch	71
St.Louis Moraines	Itasca	Hibbing	60	22	0	5	5	3	ERF		Clearcut w/reserves	2019	balm of Gilead	54
St.Louis Moraines	Itasca	Hibbing	60	22	0	6	2	3	ERF		Commercial thinning	2018	red pine	16
Nashwauk Uplands	Itasca	Hibbing	60	22	0	8	99	4	non-ERF		Uneven-aged regeneration	2012	ash	100
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	89	11	non-ERF		Clearcut w/reserves	2010	aspen	85
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	478	14	non-ERF		Clearcut w/reserves	2011	aspen	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	509	17	non-ERF		Clearcut w/reserves	2011	aspen	64
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	69	17	non-ERF		Clearcut w/reserves	2011	aspen	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	466	23	non-ERF		Clearcut w/reserves	2018	aspen	28
Nashwauk Uplands	Itasca	Hibbing	60	22	0	10	98	11	non-ERF		Clearcut w/reserves	2018	lowland black spruce	144
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	481	22	ERF		Commercial thinning	2014	red pine	64
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	465	80	ERF	Y	Commercial thinning	2014	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	486	4	ERF		Commercial thinning	2010	red pine	92
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	281	17	ERF		Commercial thinning	2014	red pine	92
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	472	67	ERF		Commercial thinning	2014	red pine	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	84	7	ERF		Commercial thinning	2012	red pine	85
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	487	31	ERF		Commercial thinning	2010	red pine	94
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	68	7	ERF		Commercial thinning	2017	red pine	21
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	482	4	ERF		Commercial thinning	2012	red pine	92
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	120	10	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	102
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	135	16	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	101
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	133	9	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	68
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	128	9	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	68
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	322	3	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	76
Nashwauk Uplands	Itasca	Hibbing	60	22	0	16	117	43	non-ERF		Commercial thinning	2011	white spruce	23

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	60	22	0	18	296	21	non-ERF		Clearcut w/reserves	2012	aspen	43
Nashwauk Uplands	Itasca	Hibbing	60	22	0	19	164	5	non-ERF		Clearcut w/reserves	2012	aspen	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	20	162	25	non-ERF		Clearcut w/reserves	2013	birch	66
Nashwauk Uplands	Itasca	Hibbing	60	22	0	20	161	7	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	72
Nashwauk Uplands	Itasca	Hibbing	60	22	0	27	195	6	non-ERF		Uneven-aged regeneration	2013	balsam fir	84
Nashwauk Uplands	Itasca	Hibbing	60	22	0	28	183	9	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Nashwauk Uplands	Itasca	Hibbing	60	22	0	28	179	4	non-ERF		Uneven-aged regeneration	2015	balsam fir	68
Nashwauk Uplands	Itasca	Hibbing	60	22	0	28	193	7	non-ERF		Uneven-aged regeneration	2019	balsam fir	87
Nashwauk Uplands	Itasca	Hibbing	60	22	0	28	190	10	non-ERF		Commercial thinning	2019	white spruce	23
Nashwauk Uplands	Itasca	Hibbing	60	22	0	28	177	29	non-ERF		Commercial thinning	2019	balsam fir	17
Nashwauk Uplands	Itasca	Hibbing	60	22	0	29	298	41	non-ERF		Uneven-aged regeneration	2012	ash	153
Nashwauk Uplands	Itasca	Hibbing	60	22	0	29	302	13	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	78
Nashwauk Uplands	Itasca	Hibbing	60	22	0	30	194	5	non-ERF		Clearcut w/reserves	2013	birch	80
Nashwauk Uplands	Itasca	Hibbing	60	22	0	30	191	20	non-ERF		Commercial thinning	2019	white spruce	31
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	407	7	non-ERF		Clearcut w/reserves	2015	aspen	45
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	398	20	non-ERF		Clearcut w/reserves	2019	aspen	23
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	394	23	non-ERF		Clearcut w/reserves	2015	aspen	38
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	392	15	non-ERF		Clearcut w/reserves	2015	aspen	36
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	226	7	non-ERF		Uneven-aged regeneration	2013	ash	155
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	245	9	non-ERF		Uneven-aged regeneration	2013	ash	130
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	222	4	non-ERF		Uneven-aged regeneration	2013	ash	155
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	216	11	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	85
Nashwauk Uplands	Itasca	Hibbing	60	22	0	31	218	11	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	86
Nashwauk Uplands	Itasca	Hibbing	60	22	0	33	249	4	non-ERF		Clearcut w/reserves	2015	balsam fir	57
Nashwauk Uplands	Itasca	Hibbing	60	22	0	33	312	40	non-ERF		Uneven-aged regeneration	2015	ash	145
Nashwauk Uplands	Itasca	Hibbing	60	22	0	34	413	15	non-ERF		Clearcut w/reserves	2015	balsam fir	34
Nashwauk Uplands	Itasca	Hibbing	60	22	0	34	391	41	non-ERF	Y	Uneven-aged regeneration	2015	balsam fir	34

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	264	2	non-ERF		Clearcut w/reserves	2011	jack pine	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	532	90	ERF		Commercial thinning	2018	red pine	33
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	210	37	ERF		Commercial thinning	2015	red pine	26
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	223	20	ERF		Commercial thinning	2015	red pine	37
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	246	9	ERF		Commercial thinning	2018	red pine	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	208	15	ERF		Commercial thinning	2015	red pine	34
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	251	26	ERF		Commercial thinning	2018	red pine	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	36	258	26	ERF		Commercial thinning	2018	red pine	68
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	197	17	non-ERF		Clearcut w/reserves	2012	aspen	66
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	12	3	non-ERF		Clearcut w/reserves	2012	aspen	74
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	306	21	ERF		Clearcut w/reserves	2012	jack pine	78
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	312	32	ERF	Y	Clearcut w/reserves	2012	jack pine	78
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	201	6	ERF		Commercial thinning	2017	red pine	22
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	15	7	ERF		Commercial thinning	2013	red pine	29
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	313	6	ERF		Commercial thinning	2013	red pine	43
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	205	9	ERF		Commercial thinning	2013	red pine	53
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	13	5	ERF	Y	Commercial thinning	2018	red pine	74
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	198	6	ERF		Commercial thinning	2018	red pine	44
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	203	18	ERF		Commercial thinning	2017	red pine	24
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	200	12	ERF		Commercial thinning	2018	red pine	79
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	196	25	ERF		Commercial thinning	2018	white spruce	24
St.Louis Moraines	Itasca	Hibbing	60	23	0	8	18	12	non-ERF		Clearcut w/reserves	2011	birch	71
St.Louis Moraines	Itasca	Hibbing	60	23	0	8	210	9	ERF		Clearcut w/reserves	2011	birch	71
St.Louis Moraines	Itasca	Hibbing	60	23	0	13	42	5	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Itasca	Hibbing	60	23	0	13	53	14	ERF		Clearcut w/reserves	2014	aspen	67
St.Louis Moraines	Itasca	Hibbing	60	23	0	13	60	13	ERF		Clearcut w/reserves	2012	birch	43
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	328	5	non-ERF		Commercial thinning	2013	white spruce	27
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	322	5	ERF		Commercial thinning	2010	red pine	36
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	319	9	ERF		Commercial thinning	2010	red pine	43

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	320	7	ERF		Commercial thinning	2010	red pine	46
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	315	9	ERF		Commercial thinning	2010	red pine	36
St.Louis Moraines	Itasca	Hibbing	60	23	0	16	318	9	ERF		Commercial thinning	2010	red pine	25
St.Louis Moraines	Itasca	Hibbing	60	23	0	19	93	41	ERF		Commercial thinning	2013	red pine	39
St.Louis Moraines	Itasca	Hibbing	60	23	0	19	92	33	ERF		Commercial thinning	2013	white spruce	38
St.Louis Moraines	Itasca	Hibbing	60	23	0	21	79	5	non-ERF		Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Itasca	Hibbing	60	23	0	21	228	18	ERF	Y	Commercial thinning	2019	red pine	94
Nashwauk Uplands	Itasca	Hibbing	60	23	0	22	221	12	ERF		Commercial thinning	2019	red pine	70
Nashwauk Uplands	Itasca	Hibbing	60	23	0	25	109	20	non-ERF	Y	Clearcut w/reserves	2010	birch	70
Nashwauk Uplands	Itasca	Hibbing	60	23	0	25	122	7	non-ERF		Commercial thinning	2017	white spruce	24
Nashwauk Uplands	Itasca	Hibbing	60	23	0	25	121	10	non-ERF		Commercial thinning	2017	white spruce	18
Nashwauk Uplands	Itasca	Hibbing	60	23	0	25	114	97	ERF		Clearcut w/reserves	2010	birch	72
Nashwauk Uplands	Itasca	Hibbing	60	23	0	26	129	7	non-ERF		Clearcut w/reserves	2017	aspen	66
Nashwauk Uplands	Itasca	Hibbing	60	23	0	27	123	14	non-ERF		Clearcut w/reserves	2017	aspen	37
Nashwauk Uplands	Itasca	Hibbing	60	23	0	27	126	12	non-ERF		Clearcut w/reserves	2017	aspen	35
Nashwauk Uplands	Itasca	Hibbing	60	23	0	27	236	19	non-ERF		Clearcut w/reserves	2017	aspen	36
Nashwauk Uplands	Itasca	Hibbing	60	23	0	27	239	14	non-ERF		Uneven-aged regeneration	2014	ash	83
St.Louis Moraines	Itasca	Hibbing	60	23	0	29	300	11	non-ERF		Clearcut w/reserves	2014	balsam fir	45
St.Louis Moraines	Itasca	Hibbing	60	23	0	33	183	8	non-ERF		Uneven-aged regeneration	2014	balsam fir	66
Nashwauk Uplands	Itasca	Hibbing	60	23	0	35	177	12	non-ERF		Clearcut w/reserves	2010	aspen	84
Nashwauk Uplands	Itasca	Hibbing	60	23	0	35	171	13	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	87
Nashwauk Uplands	Itasca	Hibbing	60	23	0	35	175	4	non-ERF		Uneven-aged regeneration	2014	balsam fir	71
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	343	7	non-ERF		Clearcut w/reserves	2018	aspen	44
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	178	20	non-ERF		Uneven-aged regeneration	2014	balsam fir	40
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	280	9	non-ERF		Commercial thinning	2010	white spruce	46
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	270	22	ERF		Clearcut w/reserves	2018	aspen	46
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	275	39	ERF		Commercial thinning	2016	red pine	48

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	267	35	ERF		Commercial thinning	2010	white spruce	46
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	273	32	ERF		Commercial thinning	2010	white spruce	47
Nashwauk Uplands	Itasca	Hibbing	60	23	0	36	185	23	ERF		Commercial thinning	2010	white spruce	47
St.Louis Moraines	Itasca	Deer River	60	24	0	1	467	30	non-ERF		Clearcut w/reserves	2013	aspen	43
St.Louis Moraines	Itasca	Deer River	60	24	0	7	32	14	non-ERF		Clearcut w/reserves	2011	aspen	64
St.Louis Moraines	Itasca	Deer River	60	24	0	7	33	11	non-ERF		Uneven-aged regeneration	2011	ash	120
St.Louis Moraines	Itasca	Deer River	60	24	0	13	124	38	ERF		Commercial thinning	2018	red pine	41
St.Louis Moraines	Itasca	Deer River	60	24	0	13	104	13	ERF		Commercial thinning	2013	red pine	43
St.Louis Moraines	Itasca	Deer River	60	24	0	13	40	38	ERF		Commercial thinning	2017	red pine	26
St.Louis Moraines	Itasca	Deer River	60	24	0	13	115	21	ERF	Y	Commercial thinning	2013	red pine	65
St.Louis Moraines	Itasca	Deer River	60	24	0	13	79	15	ERF	Y	Commercial thinning	2010	red pine	59
St.Louis Moraines	Itasca	Deer River	60	24	0	14	137	5	non-ERF		Clearcut w/reserves	2015	aspen	43
St.Louis Moraines	Itasca	Deer River	60	24	0	14	537	10	non-ERF	Y	Clearcut w/reserves	2012	aspen	51
St.Louis Moraines	Itasca	Deer River	60	24	0	14	116	13	non-ERF		Clearcut w/reserves	2013	aspen	38
St.Louis Moraines	Itasca	Deer River	60	24	0	14	92	43	non-ERF		Clearcut w/reserves	2015	aspen	48
St.Louis Moraines	Itasca	Deer River	60	24	0	14	87	10	non-ERF		Clearcut w/reserves	2010	aspen	50
St.Louis Moraines	Itasca	Deer River	60	24	0	14	43	8	non-ERF		Clearcut w/reserves	2012	aspen	48
St.Louis Moraines	Itasca	Deer River	60	24	0	14	136	9	non-ERF		Clearcut w/reserves	2013	aspen	38
St.Louis Moraines	Itasca	Deer River	60	24	0	14	45	7	non-ERF		Uneven-aged regeneration	2012	balsam fir	79
St.Louis Moraines	Itasca	Deer River	60	24	0	14	97	17	non-ERF		Commercial thinning	2010	white spruce	48
St.Louis Moraines	Itasca	Deer River	60	24	0	14	101	15	ERF		Commercial thinning	2018	red pine	13
St.Louis Moraines	Itasca	Deer River	60	24	0	14	98	6	ERF		Commercial thinning	2010	red pine	50
St.Louis Moraines	Itasca	Deer River	60	24	0	14	128	9	ERF		Commercial thinning	2018	red pine	19
St.Louis Moraines	Itasca	Deer River	60	24	0	14	475	13	ERF		Commercial thinning	2012	red pine	39
St.Louis Moraines	Itasca	Deer River	60	24	0	16	72	21	non-ERF		Clearcut w/reserves	2016	aspen	66
St.Louis Moraines	Itasca	Deer River	60	24	0	16	49	17	non-ERF		Commercial thinning	2019	white spruce	22
St.Louis Moraines	Itasca	Deer River	60	24	0	16	110	16	ERF		Commercial thinning	2016	red pine	27
St.Louis Moraines	Itasca	Deer River	60	24	0	16	94	4	ERF	Y	Commercial thinning	2019	red pine	18
St.Louis Moraines	Itasca	Deer River	60	24	0	16	120	8	ERF		Commercial thinning	2019	red pine	14

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	24	0	16	567	3	ERF		Commercial thinning	2019	red pine	27
St.Louis Moraines	Itasca	Deer River	60	24	0	16	496	7	ERF		Commercial thinning	2012	red pine	48
St.Louis Moraines	Itasca	Deer River	60	24	0	16	490	7	ERF		Commercial thinning	2016	red pine	38
St.Louis Moraines	Itasca	Deer River	60	24	0	16	126	9	ERF		Commercial thinning	2019	red pine	24
St.Louis Moraines	Itasca	Deer River	60	24	0	16	59	18	ERF		Commercial thinning	2016	red pine	43
St.Louis Moraines	Itasca	Deer River	60	24	0	16	598	2	ERF		Commercial thinning	2019	red pine	27
St.Louis Moraines	Itasca	Deer River	60	24	0	16	500	18	ERF		Commercial thinning	2012	red pine	58
St.Louis Moraines	Itasca	Deer River	60	24	0	16	577	4	ERF	Y	Commercial thinning	2019	red pine	18
St.Louis Moraines	Itasca	Deer River	60	24	0	16	495	14	ERF		Commercial thinning	2019	red pine	18
St.Louis Moraines	Itasca	Deer River	60	24	0	16	501	2	ERF		Commercial thinning	2019	red pine	27
St.Louis Moraines	Itasca	Deer River	60	24	0	16	487	10	ERF		Commercial thinning	2016	red pine	36
St.Louis Moraines	Itasca	Deer River	60	24	0	16	494	4	ERF		Commercial thinning	2016	red pine	36
St.Louis Moraines	Itasca	Deer River	60	24	0	16	106	41	ERF		Commercial thinning	2011	red pine	113
St.Louis Moraines	Itasca	Deer River	60	24	0	17	99	52	non-ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Itasca	Deer River	60	24	0	17	74	24	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	60	24	0	18	555	11	non-ERF		Clearcut w/reserves	2011	aspen	64
St.Louis Moraines	Itasca	Deer River	60	24	0	18	134	7	non-ERF		Clearcut w/reserves	2017	jack pine	56
St.Louis Moraines	Itasca	Deer River	60	24	0	18	70	121	ERF		Clearcut w/reserves	2016	aspen	34
St.Louis Moraines	Itasca	Deer River	60	24	0	18	139	29	ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Itasca	Deer River	60	24	0	18	83	17	ERF		Clearcut w/reserves	2016	lowland black spruce	71
St.Louis Moraines	Itasca	Deer River	60	24	0	19	237	26	non-ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Itasca	Deer River	60	24	0	19	559	11	non-ERF		Clearcut w/reserves	2017	aspen	35
St.Louis Moraines	Itasca	Deer River	60	24	0	19	556	13	non-ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Itasca	Deer River	60	24	0	19	212	8	non-ERF		Clearcut w/reserves	2017	lowland black spruce	91
St.Louis Moraines	Itasca	Deer River	60	24	0	19	161	61	ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Itasca	Deer River	60	24	0	19	258	10	ERF		Commercial thinning	2014	red pine	26
St.Louis Moraines	Itasca	Deer River	60	24	0	19	588	5	ERF		Commercial thinning	2014	red pine	53

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	24	0	20	151	23	non-ERF		Clearcut w/reserves	2016	aspen	63
St.Louis Moraines	Itasca	Deer River	60	24	0	20	156	11	non-ERF		Commercial thinning	2014	white spruce	35
St.Louis Moraines	Itasca	Deer River	60	24	0	20	155	6	ERF		Commercial thinning	2014	red pine	33
St.Louis Moraines	Itasca	Deer River	60	24	0	20	154	20	ERF		Commercial thinning	2014	red pine	98
St.Louis Moraines	Itasca	Deer River	60	24	0	20	252	30	ERF	Y	Commercial thinning	2015	red pine	70
St.Louis Moraines	Itasca	Deer River	60	24	0	20	241	10	ERF	Y	Commercial thinning	2012	red pine	86
St.Louis Moraines	Itasca	Deer River	60	24	0	21	246	18	ERF	Y	Commercial thinning	2019	red pine	16
St.Louis Moraines	Itasca	Deer River	60	24	0	21	239	11	ERF	Y	Commercial thinning	2012	red pine	84
St.Louis Moraines	Itasca	Deer River	60	24	0	22	164	11	non-ERF		Clearcut w/reserves	2011	aspen	50
St.Louis Moraines	Itasca	Deer River	60	24	0	22	163	11	non-ERF		Clearcut w/reserves	2011	aspen	53
St.Louis Moraines	Itasca	Deer River	60	24	0	22	140	7	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	72
St.Louis Moraines	Itasca	Deer River	60	24	0	23	207	23	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Itasca	Deer River	60	24	0	23	142	34	non-ERF	Y	Clearcut w/reserves	2015	aspen	42
St.Louis Moraines	Itasca	Deer River	60	24	0	23	145	25	non-ERF		Clearcut w/reserves	2013	aspen	47
St.Louis Moraines	Itasca	Deer River	60	24	0	24	552	9	non-ERF		Clearcut w/reserves	2015	aspen	38
St.Louis Moraines	Itasca	Deer River	60	24	0	24	183	18	non-ERF		Clearcut w/reserves	2013	aspen	38
St.Louis Moraines	Itasca	Deer River	60	24	0	24	589	12	non-ERF		Clearcut w/reserves	2013	balsam fir	48
St.Louis Moraines	Itasca	Deer River	60	24	0	24	544	14	ERF		Commercial thinning	2013	red pine	20
St.Louis Moraines	Itasca	Deer River	60	24	0	24	585	7	ERF	Y	Commercial thinning	2013	red pine	56
St.Louis Moraines	Itasca	Deer River	60	24	0	25	272	21	non-ERF		Clearcut w/reserves	2015	aspen	37
St.Louis Moraines	Itasca	Deer River	60	24	0	25	340	11	non-ERF		Clearcut w/reserves	2015	aspen	40
St.Louis Moraines	Itasca	Deer River	60	24	0	25	364	10	non-ERF		Clearcut w/reserves	2018	lowland black spruce	96
St.Louis Moraines	Itasca	Deer River	60	24	0	25	273	7	non-ERF		Clearcut w/reserves	2018	lowland black spruce	84
St.Louis Moraines	Itasca	Deer River	60	24	0	25	354	36	ERF		Clearcut w/reserves	2018	lowland black spruce	81
St.Louis Moraines	Itasca	Deer River	60	24	0	28	344	36	non-ERF	Y	Clearcut w/reserves	2011	aspen	88
St.Louis Moraines	Itasca	Deer River	60	24	0	28	347	11	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	108
St.Louis Moraines	Itasca	Deer River	60	24	0	32	456	22	non-ERF	Y	Clearcut w/reserves	2013	aspen	50
St.Louis Moraines	Itasca	Deer River	60	24	0	33	522	15	ERF		Commercial thinning	2015	red pine	42
St.Louis Moraines	Itasca	Deer River	60	24	0	33	446	12	ERF		Commercial thinning	2017	red pine	25

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	24	0	34	375	24	ERF		Commercial thinning	2018	red pine	26
St.Louis Moraines	Itasca	Deer River	60	24	0	34	389	3	ERF	Y	Commercial thinning	2018	red pine	82
St.Louis Moraines	Itasca	Deer River	60	24	0	35	435	34	non-ERF	Y	Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Deer River	60	24	0	35	448	10	ERF		Commercial thinning	2017	red pine	21
St.Louis Moraines	Itasca	Deer River	60	24	0	35	419	6	ERF	Y	Commercial thinning	2011	red pine	59
St.Louis Moraines	Itasca	Deer River	60	24	0	36	412	9	non-ERF		Clearcut w/reserves	2014	aspen	39
St.Louis Moraines	Itasca	Deer River	60	24	0	36	426	16	non-ERF		Clearcut w/reserves	2014	aspen	43
St.Louis Moraines	Itasca	Deer River	60	24	0	36	423	13	non-ERF		Clearcut w/reserves	2014	aspen	39
St.Louis Moraines	Itasca	Deer River	60	24	0	36	562	23	non-ERF		Clearcut w/reserves	2014	aspen	65
St.Louis Moraines	Itasca	Deer River	60	24	0	36	527	13	non-ERF		Clearcut w/reserves	2014	lowland black spruce	172
St.Louis Moraines	Itasca	Deer River	60	24	0	36	387	16	non-ERF	Y	Commercial thinning	2016	white spruce	35
St.Louis Moraines	Itasca	Deer River	60	24	0	36	452	19	ERF		Commercial thinning	2017	red pine	24
St.Louis Moraines	Itasca	Deer River	60	24	0	36	422	14	ERF		Commercial thinning	2016	red pine	39
St.Louis Moraines	Itasca	Deer River	60	24	0	36	406	11	ERF		Commercial thinning	2016	red pine	23
St.Louis Moraines	Itasca	Deer River	60	24	0	36	528	23	ERF		Commercial thinning	2016	red pine	23
St.Louis Moraines	Itasca	Deer River	60	25	0	3	87	37	non-ERF		Clearcut w/reserves	2014	aspen	38
St.Louis Moraines	Itasca	Deer River	60	25	0	3	44	35	non-ERF		Clearcut w/reserves	2014	aspen	48
St.Louis Moraines	Itasca	Deer River	60	25	0	3	60	41	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	3	123	21	non-ERF		Clearcut w/reserves	2018	aspen	31
St.Louis Moraines	Itasca	Deer River	60	25	0	3	21	22	non-ERF		Clearcut w/reserves	2014	balsam fir	48
St.Louis Moraines	Itasca	Deer River	60	25	0	3	111	21	non-ERF		Clearcut w/reserves	2014	tamarack	101
St.Louis Moraines	Itasca	Deer River	60	25	0	3	75	16	ERF		Commercial thinning	2012	red pine	96
St.Louis Moraines	Itasca	Deer River	60	25	0	3	95	35	ERF		Commercial thinning	2018	white spruce	24
St.Louis Moraines	Itasca	Deer River	60	25	0	4	32	7	non-ERF		Clearcut w/reserves	2014	aspen	41
St.Louis Moraines	Itasca	Deer River	60	25	0	7	226	13	non-ERF		Clearcut w/reserves	2014	birch	55
St.Louis Moraines	Itasca	Deer River	60	25	0	8	690	9	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	8	243	17	non-ERF	Y	Clearcut w/reserves	2018	aspen	22

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	25	0	8	261	8	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	9	213	8	non-ERF		Clearcut w/reserves	2015	aspen	44
St.Louis Moraines	Itasca	Deer River	60	25	0	10	216	18	non-ERF		Clearcut w/reserves	2015	aspen	38
St.Louis Moraines	Itasca	Deer River	60	25	0	12	256	37	non-ERF		Clearcut w/reserves	2015	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	12	234	11	non-ERF		Clearcut w/reserves	2015	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	15	336	49	ERF		Clearcut w/reserves	2012	aspen	48
St.Louis Moraines	Itasca	Deer River	60	25	0	16	717	8	non-ERF		Clearcut w/reserves	2018	aspen	43
St.Louis Moraines	Itasca	Deer River	60	25	0	16	351	15	non-ERF		Clearcut w/reserves	2012	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	16	292	13	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	95
St.Louis Moraines	Itasca	Deer River	60	25	0	16	294	52	ERF		Clearcut w/reserves	2012	aspen	42
St.Louis Moraines	Itasca	Deer River	60	25	0	16	345	12	ERF		Uneven-aged regeneration	2018	jack pine	38
St.Louis Moraines	Itasca	Deer River	60	25	0	16	343	30	ERF		Commercial thinning	2018	red pine	42
St.Louis Moraines	Itasca	Deer River	60	25	0	17	286	15	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	17	291	17	non-ERF		Clearcut w/reserves	2014	aspen	51
St.Louis Moraines	Itasca	Deer River	60	25	0	17	301	20	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Itasca	Deer River	60	25	0	17	341	24	non-ERF		Clearcut w/reserves	2014	aspen	42
St.Louis Moraines	Itasca	Deer River	60	25	0	17	321	13	non-ERF		Clearcut w/reserves	2018	balm of Gilead	33
St.Louis Moraines	Itasca	Deer River	60	25	0	17	322	7	ERF		Clearcut w/reserves	2014	aspen	63
St.Louis Moraines	Itasca	Deer River	60	25	0	17	302	155	ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	17	325	50	ERF		Clearcut w/reserves	2011	lowland black spruce	136
St.Louis Moraines	Itasca	Deer River	60	25	0	18	283	32	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	91
St.Louis Moraines	Itasca	Deer River	60	25	0	19	373	8	non-ERF		Clearcut w/reserves	2010	aspen	58
St.Louis Moraines	Itasca	Deer River	60	25	0	19	430	16	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Itasca	Deer River	60	25	0	19	428	6	non-ERF		Clearcut w/reserves	2018	aspen	52
St.Louis Moraines	Itasca	Deer River	60	25	0	19	403	17	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	19	388	9	non-ERF		Uneven-aged regeneration	2010	ash	100
St.Louis Moraines	Itasca	Deer River	60	25	0	19	438	71	ERF		Commercial thinning	2016	red pine	45
St.Louis Moraines	Itasca	Deer River	60	25	0	20	444	8	non-ERF		Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	20	416	7	non-ERF		Clearcut w/reserves	2010	aspen	51

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	25	0	20	365	7	non-ERF		Clearcut w/reserves	2010	tamarack	114
St.Louis Moraines	Itasca	Deer River	60	25	0	21	460	18	ERF		Clearcut w/reserves	2017	lowland black spruce	78
St.Louis Moraines	Itasca	Deer River	60	25	0	21	381	15	ERF		Commercial thinning	2017	red pine	22
St.Louis Moraines	Itasca	Deer River	60	25	0	21	409	30	ERF		Commercial thinning	2010	white spruce	42
St.Louis Moraines	Itasca	Deer River	60	25	0	21	402	21	ERF		Commercial thinning	2017	white spruce	46
St.Louis Moraines	Itasca	Deer River	60	25	0	22	362	12	non-ERF		Clearcut w/reserves	2012	aspen	44
St.Louis Moraines	Itasca	Deer River	60	25	0	22	386	9	non-ERF		Clearcut w/reserves	2012	lowland black spruce	193
St.Louis Moraines	Itasca	Deer River	60	25	0	22	418	10	non-ERF		Uneven-aged regeneration	2019	northern hardwoods	82
St.Louis Moraines	Itasca	Deer River	60	25	0	22	415	19	ERF		Commercial thinning	2019	white spruce	24
St.Louis Moraines	Itasca	Deer River	60	25	0	24	458	31	non-ERF		Clearcut w/reserves	2014	aspen	39
St.Louis Moraines	Itasca	Deer River	60	25	0	27	554	8	non-ERF		Clearcut w/reserves	2017	aspen	75
St.Louis Moraines	Itasca	Deer River	60	25	0	27	490	19	ERF		Commercial thinning	2017	red pine	23
St.Louis Moraines	Itasca	Deer River	60	25	0	27	706	4	ERF		Commercial thinning	2017	red pine	42
St.Louis Moraines	Itasca	Deer River	60	25	0	28	492	14	ERF		Commercial thinning	2018	red pine	45
St.Louis Moraines	Itasca	Deer River	60	25	0	28	508	3	ERF	Y	Commercial thinning	2017	red pine	64
St.Louis Moraines	Itasca	Deer River	60	25	0	28	507	16	ERF		Commercial thinning	2018	red pine	63
St.Louis Moraines	Itasca	Deer River	60	25	0	29	658	50	ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Itasca	Deer River	60	25	0	30	517	31	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Itasca	Deer River	60	25	0	30	468	25	non-ERF		Clearcut w/reserves	2018	aspen	21
St.Louis Moraines	Itasca	Deer River	60	25	0	30	551	17	non-ERF		Clearcut w/reserves	2018	aspen	31
St.Louis Moraines	Itasca	Deer River	60	25	0	30	550	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	69
St.Louis Moraines	Itasca	Deer River	60	25	0	30	541	9	non-ERF		Clearcut w/reserves	2015	birch	68
St.Louis Moraines	Itasca	Deer River	60	25	0	30	545	5	non-ERF		Commercial thinning	2016	white spruce	27
St.Louis Moraines	Itasca	Deer River	60	25	0	30	544	7	ERF		Commercial thinning	2016	red pine	27
St.Louis Moraines	Itasca	Deer River	60	25	0	30	548	7	ERF		Commercial thinning	2016	red pine	17
St.Louis Moraines	Itasca	Deer River	60	25	0	30	495	17	ERF		Commercial thinning	2016	red pine	44
St.Louis Moraines	Itasca	Deer River	60	25	0	30	540	3	ERF		Commercial thinning	2016	red pine	16

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	25	0	30	534	25	ERF		Commercial thinning	2016	red pine	27
St.Louis Moraines	Itasca	Deer River	60	25	0	30	521	13	ERF	Y	Commercial thinning	2016	red pine	101
St.Louis Moraines	Itasca	Deer River	60	25	0	30	556	5	ERF		Commercial thinning	2016	red pine	17
St.Louis Moraines	Itasca	Deer River	60	25	0	31	569	54	ERF		Clearcut w/reserves	2019	aspen	24
St.Louis Moraines	Itasca	Deer River	60	25	0	31	570	8	ERF	Y	Commercial thinning	2015	red pine	102
St.Louis Moraines	Itasca	Deer River	60	25	0	31	577	10	ERF		Commercial thinning	2015	red pine	104
St.Louis Moraines	Itasca	Deer River	60	25	0	32	721	4	ERF		Uneven-aged regeneration	2017	jack pine	46
St.Louis Moraines	Itasca	Deer River	60	25	0	32	680	18	ERF		Commercial thinning	2017	red pine	46
St.Louis Moraines	Itasca	Deer River	60	25	0	32	682	12	ERF		Commercial thinning	2017	red pine	34
St.Louis Moraines	Itasca	Deer River	60	25	0	33	639	19	ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	60	25	0	33	615	2	ERF	Y	Clearcut w/reserves	2016	aspen	82
St.Louis Moraines	Itasca	Deer River	60	25	0	33	609	39	ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	60	25	0	33	597	6	ERF		Clearcut w/reserves	2019	aspen	23
St.Louis Moraines	Itasca	Deer River	60	25	0	33	611	17	ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	60	25	0	33	591	13	ERF		Clearcut w/reserves	2015	aspen	35
St.Louis Moraines	Itasca	Deer River	60	25	0	33	575	13	ERF		Clearcut w/reserves	2019	aspen	23
St.Louis Moraines	Itasca	Deer River	60	25	0	33	713	10	ERF		Clearcut w/reserves	2016	aspen	33
St.Louis Moraines	Itasca	Deer River	60	25	0	33	635	11	ERF		Clearcut w/reserves	2011	birch	55
St.Louis Moraines	Itasca	Deer River	60	25	0	33	697	4	ERF		Clearcut w/reserves	2011	birch	52
St.Louis Moraines	Itasca	Deer River	60	25	0	33	698	2	ERF		Clearcut w/reserves	2011	birch	52
St.Louis Moraines	Itasca	Deer River	60	25	0	33	574	23	ERF	Y	Commercial thinning	2015	red pine	69
St.Louis Moraines	Itasca	Deer River	60	25	0	33	598	11	ERF		Commercial thinning	2019	red pine	14
St.Louis Moraines	Itasca	Deer River	60	25	0	36	616	8	non-ERF		Clearcut w/reserves	2017	aspen	39
St.Louis Moraines	Itasca	Deer River	60	25	0	36	623	6	non-ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	36	603	13	non-ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Itasca	Deer River	60	25	0	36	617	21	ERF	Y	Commercial thinning	2019	red pine	21
St.Louis Moraines	Itasca	Deer River	60	25	0	36	675	12	ERF		Commercial thinning	2017	red pine	29
St.Louis Moraines	Itasca	Deer River	60	25	0	36	621	6	ERF		Commercial thinning	2019	red pine	33
St.Louis Moraines	Itasca	Deer River	60	25	0	36	618	11	ERF		Commercial thinning	2017	red pine	28

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	25	0	36	640	9	ERF		Commercial thinning	2019	red pine	28
Littlefork-Vermilion Uplands	Itasca	Deer River	60	26	0	4	9	8	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	Itasca	Deer River	60	26	0	5	42	4	non-ERF		Clearcut w/reserves	2011	aspen	75
St.Louis Moraines	Itasca	Deer River	60	26	0	8	104	8	ERF		Commercial thinning	2019	red pine	21
St.Louis Moraines	Itasca	Deer River	60	26	0	11	96	7	non-ERF		Clearcut w/reserves	2010	aspen	67
St.Louis Moraines	Itasca	Deer River	60	26	0	11	133	7	non-ERF		Uneven-aged regeneration	2011	balsam fir	70
St.Louis Moraines	Itasca	Deer River	60	26	0	11	120	11	ERF	Y	Commercial thinning	2011	red pine	101
St.Louis Moraines	Itasca	Deer River	60	26	0	11	125	9	ERF	Y	Commercial thinning	2011	red pine	122
St.Louis Moraines	Itasca	Deer River	60	26	0	11	106	14	ERF		Commercial thinning	2011	red pine	101
St.Louis Moraines	Itasca	Deer River	60	26	0	11	98	6	ERF	Y	Commercial thinning	2010	red pine	120
St.Louis Moraines	Itasca	Deer River	60	26	0	12	118	15	non-ERF		Clearcut w/reserves	2014	lowland black spruce	128
St.Louis Moraines	Itasca	Deer River	60	26	0	12	124	6	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	78
St.Louis Moraines	Itasca	Deer River	60	26	0	21	203	6	non-ERF		Clearcut w/reserves	2019	aspen	75
St.Louis Moraines	Itasca	Deer River	60	26	0	21	197	12	non-ERF		Clearcut w/reserves	2019	aspen	34
St.Louis Moraines	Itasca	Deer River	60	26	0	21	267	6	ERF	Y	Commercial thinning	2011	red pine	71
St.Louis Moraines	Itasca	Deer River	60	26	0	26	215	23	ERF		Commercial thinning	2019	red pine	24
St.Louis Moraines	Itasca	Deer River	60	26	0	36	226	44	non-ERF		Clearcut w/reserves	2019	aspen	22
St.Louis Moraines	Itasca	Deer River	60	26	0	36	248	11	non-ERF		Clearcut w/reserves	2015	aspen	60
St.Louis Moraines	Itasca	Deer River	60	26	0	36	230	9	non-ERF		Clearcut w/reserves	2015	aspen	78
St.Louis Moraines	Itasca	Deer River	60	26	0	36	249	52	non-ERF		Clearcut w/reserves	2015	aspen	35
St.Louis Moraines	Itasca	Deer River	60	26	0	36	234	11	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Itasca	Deer River	60	26	0	36	228	6	non-ERF		Clearcut w/reserves	2019	jack pine	101
St.Louis Moraines	Itasca	Deer River	60	26	0	36	227	77	ERF		Clearcut w/reserves	2019	aspen	32
St.Louis Moraines	Itasca	Deer River	60	26	0	36	235	173	ERF		Clearcut w/reserves	2015	aspen	37
St.Louis Moraines	Itasca	Deer River	60	26	0	36	231	45	ERF		Uneven-aged regeneration	2019	jack pine	20
St.Louis Moraines	Itasca	Deer River	60	26	0	36	225	76	ERF		Commercial thinning	2019	red pine	25
St.Louis Moraines	Itasca	Deer River	60	26	0	36	244	8	ERF	Y	Commercial thinning	2015	red pine	118

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	26	0	36	243	38	ERF		Commercial thinning	2015	red pine	108
Nashwauk Uplands	St.Louis	Tower	61	13	0	18	49	5	non-ERF		Uneven-aged regeneration	2016	balsam fir	85
Nashwauk Uplands	St.Louis	Tower	61	13	0	19	305	10	non-ERF		Clearcut w/reserves	2016	birch	90
Nashwauk Uplands	St.Louis	Tower	61	13	0	20	323	19	non-ERF		Clearcut w/reserves	2016	jack pine	95
Nashwauk Uplands	St.Louis	Tower	61	13	0	28	84	16	non-ERF		Clearcut w/reserves	2010	aspen	63
Nashwauk Uplands	St.Louis	Tower	61	13	0	29	341	5	non-ERF		Clearcut w/reserves	2016	jack pine	95
Nashwauk Uplands	St.Louis	Tower	61	13	0	31	504	5	non-ERF		Clearcut w/reserves	2017	aspen	57
Nashwauk Uplands	St.Louis	Tower	61	13	0	31	447	7	non-ERF		Clearcut w/reserves	2010	aspen	48
Nashwauk Uplands	St.Louis	Tower	61	13	0	31	445	7	non-ERF		Clearcut w/reserves	2010	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	13	0	31	437	8	non-ERF		Clearcut w/reserves	2010	aspen	45
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	93	11	non-ERF		Clearcut w/reserves	2010	aspen	44
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	94	3	non-ERF		Clearcut w/reserves	2010	aspen	45
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	601	10	non-ERF		Clearcut w/reserves	2010	aspen	49
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	441	17	non-ERF		Clearcut w/reserves	2010	tamarack	106
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	433	4	non-ERF		Commercial thinning	2015	white spruce	21
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	508	26	ERF		Clearcut w/reserves	2011	lowland black spruce	91
Nashwauk Uplands	St.Louis	Tower	61	13	0	32	414	8	ERF		Commercial thinning	2015	red pine	22
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	111	5	non-ERF		Clearcut w/reserves	2017	lowland black spruce	100
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	457	3	non-ERF		Clearcut w/reserves	2010	lowland black spruce	142
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	402	2	non-ERF		Clearcut w/reserves	2010	tamarack	103
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	477	19	ERF		Clearcut w/reserves	2017	jack pine	44
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	426	17	ERF		Clearcut w/reserves	2010	tamarack	114
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	403	30	ERF		Clearcut w/reserves	2010	tamarack	114
Nashwauk Uplands	St.Louis	Tower	61	13	0	33	589	19	ERF		Commercial thinning	2017	red pine	14
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	522	5	non-ERF		Clearcut w/reserves	2017	jack pine	39
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	469	6	non-ERF		Clearcut w/reserves	2017	lowland black spruce	95
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	456	21	non-ERF		Clearcut w/reserves	2017	tamarack	99
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	513	7	ERF		Commercial thinning	2017	red pine	14
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	524	6	ERF		Commercial thinning	2017	red pine	40

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	488	10	ERF		Commercial thinning	2017	red pine	14
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	491	26	ERF		Commercial thinning	2017	red pine	19
Nashwauk Uplands	St.Louis	Tower	61	13	0	34	448	20	ERF		Commercial thinning	2017	red pine	41
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	577	9	non-ERF		Clearcut w/reserves	2018	aspen	46
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	416	33	non-ERF		Clearcut w/reserves	2016	aspen	40
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	571	20	ERF		Commercial thinning	2019	red pine	22
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	579	5	ERF		Commercial thinning	2018	red pine	22
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	580	7	ERF		Commercial thinning	2011	red pine	25
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	576	86	ERF		Commercial thinning	2011	red pine	45
Nashwauk Uplands	St.Louis	Tower	61	13	0	35	578	11	ERF		Commercial thinning	2018	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	95	23	non-ERF		Clearcut w/reserves	2019	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	468	23	non-ERF		Clearcut w/reserves	2019	aspen	34
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	434	34	non-ERF		Clearcut w/reserves	2019	aspen	39
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	507	9	non-ERF		Clearcut w/reserves	2011	aspen	72
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	471	6	non-ERF		Clearcut w/reserves	2019	aspen	58
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	487	41	ERF		Commercial thinning	2018	red pine	20
Nashwauk Uplands	St.Louis	Tower	61	13	0	36	523	14	ERF		Commercial thinning	2011	red pine	28
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	35	14	non-ERF		Clearcut w/reserves	2016	aspen	56
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	376	8	non-ERF		Clearcut w/reserves	2018	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	13	8	non-ERF		Clearcut w/reserves	2013	birch	81
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	481	70	ERF	Y	Clearcut w/reserves	2013	birch	82
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	16	17	ERF		Commercial thinning	2016	red pine	23
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	76	6	non-ERF		Clearcut w/reserves	2018	aspen	41
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	97	7	non-ERF		Clearcut w/reserves	2012	aspen	88
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	484	18	non-ERF		Clearcut w/reserves	2012	aspen	88
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	482	9	non-ERF		Clearcut w/reserves	2012	aspen	91
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	92	5	ERF		Commercial thinning	2012	red pine	92

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	383	10	ERF	Y	Commercial thinning	2014	red pine	107
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	385	8	non-ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	381	8	non-ERF		Clearcut w/reserves	2018	aspen	41
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	420	6	non-ERF		Clearcut w/reserves	2019	aspen	37
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	382	13	non-ERF	Y	Clearcut w/reserves	2012	birch	78
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	408	4	non-ERF		Clearcut w/reserves	2010	birch	79
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	463	8	ERF		Clearcut w/reserves	2011	aspen	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	464	27	ERF		Clearcut w/reserves	2011	aspen	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	75	32	ERF		Clearcut w/reserves	2012	birch	84
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	454	62	ERF		Clearcut w/reserves	2010	birch	88
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	394	6	ERF	Y	Commercial thinning	2018	red pine	12
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	386	8	ERF	Y	Commercial thinning	2018	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	69	7	ERF	Y	Commercial thinning	2018	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	485	6	ERF	Y	Commercial thinning	2014	red pine	112
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	489	4	ERF	Y	Commercial thinning	2014	red pine	112
Nashwauk Uplands	St.Louis	Tower	61	14	0	10	409	19	non-ERF		Clearcut w/reserves	2010	birch	93
Nashwauk Uplands	St.Louis	Tower	61	14	0	10	422	8	non-ERF		Clearcut w/reserves	2010	birch	93
Nashwauk Uplands	St.Louis	Tower	61	14	0	10	389	13	ERF		Clearcut w/reserves	2010	birch	101
Nashwauk Uplands	St.Louis	Tower	61	14	0	10	93	9	ERF		Clearcut w/reserves	2010	birch	90
Nashwauk Uplands	St.Louis	Tower	61	14	0	13	139	5	non-ERF		Commercial thinning	2016	white spruce	17
Nashwauk Uplands	St.Louis	Tower	61	14	0	13	300	15	ERF		Commercial thinning	2016	red pine	39
Nashwauk Uplands	St.Louis	Tower	61	14	0	13	287	18	ERF		Commercial thinning	2016	red pine	39
Nashwauk Uplands	St.Louis	Tower	61	14	0	14	131	9	non-ERF		Clearcut w/reserves	2019	birch	95
Nashwauk Uplands	St.Louis	Tower	61	14	0	15	296	9	non-ERF		Clearcut w/reserves	2015	aspen	82
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	282	11	non-ERF		Clearcut w/reserves	2011	birch	89
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	284	7	non-ERF	Y	Commercial thinning	2019	white pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	280	28	ERF		Clearcut w/reserves	2011	aspen	85
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	472	41	ERF	Y	Commercial thinning	2019	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	271	22	ERF		Commercial thinning	2019	red pine	11

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	488	8	ERF	Y	Commercial thinning	2014	red pine	3
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	298	17	ERF		Commercial thinning	2014	red pine	100
Nashwauk Uplands	St.Louis	Tower	61	14	0	20	334	13	non-ERF		Clearcut w/reserves	2014	birch	81
Nashwauk Uplands	St.Louis	Tower	61	14	0	21	176	53	ERF		Commercial thinning	2018	white spruce	17
Nashwauk Uplands	St.Louis	Tower	61	14	0	22	314	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	94
Nashwauk Uplands	St.Louis	Tower	61	14	0	22	169	19	non-ERF	Y	Clearcut w/reserves	2011	birch	94
Nashwauk Uplands	St.Louis	Tower	61	14	0	22	330	9	ERF		Commercial thinning	2019	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	310	12	non-ERF	Y	Clearcut w/reserves	2016	birch	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	156	18	non-ERF		Commercial thinning	2019	white spruce	49
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	152	39	ERF	Y	Clearcut w/reserves	2015	birch	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	329	13	ERF	Y	Clearcut w/reserves	2011	birch	82
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	322	5	ERF		Commercial thinning	2019	red pine	25
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	316	53	ERF	Y	Commercial thinning	2019	red pine	38
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	317	24	ERF		Commercial thinning	2019	red pine	26
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	178	19	ERF		Commercial thinning	2019	red pine	19
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	321	7	ERF		Commercial thinning	2019	white spruce	49
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	180	7	non-ERF		Clearcut w/reserves	2018	aspen	37
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	207	12	non-ERF		Clearcut w/reserves	2011	birch	90
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	221	7	non-ERF	Y	Commercial thinning	2019	white pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	182	6	ERF		Clearcut w/reserves	2018	birch	86
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	187	11	ERF		Clearcut w/reserves	2011	birch	97
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	185	10	ERF		Commercial thinning	2018	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	181	33	ERF		Commercial thinning	2018	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	253	18	non-ERF		Clearcut w/reserves	2014	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	254	7	non-ERF		Uneven-aged regeneration	2014	white spruce	76
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	213	7	non-ERF	Y	Commercial thinning	2018	white pine	20
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	192	49	ERF	Y	Clearcut w/reserves	2012	birch	91

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	208	32	ERF	Y	Commercial thinning	2018	red pine	42
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	191	23	ERF		Commercial thinning	2018	red pine	20
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	197	11	ERF		Commercial thinning	2018	red pine	20
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	209	19	ERF		Commercial thinning	2018	red pine	13
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	340	16	ERF		Commercial thinning	2018	red pine	13
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	346	17	ERF		Commercial thinning	2014	red pine	41
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	217	13	ERF		Commercial thinning	2018	red pine	26
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	252	4	ERF		Commercial thinning	2014	red pine	26
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	223	4	ERF	Y	Commercial thinning	2018	red pine	42
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	196	12	ERF		Commercial thinning	2018	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	14	0	28	247	8	non-ERF		Clearcut w/reserves	2010	aspen	75
Nashwauk Uplands	St.Louis	Tower	61	14	0	28	236	4	non-ERF		Clearcut w/reserves	2010	aspen	75
Nashwauk Uplands	St.Louis	Tower	61	14	0	28	234	5	non-ERF		Clearcut w/reserves	2010	aspen	88
Nashwauk Uplands	St.Louis	Tower	61	14	0	29	198	11	non-ERF		Clearcut w/reserves	2014	aspen	78
Nashwauk Uplands	St.Louis	Tower	61	14	0	29	211	12	non-ERF		Clearcut w/reserves	2014	birch	88
Nashwauk Uplands	St.Louis	Tower	61	14	0	30	245	5	non-ERF		Clearcut w/reserves	2014	birch	81
Nashwauk Uplands	St.Louis	Tower	61	14	0	31	262	4	non-ERF		Uneven-aged regeneration	2011	balsam fir	70
Nashwauk Uplands	St.Louis	Tower	61	14	0	34	354	4	non-ERF		Clearcut w/reserves	2014	aspen	49
Nashwauk Uplands	St.Louis	Tower	61	14	0	36	492	20	non-ERF		Clearcut w/reserves	2017	aspen	35
Nashwauk Uplands	St.Louis	Tower	61	14	0	36	267	3	non-ERF		Clearcut w/reserves	2017	birch	87
Nashwauk Uplands	St.Louis	Tower	61	14	0	36	351	11	non-ERF		Clearcut w/reserves	2017	jack pine	86
Nashwauk Uplands	St.Louis	Tower	61	14	0	36	441	41	ERF		Commercial thinning	2017	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	14	0	36	434	28	ERF		Commercial thinning	2017	red pine	16
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	17	15	non-ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	43	4	non-ERF	Y	Clearcut w/reserves	2018	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	39	7	non-ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	45	8	non-ERF		Uneven-aged regeneration	2013	ash	114
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	35	11	non-ERF		Uneven-aged regeneration	2013	ash	120
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	22	5	non-ERF	Y	Commercial thinning	2018	white pine	15

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	36	36	ERF	Y	Clearcut w/reserves	2013	aspen	58
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	48	34	ERF	Y	Clearcut w/reserves	2013	aspen	58
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	20	5	ERF	Y	Commercial thinning	2018	red pine	91
Nashwauk Uplands	St.Louis	Tower	61	16	0	16	21	11	non-ERF		Commercial thinning	2019	white spruce	11
Nashwauk Uplands	St.Louis	Tower	61	16	0	16	35	23	ERF		Commercial thinning	2019	red pine	15
Nashwauk Uplands	St.Louis	Tower	61	16	0	17	39	5	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	113
Nashwauk Uplands	St.Louis	Tower	61	16	0	17	36	37	non-ERF		Uneven-aged regeneration	2012	ash	111
Nashwauk Uplands	St.Louis	Tower	61	16	0	32	61	5	non-ERF		Clearcut w/reserves	2018	aspen	70
Nashwauk Uplands	St.Louis	Tower	61	16	0	32	62	10	non-ERF		Clearcut w/reserves	2018	aspen	39
Nashwauk Uplands	St.Louis	Tower	61	16	0	32	63	8	non-ERF		Clearcut w/reserves	2018	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	16	0	32	60	14	non-ERF		Clearcut w/reserves	2018	lowland black spruce	122
Nashwauk Uplands	St.Louis	Tower	61	16	0	36	88	9	non-ERF		Clearcut w/reserves	2015	lowland black spruce	149
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	2	55	5	non-ERF		Clearcut w/reserves	2013	aspen	89
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	2	47	5	non-ERF		Clearcut w/reserves	2013	aspen	89
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	2	26	8	non-ERF		Uneven-aged regeneration	2013	ash	196
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	4	51	3	non-ERF		Clearcut w/reserves	2019	balsam fir	73
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	6	53	25	non-ERF		Clearcut w/reserves	2015	aspen	43
Littlefork-Vermilion Uplands	St.Louis	Tower	61	17	0	6	71	12	non-ERF		Uneven-aged regeneration	2015	ash	151
Nashwauk Uplands	St.Louis	Tower	61	17	0	10	100	14	non-ERF		Clearcut w/reserves	2012	lowland black spruce	149
Nashwauk Uplands	St.Louis	Tower	61	17	0	10	98	5	non-ERF		Commercial thinning	2019	white spruce	11
Nashwauk Uplands	St.Louis	Tower	61	17	0	10	91	71	ERF		Clearcut w/reserves	2012	lowland black spruce	148
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	118	16	non-ERF		Clearcut w/reserves	2013	aspen	68
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	127	4	non-ERF		Clearcut w/reserves	2013	aspen	68
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	128	16	non-ERF	Y	Clearcut w/reserves	2013	aspen	75
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	114	10	non-ERF		Clearcut w/reserves	2017	aspen	48
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	126	7	non-ERF		Clearcut w/reserves	2013	aspen	33
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	120	8	non-ERF		Clearcut w/reserves	2013	aspen	56

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	113	7	non-ERF		Clearcut w/reserves	2013	birch	68
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	131	9	non-ERF		Uneven-aged regeneration	2017	ash	101
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	286	13	non-ERF		Uneven-aged regeneration	2017	ash	112
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	285	15	non-ERF		Uneven-aged regeneration	2017	white spruce	76
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	105	8	non-ERF		Commercial thinning	2017	white spruce	12
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	110	4	ERF		Commercial thinning	2017	red pine	41
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	283	30	ERF		Commercial thinning	2017	white spruce	23
Nashwauk Uplands	St.Louis	Tower	61	17	0	20	303	8	non-ERF		Clearcut w/reserves	2017	lowland black spruce	102
Nashwauk Uplands	St.Louis	Tower	61	17	0	20	300	1	ERF		Commercial thinning	2017	red pine	92
Nashwauk Uplands	St.Louis	Tower	61	17	0	20	184	16	ERF		Commercial thinning	2017	red pine	12
Nashwauk Uplands	St.Louis	Tower	61	17	0	22	147	3	non-ERF		Commercial thinning	2019	white spruce	12
Nashwauk Uplands	St.Louis	Tower	61	17	0	22	167	7	non-ERF	Y	Commercial thinning	2019	white spruce	12
Nashwauk Uplands	St.Louis	Tower	61	17	0	24	173	15	non-ERF		Commercial thinning	2019	white spruce	11
Nashwauk Uplands	St.Louis	Tower	61	17	0	26	205	6	ERF		Commercial thinning	2010	red pine	115
Nashwauk Uplands	St.Louis	Tower	61	17	0	26	208	5	ERF		Commercial thinning	2010	red pine	115
Nashwauk Uplands	St.Louis	Tower	61	17	0	26	209	2	ERF		Commercial thinning	2010	red pine	122
Nashwauk Uplands	St.Louis	Tower	61	17	0	28	188	21	non-ERF		Uneven-aged regeneration	2017	ash	143
Nashwauk Uplands	St.Louis	Tower	61	17	0	32	228	8	non-ERF		Clearcut w/reserves	2015	lowland black spruce	95
Nashwauk Uplands	St.Louis	Tower	61	17	0	32	250	4	non-ERF		Clearcut w/reserves	2015	tamarack	129
Nashwauk Uplands	St.Louis	Tower	61	17	0	32	254	20	non-ERF		Clearcut w/reserves	2015	tamarack	129
Nashwauk Uplands	St.Louis	Tower	61	17	0	32	226	22	non-ERF		Uneven-aged regeneration	2015	balsam fir	75
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	232	13	non-ERF		Clearcut w/reserves	2016	birch	110
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	262	20	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	47
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	248	17	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	47
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	237	12	ERF	Y	Commercial thinning	2016	red pine	89
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	245	13	ERF	Y	Commercial thinning	2016	red pine	73
Littlefork-Vermilion Uplands	St.Louis	Tower	61	18	0	6	8	5	non-ERF		Clearcut w/reserves	2019	aspen	23
Littlefork-Vermilion Uplands	St.Louis	Tower	61	18	0	6	11	12	non-ERF		Clearcut w/reserves	2019	aspen	23
Littlefork-Vermilion Uplands	St.Louis	Tower	61	18	0	6	10	14	non-ERF		Clearcut w/reserves	2019	aspen	21

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	18	0	13	20	8	non-ERF		Clearcut w/reserves	2012	aspen	73
Nashwauk Uplands	St.Louis	Tower	61	18	0	13	82	4	non-ERF		Clearcut w/reserves	2012	aspen	79
Nashwauk Uplands	St.Louis	Tower	61	18	0	16	19	6	non-ERF		Clearcut w/reserves	2018	aspen	49
Nashwauk Uplands	St.Louis	Tower	61	18	0	16	68	15	non-ERF		Clearcut w/reserves	2018	aspen	60
Nashwauk Uplands	St.Louis	Tower	61	18	0	24	32	10	non-ERF		Clearcut w/reserves	2019	aspen	34
Nashwauk Uplands	St.Louis	Tower	61	18	0	24	30	6	non-ERF		Clearcut w/reserves	2019	lowland black spruce	130
Nashwauk Uplands	St.Louis	Tower	61	18	0	24	28	11	non-ERF		Clearcut w/reserves	2012	lowland black spruce	93
Nashwauk Uplands	St.Louis	Tower	61	18	0	24	25	7	non-ERF		Clearcut w/reserves	2012	lowland black spruce	130
Nashwauk Uplands	St.Louis	Tower	61	18	0	36	105	8	ERF		Commercial thinning	2019	red pine	14
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	1	12	17	non-ERF		Clearcut w/reserves	2017	lowland black spruce	93
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	3	52	19	non-ERF		Clearcut w/reserves	2011	balm of Gilead	89
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	146	32	non-ERF		Clearcut w/reserves	2016	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	121	15	non-ERF		Clearcut w/reserves	2018	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	122	2	non-ERF	Y	Clearcut w/reserves	2010	aspen	87
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	132	12	non-ERF		Clearcut w/reserves	2010	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	118	3	non-ERF		Clearcut w/reserves	2010	aspen	48
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	101	6	non-ERF		Clearcut w/reserves	2018	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	358	4	non-ERF		Clearcut w/reserves	2018	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	106	26	non-ERF		Clearcut w/reserves	2018	balm of Gilead	76
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	140	18	non-ERF		Clearcut w/reserves	2016	balsam fir	70
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	97	4	non-ERF	Y	Uneven-aged regeneration	2010	balsam fir	81
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	149	3	non-ERF		Commercial thinning	2016	white spruce	14
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	147	10	non-ERF		Commercial thinning	2016	white spruce	26
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	104	5	non-ERF		Commercial thinning	2016	white spruce	20
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	107	7	non-ERF		Commercial thinning	2016	white spruce	26
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	89	91	ERF	Y	Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	93	10	ERF		Commercial thinning	2016	red pine	26

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	142	10	ERF		Commercial thinning	2016	red pine	26
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	99	7	ERF		Commercial thinning	2016	red pine	24
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	16	100	3	ERF	Y	Commercial thinning	2010	red pine	96
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	17	136	35	non-ERF		Clearcut w/reserves	2018	aspen	64
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	21	164	25	non-ERF		Clearcut w/reserves	2013	aspen	41
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	21	172	3	non-ERF		Clearcut w/reserves	2013	balsam fir	61
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	21	179	28	non-ERF		Clearcut w/reserves	2013	balsam fir	62
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	21	169	28	non-ERF		Clearcut w/reserves	2013	tamarack	142
Nashwauk Uplands	St.Louis	Tower	61	19	0	22	163	25	non-ERF		Clearcut w/reserves	2017	aspen	53
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	27	244	9	non-ERF		Clearcut w/reserves	2014	aspen	81
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	28	229	21	non-ERF		Clearcut w/reserves	2012	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	28	234	16	non-ERF		Clearcut w/reserves	2012	aspen	77
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	28	223	38	non-ERF		Clearcut w/reserves	2012	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	28	217	2	non-ERF		Uneven-aged regeneration	2012	balsam fir	81
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	29	238	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	78
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	31	286	5	non-ERF		Clearcut w/reserves	2019	lowland black spruce	75
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	31	253	13	non-ERF		Clearcut w/reserves	2019	lowland black spruce	79
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	33	279	22	non-ERF		Clearcut w/reserves	2014	aspen	39
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	34	273	14	non-ERF		Clearcut w/reserves	2014	aspen	53
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	35	336	22	non-ERF		Clearcut w/reserves	2019	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	35	329	15	non-ERF		Clearcut w/reserves	2019	lowland black spruce	121
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	304	12	non-ERF		Clearcut w/reserves	2014	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	341	10	non-ERF		Clearcut w/reserves	2014	birch	107
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	281	23	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	77
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	298	7	non-ERF		Clearcut w/reserves	2014	balsam fir	75
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	271	16	non-ERF		Commercial thinning	2013	jack pine	28
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	258	3	non-ERF		Commercial thinning	2013	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	260	11	non-ERF		Commercial thinning	2013	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	308	82	ERF		Clearcut w/reserves	2014	aspen	55

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	301	25	ERF	Y	Clearcut w/reserves	2014	upland black spruce	64
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	309	11	ERF		Commercial thinning	2014	red pine	29
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	272	36	ERF		Commercial thinning	2013	jack pine	28
Littlefork-Vermilion Uplands	St.Louis	Tower	61	19	0	36	265	36	ERF		Commercial thinning	2013	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	1	41	6	non-ERF		Clearcut w/reserves	2011	aspen	70
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	1	800	7	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	3	719	26	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	3	735	6	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	3	729	54	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	3	731	22	non-ERF		Clearcut w/reserves	2019	lowland black spruce	89
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	4	29	7	non-ERF		Clearcut w/reserves	2013	aspen	64
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	16	15	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	21	11	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	823	4	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	15	7	non-ERF		Clearcut w/reserves	2013	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	60	28	non-ERF		Clearcut w/reserves	2013	lowland black spruce	94
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	5	32	39	non-ERF		Clearcut w/reserves	2013	lowland black spruce	104
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	7	804	5	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	7	155	12	ERF		Commercial thinning	2016	red pine	39
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	7	200	3	ERF		Commercial thinning	2016	red pine	38
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	7	817	4	ERF		Commercial thinning	2018	red pine	13
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	12	214	6	non-ERF		Clearcut w/reserves	2016	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	12	197	6	non-ERF		Clearcut w/reserves	2016	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	12	166	9	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	12	202	5	non-ERF		Clearcut w/reserves	2016	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	16	258	34	non-ERF		Clearcut w/reserves	2019	aspen	21
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	16	266	8	non-ERF		Clearcut w/reserves	2012	balsam fir	43

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	16	259	5	ERF		Commercial thinning	2012	red pine	46
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	19	299	23	non-ERF		Clearcut w/reserves	2011	lowland black spruce	87
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	19	335	20	non-ERF		Clearcut w/reserves	2011	lowland black spruce	105
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	21	761	5	non-ERF		Clearcut w/reserves	2010	aspen	76
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	26	536	6	non-ERF		Clearcut w/reserves	2014	balsam fir	61
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	27	421	11	non-ERF		Clearcut w/reserves	2014	aspen	50
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	27	659	18	non-ERF		Clearcut w/reserves	2014	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	28	661	6	non-ERF		Clearcut w/reserves	2014	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	28	675	7	non-ERF		Clearcut w/reserves	2011	jack pine	66
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	29	830	3	non-ERF		Clearcut w/reserves	2010	aspen	80
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	32	791	16	non-ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	32	770	20	non-ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	693	5	non-ERF		Clearcut w/reserves	2017	aspen	43
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	601	35	non-ERF		Clearcut w/reserves	2017	aspen	42
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	607	3	non-ERF		Clearcut w/reserves	2017	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	573	4	non-ERF		Commercial thinning	2016	white spruce	96
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	612	8	non-ERF		Commercial thinning	2016	white spruce	19
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	704	14	ERF	Y	Commercial thinning	2018	red pine	94
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	1	6	21	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	1	1151	4	non-ERF		Clearcut w/reserves	2012	lowland black spruce	81
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	1	4	33	ERF		Commercial thinning	2015	white spruce	24
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	2	1143	3	non-ERF		Clearcut w/reserves	2012	aspen	69
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	2	63	1	non-ERF		Clearcut w/reserves	2012	lowland black spruce	101
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	3	915	17	non-ERF		Clearcut w/reserves	2012	aspen	74
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	4	92	8	non-ERF		Clearcut w/reserves	2014	aspen	69
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	4	136	9	non-ERF		Clearcut w/reserves	2014	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	4	86	7	non-ERF		Clearcut w/reserves	2014	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	4	99	12	non-ERF		Clearcut w/reserves	2014	aspen	69
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	36	48	non-ERF		Clearcut w/reserves	2015	aspen	57

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	902	21	non-ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	916	10	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	85	16	non-ERF		Clearcut w/reserves	2015	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	1121	11	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	81	18	non-ERF		Clearcut w/reserves	2015	aspen	53
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	1119	11	non-ERF		Clearcut w/reserves	2015	aspen	48
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	36	0	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	36	0	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	36	0	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	1118	12	non-ERF		Clearcut w/reserves	2014	birch	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	1130	11	non-ERF		Clearcut w/reserves	2015	jack pine	52
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	5	1125	17	non-ERF		Commercial thinning	2015	white spruce	19
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	6	892	23	non-ERF		Clearcut w/reserves	2016	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	6	894	17	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	6	904	12	non-ERF		Clearcut w/reserves	2016	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	6	905	17	non-ERF		Clearcut w/reserves	2016	aspen	56
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	6	914	28	non-ERF		Clearcut w/reserves	2016	aspen	37
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	9	172	25	non-ERF		Clearcut w/reserves	2016	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	9	261	2	non-ERF	Y	Uneven-aged regeneration	2016	white pine	164
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	9	272	10	ERF		Commercial thinning	2018	red pine	19
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	14	318	15	non-ERF		Clearcut w/reserves	2014	lowland black spruce	82
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	15	324	7	non-ERF		Clearcut w/reserves	2014	lowland black spruce	102
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	15	972	20	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	97
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	15	370	16	ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	346	17	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	442	6	non-ERF		Clearcut w/reserves	2015	aspen	42

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	423	15	non-ERF	Y	Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	458	5	non-ERF		Clearcut w/reserves	2018	lowland black spruce	90
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	418	14	ERF		Commercial thinning	2018	red pine	19
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	955	5	ERF	Y	Commercial thinning	2018	red pine	91
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	336	6	ERF		Commercial thinning	2018	red pine	75
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	17	424	14	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	17	1159	13	non-ERF		Clearcut w/reserves	2012	birch	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	17	348	11	ERF		Commercial thinning	2017	red pine	20
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	20	481	15	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	20	604	2	non-ERF		Clearcut w/reserves	2012	balsam fir	41
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	20	612	5	non-ERF		Commercial thinning	2012	white spruce	74
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	20	478	16	non-ERF	Y	Commercial thinning	2012	white spruce	35
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	21	499	8	ERF		Commercial thinning	2015	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	23	1033	22	non-ERF		Clearcut w/reserves	2012	lowland black spruce	162
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	23	497	6	ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	23	465	11	ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	23	634	5	ERF		Clearcut w/reserves	2011	balm of Gilead	57
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	23	532	6	ERF		Commercial thinning	2012	white spruce	66
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	24	514	23	ERF		Commercial thinning	2012	white spruce	66
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	25	703	85	non-ERF		Clearcut w/reserves	2010	tamarack	98
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	25	761	48	non-ERF		Clearcut w/reserves	2016	tamarack	107
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	26	710	5	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	26	728	7	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	26	758	9	non-ERF		Clearcut w/reserves	2012	lowland black spruce	92
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	29	742	8	non-ERF		Uneven-aged regeneration	2012	balsam fir	43
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	30	735	28	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	30	733	6	non-ERF		Clearcut w/reserves	2010	balsam fir	78
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	30	749	6	non-ERF		Clearcut w/reserves	2010	balsam fir	66
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	30	743	46	ERF		Clearcut w/reserves	2011	aspen	67

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	32	818	13	non-ERF		Clearcut w/reserves	2012	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	34	794	16	non-ERF		Clearcut w/reserves	2016	balsam fir	77
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	35	1102	22	non-ERF		Clearcut w/reserves	2016	lowland black spruce	94
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	36	1058	27	non-ERF		Clearcut w/reserves	2016	tamarack	111
Littlefork-Vermilion Uplands	St.Louis	Hibbing	61	21	0	36	819	18	non-ERF		Clearcut w/reserves	2016	tamarack	102
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	8	69	9	non-ERF		Commercial thinning	2016	white spruce	22
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	9	446	17	ERF		Commercial thinning	2016	white spruce	27
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	16	454	9	non-ERF		Clearcut w/reserves	2016	aspen	63
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	16	451	18	non-ERF		Clearcut w/reserves	2016	aspen	57
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	16	388	5	non-ERF		Commercial thinning	2016	white spruce	44
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	16	456	43	ERF		Commercial thinning	2016	red pine	43
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	16	395	39	ERF		Commercial thinning	2018	red pine	46
St.Louis Moraines	Itasca	Hibbing	61	22	0	19	192	5	non-ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Itasca	Hibbing	61	22	0	19	193	19	non-ERF	Y	Clearcut w/reserves	2016	birch	80
St.Louis Moraines	Itasca	Hibbing	61	22	0	19	190	3	non-ERF		Commercial thinning	2016	white spruce	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	26	216	10	ERF	Y	Commercial thinning	2018	red pine	70
Littlefork-Vermilion Uplands	Itasca	Hibbing	61	22	0	26	217	11	ERF	Y	Commercial thinning	2018	red pine	84
St.Louis Moraines	Itasca	Hibbing	61	22	0	31	234	22	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Itasca	Hibbing	61	22	0	31	233	6	non-ERF		Clearcut w/reserves	2018	balm of Gilead	31
St.Louis Moraines	Itasca	Hibbing	61	22	0	33	314	72	ERF		Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	Itasca	Hibbing	61	22	0	33	361	11	ERF		Commercial thinning	2013	red pine	43
Nashwauk Uplands	Itasca	Hibbing	61	22	0	34	269	11	ERF		Commercial thinning	2013	red pine	98
Nashwauk Uplands	Itasca	Hibbing	61	22	0	34	290	5	ERF		Commercial thinning	2013	red pine	37
Nashwauk Uplands	Itasca	Hibbing	61	22	0	35	292	7	non-ERF		Clearcut w/reserves	2017	aspen	39
Nashwauk Uplands	Itasca	Hibbing	61	22	0	35	282	8	non-ERF		Clearcut w/reserves	2017	aspen	40
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	287	4	non-ERF		Clearcut w/reserves	2017	aspen	42
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	331	5	non-ERF		Clearcut w/reserves	2011	birch	68

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	477	3	non-ERF		Clearcut w/reserves	2010	jack pine	72
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	463	6	non-ERF		Uneven-aged regeneration	2011	balsam fir	83
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	459	18	ERF		Clearcut w/reserves	2010	jack pine	57
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	468	12	ERF		Clearcut w/reserves	2010	jack pine	72
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	325	7	ERF		Commercial thinning	2017	red pine	13
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	502	4	ERF		Commercial thinning	2015	red pine	74
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	499	6	ERF	Y	Commercial thinning	2019	red pine	65
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	470	12	ERF		Commercial thinning	2017	red pine	19
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	471	9	ERF	Y	Commercial thinning	2019	red pine	73
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	497	2	ERF	Y	Commercial thinning	2019	red pine	65
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	498	2	ERF	Y	Commercial thinning	2015	red pine	65
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	475	10	ERF		Commercial thinning	2019	red pine	38
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	492	9	ERF		Commercial thinning	2018	red pine	18
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	490	5	ERF		Commercial thinning	2019	red pine	75
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	501	19	ERF		Commercial thinning	2015	red pine	74
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	682	15	non-ERF		Clearcut w/reserves	2019	aspen	26
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	676	19	non-ERF		Clearcut w/reserves	2019	aspen	24
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	664	15	non-ERF		Uneven-aged regeneration	2016	jack pine	19
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	858	10	ERF		Clearcut w/reserves	2010	aspen	98
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	778	5	ERF	Y	Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	848	15	ERF		Clearcut w/reserves	2019	aspen	49
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	773	7	ERF		Clearcut w/reserves	2019	aspen	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	752	11	ERF		Clearcut w/reserves	2019	aspen	26
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	1008	6	ERF		Clearcut w/reserves	2011	jack pine	71
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	677	2	ERF	Y	Clearcut w/reserves	2016	jack pine	175
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	745	6	ERF	Y	Commercial thinning	2016	red pine	65
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	860	18	ERF		Commercial thinning	2011	red pine	44
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	857	7	ERF	Y	Commercial thinning	2012	red pine	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	852	1	ERF		Commercial thinning	2019	red pine	15

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	853	13	ERF		Commercial thinning	2019	red pine	19
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	680	22	ERF		Commercial thinning	2016	red pine	32
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	675	5	ERF		Commercial thinning	2017	red pine	20
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	851	11	ERF	Y	Commercial thinning	2012	red pine	93
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	61	8	ERF		Commercial thinning	2017	red pine	23
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	28	8	ERF		Commercial thinning	2019	red pine	16
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	743	6	ERF		Commercial thinning	2017	red pine	26
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	679	6	ERF	Y	Commercial thinning	2016	red pine	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	854	12	ERF		Commercial thinning	2019	red pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	744	14	ERF	Y	Commercial thinning	2016	red pine	68
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	90	21	ERF		Clearcut w/reserves	2019	aspen	46
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	775	4	ERF	Y	Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	681	7	ERF	Y	Clearcut w/reserves	2011	jack pine	116
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	97	12	ERF		Uneven-aged regeneration	2011	jack pine	51
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	58	5	ERF		Uneven-aged regeneration	2012	jack pine	19
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	720	5	ERF	Y	Commercial thinning	2016	red pine	75
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	51	17	ERF	Y	Commercial thinning	2012	red pine	51
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	995	3	ERF	Y	Commercial thinning	2012	red pine	99
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	88	26	ERF		Commercial thinning	2012	red pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	723	11	ERF		Commercial thinning	2016	red pine	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	44	14	ERF	Y	Commercial thinning	2012	red pine	54
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	873	2	non-ERF	Y	Clearcut w/reserves	2010	aspen	121
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	867	6	non-ERF	Y	Commercial thinning	2019	white pine	192
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	765	7	ERF		Clearcut w/reserves	2018	aspen	56
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	768	17	ERF		Clearcut w/reserves	2011	tamarack	118
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	721	8	ERF	Y	Uneven-aged regeneration	2012	jack pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	868	36	ERF	Y	Commercial thinning	2019	red pine	15

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	759	6	ERF	Y	Commercial thinning	2013	red pine	70
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	757	23	ERF		Commercial thinning	2013	red pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	758	6	ERF		Commercial thinning	2013	red pine	23
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	771	6	ERF		Commercial thinning	2013	red pine	50
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	136	12	non-ERF		Clearcut w/reserves	2018	aspen	59
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	872	12	non-ERF	Y	Clearcut w/reserves	2010	aspen	121
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	666	7	non-ERF		Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	672	12	non-ERF		Clearcut w/reserves	2018	aspen	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	660	11	non-ERF		Clearcut w/reserves	2018	aspen	38
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	33	4	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	669	17	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	65
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	120	4	non-ERF	Y	Commercial thinning	2017	white pine	97
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	22	4	non-ERF	Y	Commercial thinning	2018	white pine	11
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	123	11	non-ERF		Commercial thinning	2017	white spruce	21
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	670	13	ERF		Commercial thinning	2016	red pine	41
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	52	9	ERF		Commercial thinning	2017	red pine	27
St.Louis Moraines	Itasca	Hibbing	61	23	0	5	76	13	non-ERF		Clearcut w/reserves	2012	balsam fir	35
St.Louis Moraines	Itasca	Hibbing	61	23	0	5	98	8	ERF		Commercial thinning	2012	red pine	40
St.Louis Moraines	Itasca	Hibbing	61	23	0	7	196	9	non-ERF		Clearcut w/reserves	2017	balsam fir	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	225	16	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	187	29	non-ERF		Clearcut w/reserves	2017	aspen	36
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	883	29	non-ERF	Y	Clearcut w/reserves	2017	aspen	62
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	891	9	non-ERF		Clearcut w/reserves	2017	aspen	35
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	218	3	non-ERF		Clearcut w/reserves	2016	balsam fir	43
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	190	24	non-ERF		Clearcut w/reserves	2016	balsam fir	46
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	237	9	non-ERF		Uneven-aged regeneration	2017	balsam fir	77
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	211	9	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	70
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	265	1	non-ERF	Y	Commercial thinning	2017	white pine	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	192	22	ERF		Commercial thinning	2019	red pine	40

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	269	7	non-ERF		Clearcut w/reserves	2017	aspen	62
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	888	17	non-ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	890	11	non-ERF		Clearcut w/reserves	2017	aspen	35
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	792	8	non-ERF		Clearcut w/reserves	2017	aspen	38
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	887	20	non-ERF		Clearcut w/reserves	2017	aspen	45
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	900	4	non-ERF		Clearcut w/reserves	2015	birch	108
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	901	20	non-ERF		Commercial thinning	2015	white spruce	24
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	280	11	ERF		Clearcut w/reserves	2017	aspen	27
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	268	10	ERF		Commercial thinning	2019	red pine	12
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	274	6	ERF		Commercial thinning	2019	red pine	47
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	898	10	ERF	Y	Commercial thinning	2019	red pine	12
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	893	28	ERF		Commercial thinning	2019	red pine	24
St.Louis Moraines	Itasca	Hibbing	61	23	0	10	803	16	ERF	Y	Clearcut w/reserves	2010	aspen	80
St.Louis Moraines	Itasca	Hibbing	61	23	0	10	780	5	ERF		Clearcut w/reserves	2015	tamarack	118
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	798	8	ERF	Y	Clearcut w/reserves	2010	aspen	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	783	18	ERF	Y	Clearcut w/reserves	2011	aspen	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	694	9	ERF		Clearcut w/reserves	2010	aspen	116
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	988	2	ERF		Commercial thinning	2017	red pine	86
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	799	42	ERF		Commercial thinning	2019	red pine	70
St.Louis Moraines	Itasca	Hibbing	61	23	0	12	909	3	non-ERF	Y	Clearcut w/reserves	2010	aspen	78
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	932	29	non-ERF		Clearcut w/reserves	2013	aspen	38
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	822	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	46
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	378	8	non-ERF		Clearcut w/reserves	2013	aspen	60
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	931	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	47
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	831	17	non-ERF		Clearcut w/reserves	2013	aspen	66
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	820	13	non-ERF		Clearcut w/reserves	2013	aspen	44
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	363	5	non-ERF	Y	Clearcut w/reserves	2013	birch	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	925	10	non-ERF	Y	Clearcut w/reserves	2013	lowland black spruce	119
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	346	6	non-ERF	Y	Commercial thinning	2013	white spruce	18
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	814	9	ERF		Commercial thinning	2019	red pine	42
St.Louis Moraines	Itasca	Hibbing	61	23	0	14	832	18	non-ERF	Y	Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Itasca	Hibbing	61	23	0	14	810	7	non-ERF		Clearcut w/reserves	2010	aspen	75
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	845	9	non-ERF		Clearcut w/reserves	2019	balsam fir	64
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	325	5	non-ERF		Uneven-aged regeneration	2016	white spruce	40
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	840	15	non-ERF		Uneven-aged regeneration	2019	balsam fir	36
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	293	11	non-ERF		Uneven-aged regeneration	2017	balsam fir	94
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	844	11	non-ERF		Uneven-aged regeneration	2019	balsam fir	49
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	313	14	non-ERF		Uneven-aged regeneration	2016	balsam fir	44
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	311	9	non-ERF		Uneven-aged regeneration	2016	balsam fir	37
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	344	25	ERF		Clearcut w/reserves	2016	aspen	52
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	351	10	ERF		Clearcut w/reserves	2016	aspen	66
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	296	8	ERF		Clearcut w/reserves	2016	aspen	27
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	823	27	ERF		Commercial thinning	2019	red pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	16	295	5	ERF		Commercial thinning	2017	red pine	27
St.Louis Moraines	Itasca	Hibbing	61	23	0	17	350	11	non-ERF		Uneven-aged regeneration	2013	balsam fir	75
St.Louis Moraines	Itasca	Hibbing	61	23	0	18	972	14	non-ERF		Uneven-aged regeneration	2013	ash	175
St.Louis Moraines	Itasca	Hibbing	61	23	0	18	990	6	non-ERF		Uneven-aged regeneration	2013	balsam fir	477
St.Louis Moraines	Itasca	Hibbing	61	23	0	19	991	17	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Itasca	Hibbing	61	23	0	19	983	7	non-ERF		Clearcut w/reserves	2019	balm of Gilead	67
St.Louis Moraines	Itasca	Hibbing	61	23	0	24	428	30	non-ERF		Clearcut w/reserves	2013	aspen	55
St.Louis Moraines	Itasca	Hibbing	61	23	0	24	426	10	non-ERF		Clearcut w/reserves	2017	aspen	41
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	488	4	non-ERF		Clearcut w/reserves	2017	aspen	50
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	518	17	non-ERF		Clearcut w/reserves	2017	aspen	47
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	450	6	non-ERF		Uneven-aged regeneration	2013	balsam fir	83
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	449	4	non-ERF	Y	Uneven-aged regeneration	2013	balsam fir	76
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	517	11	ERF		Clearcut w/reserves	2017	aspen	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	550	21	ERF		Clearcut w/reserves	2017	aspen	36
St.Louis Moraines	Itasca	Hibbing	61	23	0	26	485	12	ERF		Clearcut w/reserves	2017	aspen	37
St.Louis Moraines	Itasca	Hibbing	61	23	0	35	593	6	ERF		Clearcut w/reserves	2010	balm of Gilead	94
St.Louis Moraines	Itasca	Hibbing	61	23	0	36	623	43	non-ERF		Clearcut w/reserves	2018	aspen	35
St.Louis Moraines	Itasca	Hibbing	61	23	0	36	637	57	ERF		Commercial thinning	2016	red pine	43
St.Louis Moraines	Itasca	Deer River	61	24	0	4	34	28	ERF		Commercial thinning	2019	red pine	19
St.Louis Moraines	Itasca	Deer River	61	24	0	5	32	14	non-ERF		Clearcut w/reserves	2012	aspen	64
St.Louis Moraines	Itasca	Deer River	61	24	0	5	11	20	non-ERF	Y	Clearcut w/reserves	2012	aspen	59
St.Louis Moraines	Itasca	Deer River	61	24	0	5	450	16	non-ERF		Clearcut w/reserves	2012	balm of Gilead	63
St.Louis Moraines	Itasca	Deer River	61	24	0	5	38	20	non-ERF		Clearcut w/reserves	2012	balm of Gilead	63
St.Louis Moraines	Itasca	Deer River	61	24	0	5	30	15	non-ERF		Clearcut w/reserves	2017	tamarack	148
St.Louis Moraines	Itasca	Deer River	61	24	0	5	19	17	non-ERF	Y	Commercial thinning	2019	white spruce	25
St.Louis Moraines	Itasca	Deer River	61	24	0	6	31	26	non-ERF		Clearcut w/reserves	2017	tamarack	148
St.Louis Moraines	Itasca	Deer River	61	24	0	6	5	190	ERF		Clearcut w/reserves	2017	lowland black spruce	125
St.Louis Moraines	Itasca	Deer River	61	24	0	7	53	22	non-ERF		Clearcut w/reserves	2017	tamarack	148
St.Louis Moraines	Itasca	Deer River	61	24	0	7	69	7	ERF	Y	Clearcut w/reserves	2016	aspen	29
St.Louis Moraines	Itasca	Deer River	61	24	0	7	51	29	ERF		Clearcut w/reserves	2017	lowland black spruce	125
St.Louis Moraines	Itasca	Deer River	61	24	0	9	386	11	non-ERF		Clearcut w/reserves	2010	aspen	62
St.Louis Moraines	Itasca	Deer River	61	24	0	10	82	8	ERF		Commercial thinning	2017	red pine	31
St.Louis Moraines	Itasca	Deer River	61	24	0	10	79	23	ERF		Commercial thinning	2017	red pine	28
St.Louis Moraines	Itasca	Deer River	61	24	0	11	63	28	ERF		Commercial thinning	2017	red pine	15
St.Louis Moraines	Itasca	Deer River	61	24	0	16	414	57	non-ERF		Clearcut w/reserves	2010	aspen	62
St.Louis Moraines	Itasca	Deer River	61	24	0	22	217	30	non-ERF		Clearcut w/reserves	2016	aspen	37
St.Louis Moraines	Itasca	Deer River	61	24	0	31	311	18	non-ERF		Clearcut w/reserves	2010	aspen	69
St.Louis Moraines	Itasca	Deer River	61	24	0	31	289	59	ERF		Commercial thinning	2010	red pine	42
St.Louis Moraines	Itasca	Deer River	61	24	0	32	307	17	non-ERF		Clearcut w/reserves	2010	lowland black spruce	101
St.Louis Moraines	Itasca	Deer River	61	24	0	32	293	33	non-ERF		Clearcut w/reserves	2010	lowland black spruce	122

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	61	24	0	33	352	8	non-ERF		Clearcut w/reserves	2010	aspen	51
St.Louis Moraines	Itasca	Deer River	61	24	0	33	351	8	non-ERF		Clearcut w/reserves	2010	aspen	51
St.Louis Moraines	Itasca	Deer River	61	24	0	36	374	15	non-ERF		Clearcut w/reserves	2011	balm of Gilead	62
St.Louis Moraines	Itasca	Deer River	61	24	0	36	355	12	non-ERF		Clearcut w/reserves	2011	lowland black spruce	127
St.Louis Moraines	Itasca	Deer River	61	25	0	1	665	21	non-ERF		Clearcut w/reserves	2010	lowland black spruce	125
St.Louis Moraines	Itasca	Deer River	61	25	0	2	66	6	non-ERF	Y	Clearcut w/reserves	2013	aspen	50
St.Louis Moraines	Itasca	Deer River	61	25	0	2	61	58	non-ERF		Clearcut w/reserves	2013	aspen	62
St.Louis Moraines	Itasca	Deer River	61	25	0	2	77	6	non-ERF		Clearcut w/reserves	2013	aspen	57
St.Louis Moraines	Itasca	Deer River	61	25	0	2	35	9	non-ERF		Uneven-aged regeneration	2013	balsam fir	86
St.Louis Moraines	Itasca	Deer River	61	25	0	10	922	11	ERF	Y	Commercial thinning	2019	white spruce	12
St.Louis Moraines	Itasca	Deer River	61	25	0	10	921	12	ERF	Y	Commercial thinning	2019	white spruce	12
St.Louis Moraines	Itasca	Deer River	61	25	0	11	204	40	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	56
St.Louis Moraines	Itasca	Deer River	61	25	0	12	194	16	non-ERF		Clearcut w/reserves	2016	aspen	45
St.Louis Moraines	Itasca	Deer River	61	25	0	12	672	16	non-ERF		Clearcut w/reserves	2016	aspen	34
St.Louis Moraines	Itasca	Deer River	61	25	0	12	667	21	non-ERF		Clearcut w/reserves	2010	lowland black spruce	133
St.Louis Moraines	Itasca	Deer River	61	25	0	13	257	11	non-ERF		Uneven-aged regeneration	2016	balsam fir	66
St.Louis Moraines	Itasca	Deer River	61	25	0	16	676	97	ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Itasca	Deer River	61	25	0	18	680	4	non-ERF		Clearcut w/reserves	2011	aspen	78
St.Louis Moraines	Itasca	Deer River	61	25	0	18	686	5	non-ERF		Clearcut w/reserves	2011	birch	84
St.Louis Moraines	Itasca	Deer River	61	25	0	18	279	10	non-ERF		Clearcut w/reserves	2011	lowland black spruce	83
St.Louis Moraines	Itasca	Deer River	61	25	0	19	318	41	non-ERF		Clearcut w/reserves	2011	balsam fir	45
St.Louis Moraines	Itasca	Deer River	61	25	0	19	355	28	non-ERF		Uneven-aged regeneration	2011	ash	85
St.Louis Moraines	Itasca	Deer River	61	25	0	19	336	5	non-ERF		Commercial thinning	2011	white spruce	30
St.Louis Moraines	Itasca	Deer River	61	25	0	20	690	28	non-ERF	Y	Clearcut w/reserves	2014	aspen	89
St.Louis Moraines	Itasca	Deer River	61	25	0	20	791	29	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Itasca	Deer River	61	25	0	20	794	40	ERF		Clearcut w/reserves	2014	lowland black spruce	78
St.Louis Moraines	Itasca	Deer River	61	25	0	21	716	10	non-ERF		Clearcut w/reserves	2012	balm of Gilead	65
St.Louis Moraines	Itasca	Deer River	61	25	0	21	718	11	non-ERF		Clearcut w/reserves	2012	balsam fir	57
St.Louis Moraines	Itasca	Deer River	61	25	0	21	703	36	non-ERF		Uneven-aged regeneration	2012	balsam fir	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	61	25	0	21	709	30	non-ERF		Uneven-aged regeneration	2012	balsam fir	66
St.Louis Moraines	Itasca	Deer River	61	25	0	21	720	18	ERF		Clearcut w/reserves	2012	lowland black spruce	92
St.Louis Moraines	Itasca	Deer River	61	25	0	25	861	16	non-ERF	Y	Clearcut w/reserves	2011	aspen	59
St.Louis Moraines	Itasca	Deer River	61	25	0	26	738	20	non-ERF		Clearcut w/reserves	2017	balsam fir	42
St.Louis Moraines	Itasca	Deer River	61	25	0	29	804	16	non-ERF		Clearcut w/reserves	2014	lowland black spruce	62
St.Louis Moraines	Itasca	Deer River	61	25	0	33	603	0	non-ERF		Clearcut w/reserves	2016	lowland black spruce	95
St.Louis Moraines	Itasca	Deer River	61	25	0	36	874	31	non-ERF	Y	Clearcut w/reserves	2011	aspen	59
St.Louis Moraines	Itasca	Deer River	61	25	0	36	877	8	non-ERF	Y	Clearcut w/reserves	2011	aspen	61
St.Louis Moraines	Itasca	Deer River	61	25	0	36	872	17	non-ERF		Clearcut w/reserves	2011	birch	59
St.Louis Moraines	Itasca	Deer River	61	25	0	36	879	58	ERF	Y	Clearcut w/reserves	2017	balm of Gilead	33
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	5	159	30	non-ERF		Clearcut w/reserves	2012	aspen	51
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	9	194	13	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	10	32	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	96
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	20	98	13	non-ERF		Clearcut w/reserves	2010	balm of Gilead	84
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	20	97	9	non-ERF		Clearcut w/reserves	2010	balsam fir	59
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	22	236	2	non-ERF		Clearcut w/reserves	2011	aspen	57
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	22	235	14	non-ERF		Clearcut w/reserves	2011	aspen	57
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	22	230	6	non-ERF		Clearcut w/reserves	2011	aspen	79
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	29	107	14	non-ERF		Clearcut w/reserves	2010	lowland black spruce	76
Littlefork-Vermilion Uplands	Itasca	Deer River	61	26	0	29	119	27	ERF	Y	Commercial thinning	2016	red pine	22
St.Louis Moraines	Itasca	Deer River	61	26	0	31	143	20	non-ERF		Clearcut w/reserves	2014	aspen	39
St.Louis Moraines	Itasca	Deer River	61	26	0	31	148	3	non-ERF		Clearcut w/reserves	2014	balm of Gilead	55
St.Louis Moraines	Itasca	Deer River	61	26	0	36	131	17	non-ERF		Clearcut w/reserves	2017	aspen	46
St.Louis Moraines	Itasca	Deer River	61	26	0	36	249	63	ERF		Clearcut w/reserves	2017	aspen	31
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	2	9	11	non-ERF		Clearcut w/reserves	2011	lowland black spruce	132
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	2	6	16	non-ERF		Clearcut w/reserves	2011	tamarack	121
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	2	62	20	non-ERF		Clearcut w/reserves	2011	tamarack	106

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	2	7	14	non-ERF		Clearcut w/reserves	2011	tamarack	86
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	3	60	9	non-ERF	Y	Clearcut w/reserves	2012	aspen	64
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	3	57	6	non-ERF		Uneven-aged regeneration	2012	ash	144
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	3	58	21	non-ERF		Uneven-aged regeneration	2012	ash	163
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	24	107	24	non-ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	24	104	14	non-ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	24	105	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	65
Littlefork-Vermilion Uplands	Itasca	Deer River	61	27	0	25	132	37	non-ERF		Clearcut w/reserves	2012	tamarack	114
St.Louis Moraines	Itasca	Deer River	61	27	0	36	41	37	non-ERF		Clearcut w/reserves	2017	aspen	34
St.Louis Moraines	Itasca	Deer River	61	27	0	36	119	49	non-ERF		Clearcut w/reserves	2017	aspen	30
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	6	21	6	ERF		Commercial thinning	2019	red pine	13
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	6	23	4	ERF		Commercial thinning	2019	red pine	13
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	7	52	7	non-ERF		Clearcut w/reserves	2017	balsam fir	83
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	7	57	9	non-ERF		Clearcut w/reserves	2017	balsam fir	82
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	7	328	39	non-ERF		Clearcut w/reserves	2011	lowland black spruce	79
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	7	322	19	ERF		Clearcut w/reserves	2011	lowland black spruce	67
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	8	319	82	ERF		Clearcut w/reserves	2011	lowland black spruce	67
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	203	6	non-ERF		Clearcut w/reserves	2015	aspen	70
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	197	22	non-ERF		Clearcut w/reserves	2015	aspen	60
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	176	11	non-ERF		Clearcut w/reserves	2015	aspen	60
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	187	8	non-ERF		Clearcut w/reserves	2015	balsam fir	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	196	15	non-ERF		Commercial thinning	2015	white spruce	42
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	195	4	non-ERF		Commercial thinning	2019	white spruce	23
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	188	4	non-ERF		Commercial thinning	2019	white spruce	27
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	19	193	7	ERF		Commercial thinning	2019	red pine	27
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	20	135	22	non-ERF		Clearcut w/reserves	2011	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	20	155	5	non-ERF		Clearcut w/reserves	2011	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	20	168	19	non-ERF		Clearcut w/reserves	2011	aspen	70
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	20	362	10	non-ERF		Clearcut w/reserves	2015	aspen	59

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	20	352	9	non-ERF		Clearcut w/reserves	2011	balsam fir	53
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	22	360	32	non-ERF		Clearcut w/reserves	2018	lowland black spruce	91
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	22	178	40	non-ERF		Clearcut w/reserves	2019	tamarack	144
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	26	477	4	non-ERF		Clearcut w/reserves	2018	balsam fir	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	26	386	8	non-ERF		Clearcut w/reserves	2018	balsam fir	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	26	476	3	non-ERF		Clearcut w/reserves	2018	balsam fir	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	26	383	35	non-ERF	Y	Commercial thinning	2018	white pine	12
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	26	381	11	non-ERF	Y	Commercial thinning	2018	white spruce	12
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	27	223	13	non-ERF		Clearcut w/reserves	2010	balm of Gilead	82
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	27	396	5	non-ERF		Uneven-aged regeneration	2010	ash	107
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	29	465	10	non-ERF		Uneven-aged regeneration	2012	balsam fir	82
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	29	235	5	non-ERF		Uneven-aged regeneration	2012	balsam fir	76
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	29	225	12	non-ERF		Commercial thinning	2018	white spruce	17
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	29	227	3	non-ERF		Commercial thinning	2018	white spruce	17
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	31	302	10	non-ERF		Commercial thinning	2019	white spruce	12
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	33	421	3	non-ERF		Clearcut w/reserves	2011	jack pine	44
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	33	417	6	non-ERF		Clearcut w/reserves	2011	jack pine	50
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	33	415	33	ERF		Clearcut w/reserves	2011	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	34	487	6	non-ERF		Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	34	485	3	non-ERF		Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	34	484	5	non-ERF	Y	Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	34	486	4	non-ERF		Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	34	483	2	ERF		Commercial thinning	2019	red pine	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	35	289	9	non-ERF	Y	Clearcut w/reserves	2013	upland black spruce	63
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	35	430	6	non-ERF		Uneven-aged regeneration	2013	ash	148
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	35	293	2	ERF		Clearcut w/reserves	2013	birch	108
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	36	261	14	non-ERF	Y	Clearcut w/reserves	2018	balsam fir	81

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	36	278	10	non-ERF		Clearcut w/reserves	2011	balsam fir	76
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	36	276	8	ERF	Y	Clearcut w/reserves	2011	aspen	80
Littlefork-Vermilion Uplands	St.Louis	Tower	62	17	0	36	303	14	ERF		Clearcut w/reserves	2011	birch	103
Littlefork-Vermilion Uplands	St.Louis	Tower	62	18	0	1	69	30	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	18	0	1	69	2	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	18	0	1	69	1	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Tower	62	18	0	25	50	5	non-ERF		Clearcut w/reserves	2013	lowland black spruce	98
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	5	7	23	non-ERF		Clearcut w/reserves	2019	aspen	32
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	5	9	10	non-ERF		Clearcut w/reserves	2019	lowland black spruce	137
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	16	31	28	non-ERF		Clearcut w/reserves	2018	aspen	38
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	16	33	11	non-ERF		Clearcut w/reserves	2018	lowland black spruce	101
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	36	82	4	non-ERF		Clearcut w/reserves	2017	balsam fir	87
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	36	56	7	non-ERF		Clearcut w/reserves	2012	lowland black spruce	108
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	36	58	40	non-ERF		Clearcut w/reserves	2012	lowland black spruce	111
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	36	75	44	non-ERF		Clearcut w/reserves	2012	lowland black spruce	105
Littlefork-Vermilion Uplands	St.Louis	Tower	62	19	0	36	66	9	non-ERF		Uneven-aged regeneration	2019	balsam fir	84
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	3	269	34	non-ERF		Clearcut w/reserves	2012	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	3	141	39	non-ERF		Clearcut w/reserves	2012	aspen	85
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	3	154	24	non-ERF		Clearcut w/reserves	2012	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	4	143	46	ERF		Commercial thinning	2017	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	5	135	6	non-ERF		Commercial thinning	2017	white spruce	27
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	16	172	14	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	16	175	9	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	20	53	16	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	20	274	81	non-ERF		Clearcut w/reserves	2015	aspen	71
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	20	54	16	non-ERF		Clearcut w/reserves	2015	lowland black spruce	92
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	23	61	16	non-ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	23	187	15	non-ERF		Clearcut w/reserves	2014	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	23	188	3	non-ERF		Clearcut w/reserves	2014	lowland black spruce	95

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	23	197	25	ERF		Commercial thinning	2017	red pine	19
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	25	223	21	non-ERF		Clearcut w/reserves	2016	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	26	75	2	non-ERF		Clearcut w/reserves	2016	lowland black spruce	99
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	26	203	44	non-ERF		Clearcut w/reserves	2016	lowland black spruce	99
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	26	204	19	non-ERF		Commercial thinning	2016	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	27	80	18	non-ERF		Clearcut w/reserves	2012	lowland black spruce	93
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	30	262	4	non-ERF		Clearcut w/reserves	2013	aspen	74
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	30	261	29	non-ERF		Clearcut w/reserves	2013	lowland black spruce	95
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	31	264	10	non-ERF		Clearcut w/reserves	2013	aspen	73
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	31	292	5	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	32	91	13	non-ERF		Clearcut w/reserves	2019	aspen	36
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	33	118	9	non-ERF		Clearcut w/reserves	2014	aspen	71
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	33	124	10	non-ERF		Clearcut w/reserves	2014	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	33	125	32	non-ERF		Clearcut w/reserves	2014	lowland black spruce	100
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	33	127	34	non-ERF		Clearcut w/reserves	2014	lowland black spruce	93
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	34	239	23	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	106
Littlefork-Vermilion Uplands	St.Louis	Tower	62	20	0	35	129	7	non-ERF		Clearcut w/reserves	2018	aspen	82
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	10	34	3	non-ERF		Clearcut w/reserves	2019	aspen	77
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	15	229	11	ERF		Commercial thinning	2019	red pine	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	15	230	3	ERF		Commercial thinning	2019	red pine	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	16	212	33	non-ERF	Y	Clearcut w/reserves	2015	aspen	66
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	16	209	5	non-ERF		Uneven-aged regeneration	2015	balsam fir	84
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	16	60	9	ERF		Commercial thinning	2015	red pine	11
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	19	241	88	ERF		Clearcut w/reserves	2010	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	108	10	non-ERF		Clearcut w/reserves	2019	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	113	10	non-ERF		Clearcut w/reserves	2019	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	97	5	non-ERF		Clearcut w/reserves	2019	aspen	56

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	91	10	non-ERF		Clearcut w/reserves	2019	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	93	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	87
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	89	13	non-ERF		Clearcut w/reserves	2019	lowland black spruce	92
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	20	237	41	ERF		Clearcut w/reserves	2019	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	23	104	29	non-ERF		Clearcut w/reserves	2015	aspen	60
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	23	295	29	non-ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	25	141	27	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	25	143	16	non-ERF		Clearcut w/reserves	2014	aspen	69
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	25	146	13	non-ERF		Clearcut w/reserves	2014	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	25	138	4	non-ERF		Clearcut w/reserves	2014	aspen	68
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	26	123	9	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	26	129	12	non-ERF		Clearcut w/reserves	2018	lowland black spruce	96
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	27	147	26	non-ERF		Clearcut w/reserves	2011	aspen	73
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	27	155	6	non-ERF		Clearcut w/reserves	2011	aspen	69
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	28	259	26	non-ERF		Clearcut w/reserves	2019	aspen	84
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	28	252	18	non-ERF		Clearcut w/reserves	2019	balsam fir	76
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	30	266	24	non-ERF		Clearcut w/reserves	2011	lowland black spruce	95
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	30	265	34	non-ERF		Clearcut w/reserves	2011	lowland black spruce	100
Littlefork-Vermilion Uplands	St.Louis	Tower	62	21	0	30	267	52	ERF		Clearcut w/reserves	2011	aspen	80
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	2	55	12	non-ERF		Clearcut w/reserves	2015	balm of Gilead	64
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	2	38	13	non-ERF		Clearcut w/reserves	2013	lowland black spruce	108
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	2	42	9	non-ERF		Clearcut w/reserves	2013	lowland black spruce	94
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	2	40	29	ERF		Clearcut w/reserves	2013	lowland black spruce	127
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	3	34	26	non-ERF		Clearcut w/reserves	2015	lowland black spruce	164
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	4	68	20	non-ERF		Clearcut w/reserves	2015	aspen	51
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	4	70	17	non-ERF		Clearcut w/reserves	2015	balsam fir	51
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	5	44	8	non-ERF		Clearcut w/reserves	2015	aspen	55
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	5	29	6	non-ERF		Clearcut w/reserves	2015	aspen	55
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	5	67	21	non-ERF		Clearcut w/reserves	2015	balsam fir	51

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	5	28	72	ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	16	7	10	non-ERF		Clearcut w/reserves	2015	aspen	36
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	16	196	28	ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	16	201	37	ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	16	205	59	ERF		Clearcut w/reserves	2015	aspen	51
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	17	97	9	non-ERF		Clearcut w/reserves	2015	balsam fir	44
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	18	86	3	non-ERF		Clearcut w/reserves	2011	aspen	76
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	18	91	31	non-ERF	Y	Uneven-aged regeneration	2019	white pine	169
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	19	211	16	non-ERF		Clearcut w/reserves	2015	lowland black spruce	96
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	27	129	5	non-ERF		Uneven-aged regeneration	2015	ash	137
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	28	148	6	non-ERF		Clearcut w/reserves	2015	lowland black spruce	106
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	32	170	6	non-ERF		Clearcut w/reserves	2010	aspen	76
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	22	0	35	21	9	non-ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	1	404	1	ERF		Commercial thinning	2019	white spruce	18
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	1	402	12	ERF		Commercial thinning	2019	white spruce	30
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	2	403	8	ERF		Commercial thinning	2019	white spruce	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	4	16	40	non-ERF		Clearcut w/reserves	2012	balsam fir	41
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	4	36	7	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	78
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	4	10	21	ERF		Clearcut w/reserves	2012	aspen	54
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	4	19	83	ERF	Y	Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	5	31	12	non-ERF		Clearcut w/reserves	2011	balsam fir	41
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	316	13	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	45	12	non-ERF		Clearcut w/reserves	2017	aspen	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	49	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	45
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	317	8	non-ERF	Y	Clearcut w/reserves	2017	aspen	52
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	315	38	ERF		Clearcut w/reserves	2017	aspen	34
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	7	328	24	ERF	Y	Commercial thinning	2011	red pine	95

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	8	40	17	ERF		Commercial thinning	2019	red pine	18
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	9	53	9	ERF	Y	Commercial thinning	2010	red pine	73
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	9	56	15	ERF	Y	Commercial thinning	2010	red pine	70
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	12	420	14	non-ERF		Uneven-aged regeneration	2017	ash	152
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	12	61	21	ERF		Commercial thinning	2017	white spruce	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	13	444	7	ERF		Commercial thinning	2017	white spruce	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	13	63	78	ERF		Commercial thinning	2017	white spruce	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	15	526	5	non-ERF	Y	Clearcut w/reserves	2015	birch	72
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	15	443	11	ERF		Clearcut w/reserves	2015	birch	60
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	15	330	6	ERF		Commercial thinning	2015	red pine	58
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	103	8	non-ERF		Clearcut w/reserves	2018	aspen	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	344	13	non-ERF		Clearcut w/reserves	2018	aspen	29
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	337	8	non-ERF		Clearcut w/reserves	2018	aspen	41
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	67	7	non-ERF		Clearcut w/reserves	2018	aspen	23
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	64	15	non-ERF		Clearcut w/reserves	2018	aspen	30
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	340	6	non-ERF		Clearcut w/reserves	2018	aspen	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	69	10	non-ERF		Clearcut w/reserves	2018	aspen	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	335	16	non-ERF		Clearcut w/reserves	2018	aspen	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	65	18	non-ERF		Clearcut w/reserves	2018	aspen	21
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	66	14	non-ERF		Clearcut w/reserves	2018	aspen	30
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	346	10	non-ERF		Clearcut w/reserves	2018	lowland black spruce	102
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	351	27	ERF		Clearcut w/reserves	2018	aspen	34
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	347	28	ERF	Y	Clearcut w/reserves	2018	aspen	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	96	9	ERF		Clearcut w/reserves	2015	birch	93
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	94	9	ERF		Commercial thinning	2015	red pine	78
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	331	46	ERF		Commercial thinning	2017	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	88	21	ERF	Y	Commercial thinning	2015	red pine	78
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	97	8	ERF	Y	Commercial thinning	2012	red pine	90
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	102	7	ERF	Y	Commercial thinning	2012	red pine	84

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	348	6	ERF	Y	Commercial thinning	2012	red pine	84
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	100	14	ERF		Commercial thinning	2012	red pine	85
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	338	47	ERF	Y	Commercial thinning	2019	red pine	78
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	76	22	ERF		Commercial thinning	2017	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	86	7	ERF	Y	Commercial thinning	2012	red pine	96
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	16	73	47	ERF	Y	Commercial thinning	2019	red pine	99
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	22	122	10	non-ERF		Clearcut w/reserves	2015	aspen	59
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	22	139	6	ERF		Commercial thinning	2016	red pine	49
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	23	133	6	non-ERF		Clearcut w/reserves	2015	balm of Gilead	59
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	23	354	21	ERF		Commercial thinning	2015	red pine	47
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	24	111	20	non-ERF		Clearcut w/reserves	2017	balsam fir	51
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	25	488	9	non-ERF		Uneven-aged regeneration	2017	ash	99
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	356	12	non-ERF	Y	Clearcut w/reserves	2015	aspen	53
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	162	5	non-ERF	Y	Clearcut w/reserves	2012	jack pine	50
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	365	5	non-ERF		Uneven-aged regeneration	2015	jack pine	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	192	10	non-ERF		Uneven-aged regeneration	2015	jack pine	34
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	360	14	ERF		Commercial thinning	2019	red pine	15
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	182	2	ERF		Commercial thinning	2017	red pine	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	196	8	ERF		Commercial thinning	2015	red pine	32
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	362	11	ERF	Y	Commercial thinning	2013	red pine	95
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	169	11	ERF		Commercial thinning	2017	red pine	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	167	6	ERF	Y	Commercial thinning	2016	red pine	84
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	26	165	23	ERF	Y	Commercial thinning	2012	red pine	86
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	482	7	non-ERF		Clearcut w/reserves	2016	aspen	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	180	6	non-ERF		Clearcut w/reserves	2015	birch	82
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	195	2	non-ERF		Uneven-aged regeneration	2015	jack pine	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	481	12	non-ERF		Uneven-aged regeneration	2015	jack pine	23

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	492	5	non-ERF		Uneven-aged regeneration	2019	jack pine	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	489	33	ERF		Clearcut w/reserves	2016	aspen	36
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	361	20	ERF		Uneven-aged regeneration	2015	jack pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	491	11	ERF	Y	Commercial thinning	2015	red pine	50
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	485	51	ERF	Y	Commercial thinning	2015	red pine	47
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	486	9	ERF	Y	Commercial thinning	2019	red pine	18
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	27	363	43	ERF	Y	Commercial thinning	2015	red pine	46
St.Louis Moraines	Itasca	Hibbing	62	23	0	29	191	2	non-ERF	Y	Commercial thinning	2019	white pine	15
St.Louis Moraines	Itasca	Hibbing	62	23	0	29	188	5	ERF		Clearcut w/reserves	2011	aspen	62
St.Louis Moraines	Itasca	Hibbing	62	23	0	29	157	13	ERF		Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Itasca	Hibbing	62	23	0	30	171	10	non-ERF		Clearcut w/reserves	2010	aspen	88
St.Louis Moraines	Itasca	Hibbing	62	23	0	31	221	8	non-ERF		Clearcut w/reserves	2014	aspen	68
St.Louis Moraines	Itasca	Hibbing	62	23	0	31	386	32	ERF		Commercial thinning	2019	white spruce	24
St.Louis Moraines	Itasca	Hibbing	62	23	0	32	513	12	non-ERF		Clearcut w/reserves	2014	aspen	45
St.Louis Moraines	Itasca	Hibbing	62	23	0	32	504	24	non-ERF		Clearcut w/reserves	2014	aspen	30
St.Louis Moraines	Itasca	Hibbing	62	23	0	32	509	3	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Itasca	Hibbing	62	23	0	32	283	11	non-ERF		Uneven-aged regeneration	2011	balsam fir	74
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	256	29	non-ERF	Y	Clearcut w/reserves	2014	aspen	52
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	552	4	non-ERF		Clearcut w/reserves	2014	aspen	51
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	209	16	non-ERF		Clearcut w/reserves	2014	aspen	37
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	276	22	non-ERF		Clearcut w/reserves	2014	aspen	50
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	210	12	non-ERF		Clearcut w/reserves	2014	birch	82
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	499	85	ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	511	53	ERF		Commercial thinning	2016	red pine	44
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	253	7	non-ERF		Clearcut w/reserves	2012	aspen	53
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	264	13	non-ERF		Clearcut w/reserves	2012	aspen	64
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	498	19	non-ERF		Clearcut w/reserves	2012	aspen	37
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	240	4	non-ERF	Y	Clearcut w/reserves	2014	birch	84
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	501	7	non-ERF	Y	Uneven-aged regeneration	2012	jack pine	32

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	494	6	non-ERF		Uneven-aged regeneration	2015	jack pine	26
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	249	10	ERF		Commercial thinning	2017	red pine	40
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	496	31	ERF		Commercial thinning	2013	red pine	44
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	254	12	ERF	Y	Commercial thinning	2019	red pine	14
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	495	7	ERF	Y	Commercial thinning	2015	red pine	50
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	248	7	ERF		Commercial thinning	2019	red pine	23
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	290	6	non-ERF		Clearcut w/reserves	2019	aspen	22
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	223	12	non-ERF	Y	Uneven-aged regeneration	2015	jack pine	32
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	295	10	non-ERF		Uneven-aged regeneration	2019	jack pine	23
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	381	3	non-ERF		Uneven-aged regeneration	2019	jack pine	23
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	259	8	non-ERF		Uneven-aged regeneration	2019	jack pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	236	4	non-ERF		Uneven-aged regeneration	2016	jack pine	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	255	1	non-ERF	Y	Commercial thinning	2016	white pine	14
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	375	17	ERF	Y	Uneven-aged regeneration	2015	jack pine	46
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	268	20	ERF		Uneven-aged regeneration	2019	jack pine	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	368	24	ERF	Y	Commercial thinning	2012	red pine	62
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	372	8	ERF		Commercial thinning	2019	red pine	15
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	379	13	ERF		Commercial thinning	2019	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	383	5	ERF		Commercial thinning	2019	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	258	22	ERF	Y	Commercial thinning	2016	red pine	96
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	227	8	ERF		Commercial thinning	2016	red pine	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	217	2	ERF		Commercial thinning	2015	red pine	19
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	226	3	ERF		Commercial thinning	2016	red pine	23
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	224	11	ERF		Commercial thinning	2013	red pine	35
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	370	70	ERF		Commercial thinning	2012	red pine	49
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	35	216	17	ERF		Commercial thinning	2011	red pine	30
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	229	13	non-ERF		Clearcut w/reserves	2019	aspen	38

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	214	9	non-ERF		Clearcut w/reserves	2019	aspen	22
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	237	4	non-ERF		Clearcut w/reserves	2016	aspen	53
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	378	6	non-ERF		Clearcut w/reserves	2019	aspen	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	208	8	non-ERF		Clearcut w/reserves	2019	aspen	28
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	205	15	non-ERF	Y	Clearcut w/reserves	2016	aspen	48
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	260	10	non-ERF		Clearcut w/reserves	2019	aspen	22
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	292	6	non-ERF		Clearcut w/reserves	2016	aspen	54
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	251	2	non-ERF		Clearcut w/reserves	2013	birch	68
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	247	45	non-ERF		Uneven-aged regeneration	2013	ash	122
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	232	7	non-ERF		Uneven-aged regeneration	2019	jack pine	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	243	7	non-ERF		Commercial thinning	2019	white spruce	26
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	218	3	non-ERF	Y	Commercial thinning	2018	white spruce	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	369	25	ERF		Clearcut w/reserves	2019	aspen	28
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	245	7	ERF		Commercial thinning	2019	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	285	15	ERF	Y	Commercial thinning	2013	red pine	71
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	273	7	ERF		Commercial thinning	2018	red pine	24
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	296	4	ERF	Y	Commercial thinning	2016	red pine	30
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	382	31	ERF		Commercial thinning	2012	red pine	70
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	261	7	ERF		Commercial thinning	2017	red pine	27
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	377	2	ERF		Commercial thinning	2012	red pine	76
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	293	17	ERF		Commercial thinning	2018	red pine	25
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	267	11	ERF	Y	Commercial thinning	2013	red pine	82
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	280	13	ERF	Y	Commercial thinning	2016	red pine	80
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	564	2	ERF		Commercial thinning	2018	red pine	11
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	263	12	ERF	Y	Commercial thinning	2016	red pine	84
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	275	37	ERF	Y	Commercial thinning	2013	red pine	74
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	281	8	ERF	Y	Commercial thinning	2013	red pine	67
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	294	11	ERF		Commercial thinning	2018	red pine	96
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	288	7	ERF		Commercial thinning	2016	red pine	33

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	207	38	ERF	Y	Commercial thinning	2018	white spruce	28
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	252	55	ERF	Y	Commercial thinning	2013	white spruce	17
Littlefork-Vermilion Uplands	Itasca	Hibbing	62	23	0	36	265	30	ERF		Commercial thinning	2016	white spruce	23
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	3	34	16	non-ERF		Clearcut w/reserves	2011	aspen	51
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	3	227	18	ERF	Y	Commercial thinning	2011	red pine	103
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	3	22	8	ERF		Commercial thinning	2011	red pine	100
St.Louis Moraines	Itasca	Deer River	62	24	0	8	55	32	non-ERF		Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Deer River	62	24	0	8	54	32	non-ERF		Clearcut w/reserves	2014	aspen	36
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	17	277	25	non-ERF		Uneven-aged regeneration	2017	ash	154
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	20	302	37	non-ERF		Clearcut w/reserves	2017	balsam fir	51
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	20	229	29	ERF		Clearcut w/reserves	2017	lowland black spruce	104
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	21	238	10	non-ERF		Clearcut w/reserves	2017	balsam fir	71
Littlefork-Vermilion Uplands	Itasca	Deer River	62	24	0	21	97	20	non-ERF		Uneven-aged regeneration	2017	ash	125
St.Louis Moraines	Itasca	Deer River	62	24	0	26	307	30	non-ERF	Y	Clearcut w/reserves	2012	aspen	62
St.Louis Moraines	Itasca	Deer River	62	24	0	28	103	52	non-ERF		Clearcut w/reserves	2015	aspen	40
St.Louis Moraines	Itasca	Deer River	62	24	0	28	121	35	non-ERF		Clearcut w/reserves	2012	aspen	44
St.Louis Moraines	Itasca	Deer River	62	24	0	28	111	7	non-ERF		Clearcut w/reserves	2015	aspen	35
St.Louis Moraines	Itasca	Deer River	62	24	0	28	249	9	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	116
St.Louis Moraines	Itasca	Deer River	62	24	0	28	126	12	non-ERF		Uneven-aged regeneration	2012	balsam fir	89
St.Louis Moraines	Itasca	Deer River	62	24	0	29	242	10	non-ERF		Clearcut w/reserves	2015	aspen	40
St.Louis Moraines	Itasca	Deer River	62	24	0	29	110	28	non-ERF		Clearcut w/reserves	2015	aspen	36
St.Louis Moraines	Itasca	Deer River	62	24	0	29	250	18	ERF		Commercial thinning	2013	red pine	33
St.Louis Moraines	Itasca	Deer River	62	24	0	29	251	13	ERF	Y	Commercial thinning	2013	red pine	87
St.Louis Moraines	Itasca	Deer River	62	24	0	30	143	23	non-ERF		Clearcut w/reserves	2013	aspen	60
St.Louis Moraines	Itasca	Deer River	62	24	0	30	141	20	non-ERF		Uneven-aged regeneration	2013	balsam fir	67
St.Louis Moraines	Itasca	Deer River	62	24	0	31	169	10	non-ERF		Clearcut w/reserves	2011	aspen	62
St.Louis Moraines	Itasca	Deer River	62	24	0	31	183	15	non-ERF		Clearcut w/reserves	2011	aspen	54

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	62	24	0	31	205	6	non-ERF		Clearcut w/reserves	2011	aspen	68
St.Louis Moraines	Itasca	Deer River	62	24	0	31	186	44	non-ERF		Clearcut w/reserves	2011	aspen	61
St.Louis Moraines	Itasca	Deer River	62	24	0	31	206	8	non-ERF		Clearcut w/reserves	2011	tamarack	119
St.Louis Moraines	Itasca	Deer River	62	24	0	31	191	5	non-ERF	Y	Clearcut w/reserves	2011	upland black spruce	62
St.Louis Moraines	Itasca	Deer River	62	24	0	31	165	80	ERF		Clearcut w/reserves	2011	aspen	66
St.Louis Moraines	Itasca	Deer River	62	24	0	31	172	38	ERF		Commercial thinning	2011	red pine	35
St.Louis Moraines	Itasca	Deer River	62	24	0	34	197	18	non-ERF	Y	Clearcut w/reserves	2017	aspen	46
St.Louis Moraines	Itasca	Deer River	62	24	0	34	156	8	non-ERF		Clearcut w/reserves	2017	birch	56
St.Louis Moraines	Itasca	Deer River	62	24	0	34	163	24	non-ERF		Uneven-aged regeneration	2017	ash	124
St.Louis Moraines	Itasca	Deer River	62	24	0	34	155	12	non-ERF		Uneven-aged regeneration	2017	ash	124
St.Louis Moraines	Itasca	Deer River	62	24	0	36	199	24	ERF		Clearcut w/reserves	2014	aspen	59
St.Louis Moraines	Itasca	Deer River	62	24	0	36	192	24	ERF		Clearcut w/reserves	2014	balm of Gilead	37
St.Louis Moraines	Itasca	Deer River	62	24	0	36	269	52	ERF		Commercial thinning	2015	red pine	41
St.Louis Moraines	Itasca	Deer River	62	24	0	36	203	25	ERF		Commercial thinning	2015	red pine	47
St.Louis Moraines	Itasca	Deer River	62	24	0	36	268	12	ERF		Commercial thinning	2014	red pine	40
St.Louis Moraines	Itasca	Deer River	62	24	0	36	270	23	ERF	Y	Commercial thinning	2015	white spruce	24
St.Louis Moraines	Itasca	Deer River	62	24	0	36	194	20	ERF		Commercial thinning	2014	white spruce	33
St.Louis Moraines	Itasca	Deer River	62	24	0	36	264	8	ERF		Commercial thinning	2015	white spruce	43
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	1	15	17	non-ERF		Clearcut w/reserves	2012	aspen	68
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	1	25	8	non-ERF		Clearcut w/reserves	2012	birch	83
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	1	16	5	non-ERF		Clearcut w/reserves	2012	balsam fir	65
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	5	30	16	non-ERF		Clearcut w/reserves	2015	balsam fir	58
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	5	24	36	non-ERF		Clearcut w/reserves	2015	lowland black spruce	69
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	5	14	24	non-ERF		Clearcut w/reserves	2015	lowland black spruce	90
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	7	268	59	non-ERF		Uneven-aged regeneration	2014	ash	109
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	10	43	4	non-ERF		Clearcut w/reserves	2010	aspen	62
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	10	41	57	ERF		Clearcut w/reserves	2010	aspen	64
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	11	217	7	non-ERF		Clearcut w/reserves	2010	aspen	61
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	11	215	12	non-ERF		Clearcut w/reserves	2010	aspen	64

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	13	69	21	non-ERF		Clearcut w/reserves	2010	aspen	68
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	13	78	5	non-ERF		Clearcut w/reserves	2010	birch	72
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	14	61	24	non-ERF		Clearcut w/reserves	2010	aspen	59
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	18	51	14	non-ERF		Uneven-aged regeneration	2015	ash	97
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	18	228	116	non-ERF		Uneven-aged regeneration	2015	ash	101
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	31	172	3	non-ERF		Clearcut w/reserves	2012	balsam fir	91
Littlefork-Vermilion Uplands	Itasca	Deer River	62	26	0	36	171	8	non-ERF		Clearcut w/reserves	2011	aspen	79
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	1	64	7	non-ERF		Clearcut w/reserves	2013	aspen	70
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	1	31	10	non-ERF		Clearcut w/reserves	2013	aspen	64
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	1	28	29	non-ERF		Clearcut w/reserves	2015	balm of Gilead	58
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	1	50	8	non-ERF		Clearcut w/reserves	2015	balm of Gilead	58
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	10	86	17	non-ERF		Clearcut w/reserves	2013	aspen	51
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	11	95	8	non-ERF		Clearcut w/reserves	2013	balm of Gilead	65
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	11	97	12	non-ERF		Clearcut w/reserves	2013	balm of Gilead	71
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	12	71	49	ERF		Clearcut w/reserves	2013	aspen	70
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	24	26	18	non-ERF		Clearcut w/reserves	2013	upland black spruce	57
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	25	134	5	non-ERF		Clearcut w/reserves	2013	balsam fir	97
Littlefork-Vermilion Uplands	Itasca	Deer River	62	27	0	36	148	39	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	1	3	26	non-ERF	Y	Commercial thinning	2019	white pine	12
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	2	117	21	non-ERF		Clearcut w/reserves	2015	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	2	127	8	ERF		Commercial thinning	2015	red pine	26
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	4	25	6	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	4	19	11	non-ERF	Y	Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	4	121	42	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	4	132	16	non-ERF	Y	Uneven-aged regeneration	2013	ash	77
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	6	21	36	ERF		Commercial thinning	2018	white spruce	26
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	9	39	9	non-ERF		Clearcut w/reserves	2014	aspen	53

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	9	160	28	non-ERF	Y	Clearcut w/reserves	2017	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	10	44	15	non-ERF		Commercial thinning	2016	white spruce	17
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	10	422	26	ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	10	138	77	ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	13	196	6	ERF		Commercial thinning	2016	red pine	17
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	13	194	4	ERF		Commercial thinning	2016	red pine	17
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	14	50	7	non-ERF		Clearcut w/reserves	2017	balm of Gilead	85
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	14	376	12	non-ERF		Clearcut w/reserves	2013	lowland black spruce	145
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	14	53	12	ERF		Commercial thinning	2017	red pine	20
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	16	197	3	non-ERF	Y	Commercial thinning	2014	white pine	95
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	16	175	17	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	16	433	149	ERF	Y	Clearcut w/reserves	2017	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	16	418	76	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	16	417	25	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	17	198	10	non-ERF		Clearcut w/reserves	2014	balsam fir	62
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	21	241	33	non-ERF		Clearcut w/reserves	2010	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	21	235	24	non-ERF		Clearcut w/reserves	2010	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	22	236	21	non-ERF		Clearcut w/reserves	2018	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	22	243	10	non-ERF		Clearcut w/reserves	2010	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	22	213	17	non-ERF	Y	Clearcut w/reserves	2018	aspen	86
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	22	225	28	non-ERF	Y	Clearcut w/reserves	2018	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	25	75	7	non-ERF		Clearcut w/reserves	2011	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	27	283	16	non-ERF		Clearcut w/reserves	2012	aspen	77
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	27	282	88	ERF		Clearcut w/reserves	2012	aspen	73
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	86	18	non-ERF		Clearcut w/reserves	2019	aspen	23
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	297	23	non-ERF	Y	Clearcut w/reserves	2019	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	416	24	non-ERF		Clearcut w/reserves	2016	aspen	75
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	293	18	non-ERF	Y	Clearcut w/reserves	2012	aspen	72
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	277	31	non-ERF		Clearcut w/reserves	2016	lowland black spruce	150

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	28	291	8	non-ERF		Clearcut w/reserves	2016	lowland black spruce	122
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	407	29	non-ERF		Clearcut w/reserves	2017	aspen	70
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	346	6	non-ERF		Clearcut w/reserves	2017	aspen	50
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	307	19	non-ERF		Clearcut w/reserves	2016	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	323	36	non-ERF		Clearcut w/reserves	2018	aspen	40
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	331	10	non-ERF		Clearcut w/reserves	2018	balm of Gilead	23
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	371	49	non-ERF		Uneven-aged regeneration	2010	white spruce	39
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	337	61	ERF	Y	Clearcut w/reserves	2017	aspen	63
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	101	3	ERF		Commercial thinning	2018	red pine	27
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	33	349	81	ERF		Commercial thinning	2018	white spruce	34
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	336	25	non-ERF		Clearcut w/reserves	2013	aspen	55
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	361	10	non-ERF		Clearcut w/reserves	2013	aspen	82
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	325	16	non-ERF		Clearcut w/reserves	2018	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	347	56	ERF		Clearcut w/reserves	2013	aspen	104
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	355	3	ERF		Commercial thinning	2018	red pine	27
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	345	18	ERF		Commercial thinning	2018	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	104	7	ERF		Commercial thinning	2018	red pine	27
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	35	100	9	ERF		Commercial thinning	2018	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	88	15	non-ERF	Y	Clearcut w/reserves	2011	aspen	97
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	90	38	non-ERF	Y	Clearcut w/reserves	2011	aspen	56
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	319	13	non-ERF		Clearcut w/reserves	2011	birch	93
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	397	5	non-ERF	Y	Commercial thinning	2018	white pine	104
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	106	21	non-ERF		Commercial thinning	2018	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	93	3	ERF	Y	Commercial thinning	2018	red pine	95
Littlefork-Vermilion Uplands	St.Louis	Tower	63	20	0	36	322	11	ERF		Commercial thinning	2018	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	1	7	7	non-ERF		Clearcut w/reserves	2015	aspen	77
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	1	54	31	non-ERF		Clearcut w/reserves	2018	lowland black spruce	86

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	13	83	4	non-ERF		Clearcut w/reserves	2016	aspen	85
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	13	73	4	non-ERF		Clearcut w/reserves	2016	aspen	57
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	13	71	6	non-ERF		Clearcut w/reserves	2016	aspen	78
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	13	65	36	non-ERF		Clearcut w/reserves	2016	aspen	81
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	13	91	7	non-ERF		Clearcut w/reserves	2016	aspen	81
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	14	15	4	non-ERF		Clearcut w/reserves	2016	aspen	114
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	14	164	13	non-ERF		Clearcut w/reserves	2018	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	15	174	15	non-ERF		Clearcut w/reserves	2018	aspen	46
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	15	79	16	ERF		Clearcut w/reserves	2018	aspen	48
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	15	74	29	ERF		Clearcut w/reserves	2010	lowland black spruce	94
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	16	208	13	non-ERF		Clearcut w/reserves	2012	aspen	104
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	16	185	12	ERF		Clearcut w/reserves	2017	aspen	42
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	20	110	4	non-ERF		Clearcut w/reserves	2012	aspen	64
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	21	214	10	non-ERF		Clearcut w/reserves	2012	aspen	58
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	26	149	29	non-ERF		Clearcut w/reserves	2016	aspen	59
Littlefork-Vermilion Uplands	St.Louis	Tower	63	21	0	26	119	9	non-ERF		Clearcut w/reserves	2016	tamarack	112
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	17	162	32	non-ERF		Clearcut w/reserves	2013	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	18	161	24	non-ERF		Clearcut w/reserves	2013	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	18	413	6	non-ERF		Clearcut w/reserves	2013	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	18	149	21	non-ERF		Clearcut w/reserves	2013	lowland black spruce	139
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	19	244	3	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	20	283	8	non-ERF		Clearcut w/reserves	2012	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	20	286	13	non-ERF		Clearcut w/reserves	2012	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	21	467	37	non-ERF		Clearcut w/reserves	2011	lowland black spruce	108
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	22	276	12	non-ERF		Clearcut w/reserves	2011	lowland black spruce	124
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	22	252	24	non-ERF		Clearcut w/reserves	2011	lowland black spruce	134
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	22	479	9	non-ERF		Clearcut w/reserves	2011	tamarack	116
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	23	226	23	non-ERF		Clearcut w/reserves	2012	lowland black spruce	122
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	23	228	31	ERF		Clearcut w/reserves	2012	aspen	65

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	26	561	5	non-ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	26	648	6	non-ERF		Clearcut w/reserves	2013	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	26	541	33	ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	27	489	11	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	27	571	15	non-ERF		Clearcut w/reserves	2013	lowland black spruce	136
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	27	520	1	non-ERF		Clearcut w/reserves	2013	lowland black spruce	130
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	27	492	17	non-ERF		Clearcut w/reserves	2013	tamarack	115
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	27	330	27	ERF		Clearcut w/reserves	2014	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	28	569	28	non-ERF		Clearcut w/reserves	2014	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	28	579	10	non-ERF		Clearcut w/reserves	2014	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	28	508	74	ERF		Clearcut w/reserves	2014	tamarack	113
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	29	577	9	non-ERF		Clearcut w/reserves	2015	balsam fir	75
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	30	647	9	non-ERF		Clearcut w/reserves	2015	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	32	585	22	non-ERF		Clearcut w/reserves	2010	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	634	4	non-ERF		Clearcut w/reserves	2011	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	635	2	non-ERF		Clearcut w/reserves	2011	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	664	3	non-ERF		Clearcut w/reserves	2011	birch	92
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	665	3	non-ERF		Clearcut w/reserves	2011	balsam fir	54
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	591	10	non-ERF		Clearcut w/reserves	2011	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	33	586	35	ERF		Clearcut w/reserves	2011	lowland black spruce	123
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	34	603	6	non-ERF		Clearcut w/reserves	2011	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	34	384	26	non-ERF		Clearcut w/reserves	2011	lowland black spruce	129
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	34	598	4	non-ERF		Clearcut w/reserves	2011	tamarack	101
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	35	386	20	non-ERF		Clearcut w/reserves	2011	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	374	13	non-ERF		Clearcut w/reserves	2012	balsam fir	59
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	357	4	non-ERF	Y	Commercial thinning	2012	white pine	94
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	427	20	ERF		Clearcut w/reserves	2013	aspen	54

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	395	18	ERF		Clearcut w/reserves	2013	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	370	12	ERF		Clearcut w/reserves	2012	aspen	51
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	376	12	ERF		Clearcut w/reserves	2012	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	382	17	ERF		Clearcut w/reserves	2010	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	344	56	ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	391	26	ERF		Clearcut w/reserves	2013	tamarack	105
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	1	66	2	ERF		Clearcut w/reserves	2012	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	1	75	1	ERF		Clearcut w/reserves	2012	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	1	33	9	ERF		Commercial thinning	2010	white spruce	44
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	2	34	15	non-ERF		Clearcut w/reserves	2012	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	2	23	20	non-ERF		Clearcut w/reserves	2012	tamarack	118
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	4	67	20	non-ERF		Uneven-aged regeneration	2014	ash	153
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	9	178	2	non-ERF	Y	Commercial thinning	2016	white pine	157
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	10	481	9	non-ERF		Clearcut w/reserves	2016	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	10	482	2	non-ERF		Clearcut w/reserves	2016	lowland black spruce	157
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	12	145	29	ERF		Clearcut w/reserves	2012	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	16	426	4	non-ERF	Y	Clearcut w/reserves	2012	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	16	254	4	non-ERF		Clearcut w/reserves	2012	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	18	239	43	ERF		Clearcut w/reserves	2013	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	19	508	22	ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	21	302	89	ERF		Clearcut w/reserves	2012	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	22	525	30	ERF		Clearcut w/reserves	2011	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	24	312	14	non-ERF		Clearcut w/reserves	2013	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	24	519	3	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	24	458	9	non-ERF		Clearcut w/reserves	2013	balsam fir	79
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	25	365	6	non-ERF		Clearcut w/reserves	2013	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	32	384	7	ERF	Y	Clearcut w/reserves	2010	aspen	88
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	32	389	7	ERF		Clearcut w/reserves	2010	aspen	87
Littlefork-Vermilion Uplands	Koochiching	Hibbing	63	23	0	32	371	32	ERF		Clearcut w/reserves	2015	birch	116

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	9	60	13	non-ERF		Clearcut w/reserves	2014	balm of Gilead	54
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	16	309	12	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	16	209	11	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	16	221	11	non-ERF		Clearcut w/reserves	2010	white spruce	55
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	16	216	22	ERF		Commercial thinning	2018	white spruce	23
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	31	294	30	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	31	296	7	non-ERF	Y	Clearcut w/reserves	2014	lowland black spruce	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	316	10	non-ERF	Y	Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	315	14	non-ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	278	16	non-ERF	Y	Clearcut w/reserves	2011	aspen	83
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	275	15	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	327	1	non-ERF		Clearcut w/reserves	2011	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	24	0	32	160	3	non-ERF		Clearcut w/reserves	2011	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	6	11	27	non-ERF		Clearcut w/reserves	2014	balm of Gilead	63
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	6	20	11	non-ERF		Clearcut w/reserves	2014	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	14	177	5	non-ERF		Clearcut w/reserves	2013	aspen	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	14	215	10	non-ERF		Clearcut w/reserves	2017	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	14	176	9	non-ERF		Clearcut w/reserves	2013	aspen	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	14	190	8	non-ERF		Clearcut w/reserves	2013	lowland black spruce	151
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	14	179	68	ERF		Clearcut w/reserves	2017	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	16	220	14	non-ERF		Clearcut w/reserves	2010	aspen	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	16	140	31	non-ERF		Clearcut w/reserves	2016	lowland black spruce	80
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	17	149	11	non-ERF		Clearcut w/reserves	2016	lowland black spruce	78
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	17	150	22	non-ERF		Clearcut w/reserves	2016	lowland black spruce	78
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	18	157	2	non-ERF		Clearcut w/reserves	2013	balm of Gilead	80
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	18	173	5	non-ERF		Clearcut w/reserves	2013	balm of Gilead	100
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	19	213	12	non-ERF		Clearcut w/reserves	2013	aspen	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	19	218	10	non-ERF		Clearcut w/reserves	2013	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	19	225	9	non-ERF		Clearcut w/reserves	2013	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	33	321	13	non-ERF		Clearcut w/reserves	2011	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	35	291	27	non-ERF		Uneven-aged regeneration	2013	ash	148
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	35	306	40	non-ERF		Uneven-aged regeneration	2013	lowland hardwoods	159
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	320	17	non-ERF		Clearcut w/reserves	2013	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	301	28	non-ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	299	30	non-ERF		Clearcut w/reserves	2011	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	294	18	non-ERF		Clearcut w/reserves	2013	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	309	14	non-ERF		Clearcut w/reserves	2011	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	328	21	non-ERF		Clearcut w/reserves	2011	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	316	7	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	300	13	non-ERF	Y	Clearcut w/reserves	2011	balm of Gilead	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	25	0	36	310	21	ERF	Y	Commercial thinning	2013	white spruce	42
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	2	19	15	non-ERF		Clearcut w/reserves	2014	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	2	14	9	non-ERF		Clearcut w/reserves	2014	lowland black spruce	75
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	2	242	14	non-ERF		Clearcut w/reserves	2014	lowland black spruce	75
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	2	11	44	ERF		Clearcut w/reserves	2014	lowland black spruce	90
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	6	15	60	non-ERF		Clearcut w/reserves	2010	tamarack	106
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	7	428	12	non-ERF		Clearcut w/reserves	2015	aspen	92
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	7	272	9	ERF		Commercial thinning	2014	red pine	36
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	8	278	16	non-ERF		Clearcut w/reserves	2013	tamarack	132
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	9	401	23	non-ERF		Clearcut w/reserves	2013	lowland black spruce	122
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	9	41	6	non-ERF		Clearcut w/reserves	2013	tamarack	112
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	9	280	20	non-ERF		Clearcut w/reserves	2013	tamarack	132
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	11	63	20	non-ERF		Clearcut w/reserves	2013	lowland black spruce	150
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	11	266	53	ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	14	100	9	non-ERF		Clearcut w/reserves	2013	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	15	418	33	non-ERF		Clearcut w/reserves	2013	aspen	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	15	444	5	non-ERF		Clearcut w/reserves	2013	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	15	411	20	non-ERF		Clearcut w/reserves	2013	lowland black spruce	149
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	126	26	non-ERF		Clearcut w/reserves	2014	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	106	4	non-ERF	Y	Clearcut w/reserves	2010	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	83	24	non-ERF		Clearcut w/reserves	2013	tamarack	109
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	111	17	non-ERF		Uneven-aged regeneration	2010	lowland hardwoods	148
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	133	16	non-ERF		Uneven-aged regeneration	2014	northern hardwoods	183
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	16	102	23	non-ERF	Y	Commercial thinning	2015	white pine	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	17	307	23	non-ERF		Clearcut w/reserves	2018	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	17	303	15	non-ERF		Uneven-aged regeneration	2018	ash	137
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	17	301	11	non-ERF		Uneven-aged regeneration	2018	lowland hardwoods	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	19	325	29	non-ERF		Clearcut w/reserves	2015	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	19	159	23	non-ERF		Clearcut w/reserves	2015	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	19	334	6	non-ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	19	388	16	non-ERF		Clearcut w/reserves	2015	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	371	5	non-ERF		Clearcut w/reserves	2011	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	395	8	non-ERF		Clearcut w/reserves	2014	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	397	21	non-ERF		Clearcut w/reserves	2014	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	357	12	non-ERF		Clearcut w/reserves	2014	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	351	12	non-ERF		Clearcut w/reserves	2014	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	393	25	non-ERF		Clearcut w/reserves	2014	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	382	3	non-ERF		Clearcut w/reserves	2011	balm of Gilead	95
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	360	36	non-ERF		Clearcut w/reserves	2015	balm of Gilead	55
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	373	4	non-ERF		Clearcut w/reserves	2011	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	376	12	non-ERF		Uneven-aged regeneration	2011	northern hardwoods	106
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	26	0	36	377	8	non-ERF		Uneven-aged regeneration	2015	northern hardwoods	96
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	1	22	24	non-ERF		Clearcut w/reserves	2015	aspen	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	1	41	21	ERF		Clearcut w/reserves	2015	aspen	38
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	1	14	34	ERF		Clearcut w/reserves	2015	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	1	230	13	ERF		Clearcut w/reserves	2015	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	1	27	10	ERF		Clearcut w/reserves	2013	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	2	30	6	non-ERF		Clearcut w/reserves	2010	tamarack	126
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	2	37	3	non-ERF		Clearcut w/reserves	2010	tamarack	135
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	2	29	50	ERF		Clearcut w/reserves	2010	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	3	12	48	non-ERF		Clearcut w/reserves	2018	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	3	16	6	non-ERF		Clearcut w/reserves	2018	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	11	65	27	ERF		Clearcut w/reserves	2010	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	11	48	22	ERF		Clearcut w/reserves	2010	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	11	63	11	ERF		Clearcut w/reserves	2010	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	12	81	9	ERF		Clearcut w/reserves	2010	aspen	21
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	12	43	58	ERF		Clearcut w/reserves	2013	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	12	72	118	ERF		Clearcut w/reserves	2010	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	15	83	30	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	15	84	63	ERF		Clearcut w/reserves	2014	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	15	85	116	ERF	Y	Clearcut w/reserves	2014	upland black spruce	60
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	22	140	8	non-ERF		Clearcut w/reserves	2015	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	22	131	43	non-ERF		Clearcut w/reserves	2015	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	22	112	12	non-ERF		Clearcut w/reserves	2015	lowland black spruce	98
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	24	120	23	non-ERF		Clearcut w/reserves	2011	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	25	147	7	non-ERF		Clearcut w/reserves	2011	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	26	148	10	non-ERF		Clearcut w/reserves	2011	birch	73
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	26	145	7	non-ERF		Clearcut w/reserves	2011	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	26	143	41	ERF		Clearcut w/reserves	2011	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	36	214	17	non-ERF		Clearcut w/reserves	2013	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Deer River	63	27	0	36	219	14	non-ERF		Clearcut w/reserves	2013	balm of Gilead	65
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	4	3	15	non-ERF		Commercial thinning	2015	white spruce	24

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	4	2	43	ERF		Commercial thinning	2015	red pine	25
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	10	9	9	non-ERF		Clearcut w/reserves	2015	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	10	12	7	non-ERF	Y	Clearcut w/reserves	2015	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	10	13	14	non-ERF		Commercial thinning	2015	white spruce	23
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	11	332	27	non-ERF		Clearcut w/reserves	2015	aspen	48
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	12	61	6	ERF		Commercial thinning	2013	red pine	39
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	13	400	13	non-ERF		Clearcut w/reserves	2016	aspen	52
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	13	380	15	non-ERF		Clearcut w/reserves	2010	aspen	49
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	13	387	7	non-ERF	Y	Clearcut w/reserves	2016	aspen	49
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	13	386	14	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	360	10	non-ERF	Y	Clearcut w/reserves	2010	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	370	8	non-ERF		Clearcut w/reserves	2010	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	363	2	non-ERF		Clearcut w/reserves	2010	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	366	11	non-ERF		Clearcut w/reserves	2010	aspen	65
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	358	39	non-ERF		Clearcut w/reserves	2010	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	356	10	non-ERF		Clearcut w/reserves	2010	balsam fir	48
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	372	5	non-ERF		Clearcut w/reserves	2010	tamarack	104
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	14	357	15	non-ERF		Commercial thinning	2010	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	15	59	33	non-ERF		Clearcut w/reserves	2013	aspen	44
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	16	38	14	non-ERF		Clearcut w/reserves	2013	balm of Gilead	69
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	16	88	9	non-ERF		Clearcut w/reserves	2013	balm of Gilead	95
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	137	2	non-ERF		Clearcut w/reserves	2014	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	154	4	non-ERF		Commercial thinning	2014	white spruce	26
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	82	2	non-ERF		Commercial thinning	2014	white spruce	20
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	81	4	non-ERF		Commercial thinning	2014	white spruce	20
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	440	3	non-ERF		Commercial thinning	2014	white spruce	28
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	84	6	non-ERF	Y	Commercial thinning	2014	white spruce	49

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	85	10	non-ERF	Y	Commercial thinning	2014	white spruce	49
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	22	156	35	ERF	Y	Commercial thinning	2014	red pine	40
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	23	144	74	non-ERF		Commercial thinning	2014	white spruce	36
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	418	17	non-ERF		Clearcut w/reserves	2011	aspen	44
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	112	18	non-ERF		Clearcut w/reserves	2013	aspen	62
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	109	11	non-ERF		Commercial thinning	2013	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	115	23	non-ERF		Commercial thinning	2013	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	122	5	non-ERF		Commercial thinning	2013	white spruce	29
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	130	33	ERF	Y	Commercial thinning	2013	white spruce	44
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	24	70	26	ERF		Commercial thinning	2013	white spruce	27
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	25	417	28	non-ERF		Clearcut w/reserves	2011	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	25	250	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	151
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	25	168	9	non-ERF		Commercial thinning	2011	white spruce	49
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	26	257	13	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	26	185	6	non-ERF		Clearcut w/reserves	2011	aspen	38
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	26	217	33	ERF		Commercial thinning	2019	white spruce	43
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	83	3	non-ERF		Clearcut w/reserves	2014	aspen	50
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	254	29	non-ERF		Clearcut w/reserves	2018	balm of Gilead	72
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	162	8	non-ERF	Y	Commercial thinning	2014	white spruce	36
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	176	17	non-ERF	Y	Commercial thinning	2014	white spruce	33
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	86	13	non-ERF	Y	Commercial thinning	2014	white spruce	36
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	87	6	non-ERF	Y	Commercial thinning	2014	white spruce	36
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	27	159	55	ERF		Commercial thinning	2014	white spruce	33
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	28	233	3	non-ERF		Clearcut w/reserves	2018	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	28	177	4	non-ERF		Clearcut w/reserves	2014	balm of Gilead	40
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	28	193	12	non-ERF		Clearcut w/reserves	2018	tamarack	111
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	28	346	5	non-ERF		Commercial thinning	2018	white spruce	14
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	29	411	21	non-ERF		Uneven-aged regeneration	2015	ash	92
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	30	241	7	non-ERF	Y	Clearcut w/reserves	2015	jack pine	58

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	30	234	11	non-ERF		Commercial thinning	2015	white spruce	27
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	30	184	77	ERF		Clearcut w/reserves	2015	lowland black spruce	95
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	34	65	6	non-ERF		Clearcut w/reserves	2018	aspen	56
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	34	271	6	non-ERF		Clearcut w/reserves	2018	aspen	63
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	34	299	13	non-ERF		Clearcut w/reserves	2018	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	34	280	25	non-ERF		Clearcut w/reserves	2012	balm of Gilead	52
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	34	64	11	non-ERF		Commercial thinning	2018	white spruce	11
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	35	291	23	non-ERF	Y	Clearcut w/reserves	2012	aspen	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	274	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	53
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	300	5	non-ERF	Y	Clearcut w/reserves	2017	aspen	54
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	294	22	non-ERF		Clearcut w/reserves	2017	aspen	51
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	327	9	non-ERF		Clearcut w/reserves	2017	birch	99
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	314	5	non-ERF	Y	Commercial thinning	2017	white pine	111
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	286	15	non-ERF	Y	Commercial thinning	2017	white spruce	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	315	4	ERF		Commercial thinning	2017	red pine	12
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	431	27	ERF	Y	Commercial thinning	2017	white spruce	45
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	302	85	ERF		Commercial thinning	2017	white spruce	12
Littlefork-Vermilion Uplands	St.Louis	Orr	64	21	0	36	324	20	ERF		Commercial thinning	2017	white spruce	47
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	26	100	15	non-ERF		Clearcut w/reserves	2017	tamarack	91
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	26	96	22	non-ERF		Clearcut w/reserves	2017	tamarack	111
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	26	105	13	non-ERF		Clearcut w/reserves	2017	tamarack	116
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	30	74	8	non-ERF		Clearcut w/reserves	2013	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	30	71	10	non-ERF		Clearcut w/reserves	2010	aspen	82
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	32	62	6	non-ERF		Clearcut w/reserves	2013	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	32	64	17	ERF		Clearcut w/reserves	2010	aspen	86
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	36	61	14	non-ERF		Clearcut w/reserves	2014	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	36	119	33	non-ERF		Clearcut w/reserves	2014	aspen	37

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	22	0	36	49	23	non-ERF		Clearcut w/reserves	2014	balm of Gilead	55
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	25	239	5	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	128
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	25	190	50	ERF		Clearcut w/reserves	2014	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	26	240	8	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	128
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	26	198	38	ERF		Clearcut w/reserves	2014	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	26	339	39	ERF		Clearcut w/reserves	2014	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	27	340	3	ERF		Clearcut w/reserves	2014	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	28	389	29	ERF		Clearcut w/reserves	2017	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	29	227	21	non-ERF		Clearcut w/reserves	2017	lowland black spruce	136
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	31	266	50	ERF		Clearcut w/reserves	2013	balm of Gilead	53
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	32	351	37	ERF		Clearcut w/reserves	2013	tamarack	96
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	34	315	10	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	34	371	12	non-ERF		Clearcut w/reserves	2011	lowland black spruce	105
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	34	368	5	non-ERF		Clearcut w/reserves	2011	tamarack	120
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	34	367	10	non-ERF		Clearcut w/reserves	2011	tamarack	140
Littlefork-Vermilion Uplands	Koochiching	Hibbing	64	23	0	35	370	7	non-ERF		Clearcut w/reserves	2011	tamarack	140
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	24	0	2	130	44	ERF		Clearcut w/reserves	2010	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	24	0	12	183	15	non-ERF		Clearcut w/reserves	2010	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	21	158	12	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	21	173	47	non-ERF		Clearcut w/reserves	2013	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	22	34	40	non-ERF		Clearcut w/reserves	2013	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	28	228	61	non-ERF		Uneven-aged regeneration	2013	balsam fir	79
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	36	311	22	non-ERF		Clearcut w/reserves	2010	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Deer River	64	25	0	36	284	30	ERF		Clearcut w/reserves	2010	birch	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	1	15	6	non-ERF		Clearcut w/reserves	2010	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	1	20	5	non-ERF		Clearcut w/reserves	2010	balm of Gilead	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	1	519	17	non-ERF		Clearcut w/reserves	2010	lowland black spruce	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	1	520	15	non-ERF		Clearcut w/reserves	2010	tamarack	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	1	518	90	ERF		Clearcut w/reserves	2010	tamarack	126

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	2	4	9	non-ERF		Clearcut w/reserves	2010	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	3	238	11	non-ERF		Clearcut w/reserves	2016	balsam fir	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	3	276	10	non-ERF		Uneven-aged regeneration	2016	balsam fir	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	4	482	6	non-ERF		Clearcut w/reserves	2018	aspen	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	4	483	11	non-ERF		Clearcut w/reserves	2018	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	4	478	20	ERF		Commercial thinning	2012	white spruce	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	5	510	2	non-ERF		Clearcut w/reserves	2018	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	5	508	2	non-ERF		Clearcut w/reserves	2018	jack pine	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	5	512	56	ERF		Clearcut w/reserves	2018	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	8	309	19	non-ERF		Clearcut w/reserves	2016	balsam fir	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	9	285	6	non-ERF		Clearcut w/reserves	2016	aspen	20
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	9	284	28	ERF		Clearcut w/reserves	2016	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	12	537	9	non-ERF		Clearcut w/reserves	2010	aspen	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	18	82	11	non-ERF		Clearcut w/reserves	2012	lowland black spruce	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	18	65	55	ERF		Clearcut w/reserves	2012	lowland black spruce	107
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	18	600	45	ERF		Clearcut w/reserves	2012	lowland black spruce	116
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	22	374	19	non-ERF		Clearcut w/reserves	2019	aspen	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	22	370	24	non-ERF		Clearcut w/reserves	2019	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	22	367	26	non-ERF		Clearcut w/reserves	2019	balsam fir	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	26	552	9	non-ERF		Clearcut w/reserves	2019	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	28	397	23	non-ERF		Clearcut w/reserves	2019	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	26	0	30	381	35	non-ERF		Clearcut w/reserves	2013	tamarack	110
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	1	34	19	non-ERF		Clearcut w/reserves	2018	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	12	60	6	non-ERF		Clearcut w/reserves	2018	jack pine	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	12	55	50	ERF		Clearcut w/reserves	2018	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	12	56	21	ERF		Clearcut w/reserves	2018	jack pine	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	14	103	111	non-ERF		Uneven-aged regeneration	2013	balsam fir	95

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	24	185	6	non-ERF		Clearcut w/reserves	2019	ash	101
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	24	183	31	non-ERF		Clearcut w/reserves	2019	tamarack	157
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	24	186	28	non-ERF		Uneven-aged regeneration	2019	balsam fir	107
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	24	184	38	ERF		Clearcut w/reserves	2019	aspens	32
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	25	216	67	non-ERF		Clearcut w/reserves	2017	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	25	242	6	non-ERF		Clearcut w/reserves	2017	lowland black spruce	105
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	25	239	47	ERF		Clearcut w/reserves	2017	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	25	226	34	ERF		Clearcut w/reserves	2017	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	36	258	13	non-ERF		Clearcut w/reserves	2017	lowland black spruce	110
Littlefork-Vermilion Uplands	Koochiching	Littlefork	64	27	0	36	259	63	ERF		Clearcut w/reserves	2017	lowland black spruce	117
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	61	5	ERF		Clearcut w/reserves	2019	balsam fir	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	62	50	ERF		Clearcut w/reserves	2019	balsam fir	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	155	10	ERF	Y	Commercial thinning	2019	white pine	12
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	71	30	ERF		Commercial thinning	2019	red pine	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	72	10	ERF		Commercial thinning	2019	red pine	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	69	11	ERF		Commercial thinning	2019	red pine	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	7	16	11	ERF		Commercial thinning	2014	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	7	160	35	ERF	Y	Commercial thinning	2019	red pine	13
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	18	91	11	non-ERF		Clearcut w/reserves	2014	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	18	140	33	ERF	Y	Clearcut w/reserves	2014	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	18	144	7	ERF		Commercial thinning	2014	red pine	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	31	139	13	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	23	0	31	132	4	non-ERF	Y	Clearcut w/reserves	2012	upland black spruce	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	73	12	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	127	7	non-ERF		Clearcut w/reserves	2015	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	761	6	non-ERF		Clearcut w/reserves	2015	balsam fir	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	87	33	non-ERF		Clearcut w/reserves	2015	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	60	9	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	53	9	non-ERF		Uneven-aged regeneration	2015	balsam fir	102

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	1	139	29	ERF		Commercial thinning	2015	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	68	13	non-ERF		Clearcut w/reserves	2015	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	106	7	non-ERF		Clearcut w/reserves	2015	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	58	20	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	59	19	non-ERF		Clearcut w/reserves	2015	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	57	13	non-ERF		Clearcut w/reserves	2015	balsam fir	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	103	20	non-ERF		Clearcut w/reserves	2015	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	37	8	non-ERF		Clearcut w/reserves	2015	lowland black spruce	115
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	27	8	non-ERF		Clearcut w/reserves	2015	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	30	4	non-ERF		Clearcut w/reserves	2015	tamarack	139
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	100	22	non-ERF		Clearcut w/reserves	2015	tamarack	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	82	11	non-ERF		Uneven-aged regeneration	2015	balsam fir	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	26	44	ERF		Clearcut w/reserves	2015	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	81	13	non-ERF		Clearcut w/reserves	2017	jack pine	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	44	9	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	21	70	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	65	8	non-ERF		Clearcut w/reserves	2015	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	102	4	non-ERF		Clearcut w/reserves	2017	tamarack	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	168	10	non-ERF		Clearcut w/reserves	2017	tamarack	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	63	18	ERF	Y	Clearcut w/reserves	2017	jack pine	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	794	30	ERF		Clearcut w/reserves	2015	jack pine	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	130	34	ERF		Commercial thinning	2017	red pine	20
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	118	15	non-ERF		Clearcut w/reserves	2016	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	154	23	non-ERF		Clearcut w/reserves	2016	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	120	13	non-ERF		Clearcut w/reserves	2016	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	816	8	non-ERF		Uneven-aged regeneration	2016	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	821	24	ERF	Y	Clearcut w/reserves	2010	jack pine	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	78	11	ERF		Clearcut w/reserves	2010	jack pine	86
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	181	13	ERF		Clearcut w/reserves	2016	lowland black spruce	136
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	98	7	ERF	Y	Commercial thinning	2010	red pine	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	5	161	3	non-ERF		Clearcut w/reserves	2016	jack pine	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	6	8	1	non-ERF		Clearcut w/reserves	2011	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	6	2	4	non-ERF		Clearcut w/reserves	2010	birch	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	6	101	2	non-ERF		Clearcut w/reserves	2010	balsam fir	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	6	49	14	ERF		Commercial thinning	2010	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	237	9	non-ERF		Clearcut w/reserves	2016	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	243	9	non-ERF		Clearcut w/reserves	2016	balm of Gilead	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	311	16	non-ERF		Clearcut w/reserves	2016	balsam fir	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	347	31	non-ERF	Y	Uneven-aged regeneration	2010	balsam fir	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	255	51	ERF		Clearcut w/reserves	2016	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	279	15	non-ERF	Y	Clearcut w/reserves	2013	ash	160
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	287	4	non-ERF		Clearcut w/reserves	2013	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	280	15	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	283	10	non-ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	194	8	non-ERF		Commercial thinning	2010	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	222	11	ERF		Commercial thinning	2010	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	213	4	ERF		Commercial thinning	2010	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	218	7	ERF		Commercial thinning	2010	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	305	33	ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	210	15	ERF		Commercial thinning	2010	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	9	195	15	non-ERF		Clearcut w/reserves	2016	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	341	22	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	345	8	non-ERF		Clearcut w/reserves	2017	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	276	13	non-ERF		Clearcut w/reserves	2017	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	351	5	non-ERF		Clearcut w/reserves	2017	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	809	6	non-ERF		Clearcut w/reserves	2017	aspen	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	300	5	non-ERF		Clearcut w/reserves	2017	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	226	6	non-ERF		Clearcut w/reserves	2016	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	324	4	non-ERF		Clearcut w/reserves	2017	lowland black spruce	121
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	209	9	non-ERF		Clearcut w/reserves	2016	tamarack	101
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	301	36	ERF		Clearcut w/reserves	2017	upland black spruce	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	244	3	ERF		Commercial thinning	2017	red pine	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	817	3	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	858	3	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	356	3	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	808	11	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	10	810	9	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	11	273	3	non-ERF		Clearcut w/reserves	2017	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	11	215	5	non-ERF		Clearcut w/reserves	2014	upland black spruce	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	261	3	non-ERF		Clearcut w/reserves	2014	jack pine	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	316	9	non-ERF		Clearcut w/reserves	2014	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	277	17	non-ERF		Clearcut w/reserves	2014	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	214	24	non-ERF		Clearcut w/reserves	2014	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	266	8	non-ERF		Clearcut w/reserves	2014	tamarack	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	7	1	non-ERF	Y	Clearcut w/reserves	2014	upland black spruce	86
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	281	5	non-ERF		Clearcut w/reserves	2014	upland black spruce	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	348	29	ERF		Clearcut w/reserves	2014	upland black spruce	142
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	249	6	ERF		Commercial thinning	2014	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	13	411	2	non-ERF		Clearcut w/reserves	2014	balsam fir	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	13	403	8	non-ERF		Clearcut w/reserves	2014	upland black spruce	126
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	15	807	8	non-ERF		Clearcut w/reserves	2014	balm of Gilead	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	15	481	5	non-ERF		Clearcut w/reserves	2014	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	15	424	12	non-ERF		Uneven-aged regeneration	2014	ash	179

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	436	5	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	798	18	non-ERF	Y	Clearcut w/reserves	2014	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	445	6	non-ERF		Clearcut w/reserves	2014	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	470	4	non-ERF		Clearcut w/reserves	2014	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	473	4	non-ERF		Uneven-aged regeneration	2014	jack pine	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	382	7	non-ERF		Uneven-aged regeneration	2012	balsam fir	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	476	46	non-ERF		Uneven-aged regeneration	2014	balsam fir	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	433	24	ERF		Commercial thinning	2014	red pine	22
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	441	27	ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	17	799	5	non-ERF		Clearcut w/reserves	2012	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	17	801	9	non-ERF	Y	Uneven-aged regeneration	2012	balsam fir	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	17	330	43	ERF	Y	Clearcut w/reserves	2012	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	18	365	5	non-ERF		Clearcut w/reserves	2010	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	18	454	4	non-ERF		Clearcut w/reserves	2012	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	18	376	6	non-ERF		Uneven-aged regeneration	2012	balsam fir	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	19	494	22	non-ERF		Clearcut w/reserves	2013	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	19	853	5	non-ERF		Clearcut w/reserves	2013	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	19	520	15	non-ERF		Clearcut w/reserves	2013	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	19	509	80	ERF		Clearcut w/reserves	2013	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	20	585	3	non-ERF		Clearcut w/reserves	2013	balsam fir	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	20	546	9	non-ERF		Uneven-aged regeneration	2013	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	21	493	24	non-ERF		Uneven-aged regeneration	2014	balsam fir	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	21	510	73	ERF		Clearcut w/reserves	2014	lowland black spruce	151
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	22	537	7	non-ERF		Clearcut w/reserves	2014	tamarack	164
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	22	533	34	ERF		Clearcut w/reserves	2014	birch	197
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	22	535	4	ERF		Clearcut w/reserves	2019	balm of Gilead	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	23	517	15	ERF		Commercial thinning	2011	red pine	30
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	646	4	non-ERF		Clearcut w/reserves	2019	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	633	17	non-ERF		Clearcut w/reserves	2019	balsam fir	64

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	627	26	non-ERF		Clearcut w/reserves	2019	balsam fir	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	783	10	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	640	20	non-ERF		Clearcut w/reserves	2019	lowland black spruce	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	29	610	6	non-ERF		Uneven-aged regeneration	2013	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	30	581	0	non-ERF	Y	Clearcut w/reserves	2013	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	30	600	7	non-ERF		Uneven-aged regeneration	2013	balsam fir	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	34	698	8	non-ERF		Clearcut w/reserves	2019	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	34	733	32	ERF		Clearcut w/reserves	2019	tamarack	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	35	650	24	non-ERF		Clearcut w/reserves	2019	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	35	659	17	non-ERF		Clearcut w/reserves	2019	balsam fir	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	779	14	ERF	Y	Clearcut w/reserves	2019	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	655	22	ERF		Clearcut w/reserves	2016	balm of Gilead	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	653	20	ERF	Y	Clearcut w/reserves	2010	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	687	36	ERF	Y	Clearcut w/reserves	2019	balm of Gilead	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	656	17	ERF	Y	Clearcut w/reserves	2016	balm of Gilead	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	716	14	ERF	Y	Clearcut w/reserves	2012	balm of Gilead	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	781	23	ERF	Y	Clearcut w/reserves	2016	balsam fir	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	684	44	ERF		Clearcut w/reserves	2016	balsam fir	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	663	15	ERF		Clearcut w/reserves	2016	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	737	7	ERF	Y	Uneven-aged regeneration	2016	balsam fir	86
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	750	7	ERF	Y	Uneven-aged regeneration	2016	balsam fir	181
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	1	369	26	non-ERF		Clearcut w/reserves	2012	tamarack	123
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	1	370	4	non-ERF		Clearcut w/reserves	2010	tamarack	169
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	1	12	51	ERF		Commercial thinning	2010	white spruce	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	2	549	15	non-ERF		Clearcut w/reserves	2012	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	2	539	5	non-ERF		Clearcut w/reserves	2012	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	4	34	17	non-ERF		Clearcut w/reserves	2011	lowland black spruce	125

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	4	13	23	non-ERF		Clearcut w/reserves	2010	lowland black spruce	140
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	4	29	15	ERF		Clearcut w/reserves	2011	lowland black spruce	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	5	418	5	non-ERF		Clearcut w/reserves	2017	tamarack	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	710	12	non-ERF		Clearcut w/reserves	2017	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	358	5	non-ERF		Clearcut w/reserves	2017	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	428	16	non-ERF		Clearcut w/reserves	2017	lowland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	394	61	non-ERF		Clearcut w/reserves	2017	tamarack	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	433	8	non-ERF		Clearcut w/reserves	2017	tamarack	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	406	12	non-ERF		Clearcut w/reserves	2017	tamarack	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	427	10	non-ERF		Clearcut w/reserves	2017	tamarack	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	417	40	ERF		Clearcut w/reserves	2017	lowland black spruce	116
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	6	380	61	ERF		Clearcut w/reserves	2017	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	7	71	12	non-ERF		Clearcut w/reserves	2019	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	7	694	3	non-ERF		Clearcut w/reserves	2019	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	7	457	22	non-ERF		Clearcut w/reserves	2017	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	7	98	8	ERF	Y	Commercial thinning	2011	red pine	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	8	702	7	non-ERF	Y	Clearcut w/reserves	2011	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	8	703	4	non-ERF		Clearcut w/reserves	2011	balsam fir	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	8	99	4	ERF	Y	Commercial thinning	2011	red pine	17
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	471	16	non-ERF		Clearcut w/reserves	2011	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	351	11	non-ERF		Clearcut w/reserves	2011	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	564	14	non-ERF		Clearcut w/reserves	2011	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	472	6	non-ERF		Clearcut w/reserves	2011	lowland black spruce	123
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	38	20	non-ERF		Clearcut w/reserves	2011	lowland black spruce	125
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	9	39	60	ERF		Clearcut w/reserves	2011	lowland black spruce	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	10	104	7	non-ERF		Clearcut w/reserves	2011	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	11	85	70	non-ERF		Uneven-aged regeneration	2016	white spruce	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	580	26	non-ERF	Y	Clearcut w/reserves	2010	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	591	32	non-ERF		Clearcut w/reserves	2010	balsam fir	67

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	603	12	non-ERF		Clearcut w/reserves	2010	tamarack	151
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	151	17	non-ERF		Uneven-aged regeneration	2010	balsam fir	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	136	11	non-ERF		Commercial thinning	2010	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	590	19	ERF		Clearcut w/reserves	2018	lowland black spruce	131
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	168	4	ERF		Commercial thinning	2010	red pine	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	137	14	ERF		Commercial thinning	2010	red pine	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	15	190	4	non-ERF		Clearcut w/reserves	2011	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	15	601	35	non-ERF		Clearcut w/reserves	2018	lowland black spruce	128
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	15	589	51	ERF		Clearcut w/reserves	2018	lowland black spruce	131
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	15	581	70	ERF		Commercial thinning	2011	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	16	482	3	non-ERF		Clearcut w/reserves	2011	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	16	341	25	non-ERF		Clearcut w/reserves	2010	lowland black spruce	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	16	339	61	ERF		Clearcut w/reserves	2010	lowland black spruce	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	16	331	96	ERF		Clearcut w/reserves	2010	lowland black spruce	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	154	11	non-ERF		Clearcut w/reserves	2011	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	166	16	non-ERF		Clearcut w/reserves	2011	tamarack	115
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	160	5	ERF		Commercial thinning	2011	red pine	17
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	186	3	ERF		Commercial thinning	2011	red pine	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	199	10	ERF	Y	Commercial thinning	2011	red pine	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	18	130	3	non-ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	18	131	9	non-ERF		Commercial thinning	2011	white spruce	31
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	18	145	4	ERF		Commercial thinning	2011	red pine	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	20	488	6	non-ERF		Uneven-aged regeneration	2017	balsam fir	111
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	20	250	20	ERF		Commercial thinning	2017	red pine	22
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	232	15	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	262	5	non-ERF		Clearcut w/reserves	2017	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	656	10	non-ERF		Clearcut w/reserves	2011	balsam fir	43

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	640	23	non-ERF		Clearcut w/reserves	2011	lowland black spruce	111
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	646	7	non-ERF		Commercial thinning	2011	white spruce	30
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	259	26	ERF		Clearcut w/reserves	2017	jack pine	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	487	10	ERF		Commercial thinning	2017	red pine	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	491	22	ERF	Y	Commercial thinning	2017	red pine	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	647	14	ERF		Commercial thinning	2011	red pine	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	637	29	ERF		Commercial thinning	2011	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	22	607	13	non-ERF		Clearcut w/reserves	2018	tamarack	156
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	22	654	7	non-ERF		Commercial thinning	2011	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	23	617	12	non-ERF		Clearcut w/reserves	2010	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	23	615	20	ERF		Commercial thinning	2010	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	24	264	9	non-ERF		Uneven-aged regeneration	2013	balsam fir	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	27	673	14	non-ERF		Clearcut w/reserves	2011	balsam fir	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	27	666	4	non-ERF		Clearcut w/reserves	2011	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	27	672	5	ERF		Commercial thinning	2011	red pine	95
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	27	665	33	ERF		Commercial thinning	2011	red pine	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	28	505	6	non-ERF		Clearcut w/reserves	2017	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	28	535	4	non-ERF		Clearcut w/reserves	2017	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	28	534	10	non-ERF		Clearcut w/reserves	2017	balsam fir	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	28	503	18	ERF	Y	Commercial thinning	2017	red pine	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	30	283	7	non-ERF		Clearcut w/reserves	2018	lowland black spruce	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	31	309	25	non-ERF		Clearcut w/reserves	2019	balsam fir	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	32	318	24	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	25	0	36	718	2	non-ERF		Clearcut w/reserves	2010	tamarack	169
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	1	707	22	non-ERF		Clearcut w/reserves	2017	lowland black spruce	115
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	1	702	15	non-ERF		Clearcut w/reserves	2017	tamarack	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	1	716	45	non-ERF		Uneven-aged regeneration	2019	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	1	703	116	ERF		Clearcut w/reserves	2017	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	1	714	93	ERF		Clearcut w/reserves	2019	lowland black spruce	133

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Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	30	34	non-ERF		Clearcut w/reserves	2019	tamarack	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	792	36	non-ERF		Clearcut w/reserves	2019	tamarack	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	709	117	ERF		Clearcut w/reserves	2019	lowland black spruce	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	62	3	ERF		Commercial thinning	2019	red pine	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	22	54	ERF		Commercial thinning	2019	white spruce	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	2	86	16	ERF		Commercial thinning	2019	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	28	2	non-ERF		Clearcut w/reserves	2012	birch	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	51	31	non-ERF		Clearcut w/reserves	2010	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	14	39	non-ERF		Clearcut w/reserves	2012	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	27	3	non-ERF		Clearcut w/reserves	2019	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	17	8	non-ERF		Clearcut w/reserves	2019	tamarack	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	3	24	6	non-ERF		Clearcut w/reserves	2019	tamarack	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	5	70	3	non-ERF		Clearcut w/reserves	2010	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	32	5	non-ERF		Clearcut w/reserves	2017	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	18	7	non-ERF		Clearcut w/reserves	2017	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	2	9	non-ERF		Clearcut w/reserves	2017	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	75	22	non-ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	20	28	non-ERF		Clearcut w/reserves	2017	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	6	69	11	non-ERF		Clearcut w/reserves	2010	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	7	145	6	non-ERF		Clearcut w/reserves	2010	aspen	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	7	144	8	non-ERF		Clearcut w/reserves	2010	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	7	143	5	non-ERF		Clearcut w/reserves	2010	balsam fir	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	8	95	3	non-ERF		Clearcut w/reserves	2010	jack pine	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	9	734	15	non-ERF		Clearcut w/reserves	2015	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	198	9	non-ERF		Clearcut w/reserves	2010	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	155	7	non-ERF		Clearcut w/reserves	2015	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	130	12	non-ERF		Clearcut w/reserves	2015	lowland black spruce	96

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	115	4	non-ERF	Y	Commercial thinning	2019	white pine	14
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	104	6	non-ERF		Commercial thinning	2010	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	166	4	ERF		Commercial thinning	2015	red pine	16
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	105	15	ERF		Commercial thinning	2010	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	211	8	ERF		Commercial thinning	2019	red pine	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	11	220	13	ERF		Commercial thinning	2010	red pine	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	12	224	11	non-ERF		Clearcut w/reserves	2018	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	12	135	18	non-ERF		Clearcut w/reserves	2019	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	12	223	8	non-ERF		Clearcut w/reserves	2018	jack pine	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	12	229	11	non-ERF		Clearcut w/reserves	2018	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	12	149	4	ERF		Commercial thinning	2019	red pine	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	13	378	25	non-ERF		Clearcut w/reserves	2018	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	14	259	66	non-ERF		Clearcut w/reserves	2018	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	14	379	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	14	346	21	non-ERF		Clearcut w/reserves	2015	lowland black spruce	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	15	383	5	ERF		Clearcut w/reserves	2011	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	15	361	23	ERF		Clearcut w/reserves	2011	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	15	354	7	ERF		Clearcut w/reserves	2011	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	16	338	22	non-ERF		Clearcut w/reserves	2015	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	16	330	28	ERF		Clearcut w/reserves	2015	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	16	749	15	ERF		Uneven-aged regeneration	2015	ash	89
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	16	885	29	ERF		Commercial thinning	2012	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	16	748	13	ERF		Commercial thinning	2015	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	21	501	3	non-ERF		Clearcut w/reserves	2019	balsam fir	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	21	473	10	non-ERF		Clearcut w/reserves	2019	balsam fir	92
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	21	414	8	ERF		Clearcut w/reserves	2012	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	21	433	12	ERF		Clearcut w/reserves	2012	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	21	396	51	ERF		Clearcut w/reserves	2012	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	22	416	13	ERF		Clearcut w/reserves	2011	aspen	41

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	22	764	16	ERF		Clearcut w/reserves	2014	jack pine	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	22	405	5	ERF		Clearcut w/reserves	2011	lowland black spruce	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	23	407	6	non-ERF		Clearcut w/reserves	2015	lowland black spruce	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	25	576	21	non-ERF		Clearcut w/reserves	2018	aspen	32
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	25	565	173	non-ERF		Uneven-aged regeneration	2018	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	27	589	5	ERF		Commercial thinning	2019	white spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	550	8	non-ERF		Clearcut w/reserves	2017	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	587	6	non-ERF		Clearcut w/reserves	2019	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	516	21	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	593	2	non-ERF		Commercial thinning	2019	white spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	518	64	ERF		Clearcut w/reserves	2017	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	591	25	ERF		Clearcut w/reserves	2019	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	584	1	ERF		Commercial thinning	2019	red pine	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	28	586	25	ERF		Commercial thinning	2019	white spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	65	26	0	36	669	16	non-ERF		Clearcut w/reserves	2018	balsam fir	84
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	7	304	19	non-ERF		Clearcut w/reserves	2019	tamarack	119
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	8	278	32	non-ERF		Clearcut w/reserves	2019	aspen	51
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	8	281	18	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	8	280	8	non-ERF		Uneven-aged regeneration	2019	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	14	102	6	non-ERF		Clearcut w/reserves	2012	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	14	92	10	non-ERF		Clearcut w/reserves	2012	aspen	51
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	14	95	7	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	15	85	13	non-ERF		Clearcut w/reserves	2012	aspen	51
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	17	132	6	non-ERF		Clearcut w/reserves	2014	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	17	110	11	non-ERF		Clearcut w/reserves	2019	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	17	116	24	non-ERF		Clearcut w/reserves	2014	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	17	118	44	non-ERF		Clearcut w/reserves	2014	tamarack	121

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	87	8	non-ERF		Clearcut w/reserves	2019	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	106	11	non-ERF		Clearcut w/reserves	2019	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	101	10	non-ERF		Clearcut w/reserves	2019	balsam fir	50
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	67	13	non-ERF		Clearcut w/reserves	2019	tamarack	126
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	93	7	non-ERF		Clearcut w/reserves	2019	tamarack	116
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	18	98	7	non-ERF		Uneven-aged regeneration	2019	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	19	234	7	non-ERF		Clearcut w/reserves	2016	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	19	223	16	non-ERF		Uneven-aged regeneration	2016	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	20	194	8	non-ERF		Clearcut w/reserves	2014	birch	74
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	21	168	4	non-ERF		Clearcut w/reserves	2014	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	21	180	4	non-ERF		Commercial thinning	2014	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	21	198	10	ERF		Commercial thinning	2014	red pine	24
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	28	267	9	non-ERF		Clearcut w/reserves	2014	aspen	99
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	28	266	71	ERF		Clearcut w/reserves	2014	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	29	245	12	ERF		Commercial thinning	2014	red pine	18
Littlefork-Vermilion Uplands	Koochiching	Orr	66	22	0	30	259	10	non-ERF		Clearcut w/reserves	2016	aspen	38
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	146	17	non-ERF		Clearcut w/reserves	2019	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	162	42	non-ERF		Clearcut w/reserves	2019	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	150	4	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	151	10	ERF		Clearcut w/reserves	2019	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	489	9	ERF		Clearcut w/reserves	2019	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	4	139	8	non-ERF		Uneven-aged regeneration	2019	balsam fir	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	7	414	7	non-ERF		Commercial thinning	2018	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	7	415	4	ERF		Commercial thinning	2018	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	9	39	9	non-ERF		Clearcut w/reserves	2010	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	11	40	13	non-ERF		Clearcut w/reserves	2014	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	11	33	30	non-ERF		Clearcut w/reserves	2014	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	12	186	11	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	12	430	31	ERF		Commercial thinning	2014	red pine	30

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	12	427	15	ERF		Commercial thinning	2014	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	12	187	3	ERF		Commercial thinning	2014	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	13	65	15	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	13	195	5	non-ERF		Commercial thinning	2014	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	13	225	5	ERF		Uneven-aged regeneration	2010	ash	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	13	443	72	ERF		Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	13	205	2	ERF		Commercial thinning	2019	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	14	228	8	ERF		Commercial thinning	2019	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	14	50	32	ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	45	15	non-ERF		Clearcut w/reserves	2016	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	210	42	ERF		Clearcut w/reserves	2010	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	193	145	ERF		Clearcut w/reserves	2010	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	473	12	ERF	Y	Commercial thinning	2016	red pine	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	68	9	ERF		Commercial thinning	2016	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	206	26	ERF		Commercial thinning	2016	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	18	48	17	non-ERF		Commercial thinning	2018	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	19	451	4	non-ERF		Clearcut w/reserves	2015	lowland black spruce	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	19	461	5	non-ERF		Commercial thinning	2015	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	19	454	7	non-ERF		Commercial thinning	2015	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	20	277	8	non-ERF		Clearcut w/reserves	2012	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	21	274	7	non-ERF		Clearcut w/reserves	2012	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	21	271	39	ERF		Clearcut w/reserves	2012	lowland black spruce	123
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	23	83	6	ERF		Clearcut w/reserves	2019	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	23	241	32	ERF		Clearcut w/reserves	2019	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	23	103	9	ERF		Clearcut w/reserves	2019	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	23	361	15	ERF		Commercial thinning	2019	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	23	284	12	ERF		Commercial thinning	2019	red pine	17

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	94	24	non-ERF		Clearcut w/reserves	2019	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	399	11	non-ERF		Clearcut w/reserves	2019	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	482	12	non-ERF		Clearcut w/reserves	2019	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	478	3	non-ERF		Clearcut w/reserves	2019	tamarack	118
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	488	8	ERF		Clearcut w/reserves	2010	aspen	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	360	38	ERF		Clearcut w/reserves	2010	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	24	363	12	ERF		Commercial thinning	2010	white spruce	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	25	313	29	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	25	308	6	non-ERF		Clearcut w/reserves	2019	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	324	6	ERF	Y	Clearcut w/reserves	2014	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	422	9	ERF	Y	Clearcut w/reserves	2014	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	318	7	ERF	Y	Clearcut w/reserves	2014	upland black spruce	118
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	108	6	ERF		Commercial thinning	2014	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	405	22	ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	300	3	non-ERF		Clearcut w/reserves	2012	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	329	7	non-ERF		Clearcut w/reserves	2012	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	301	8	non-ERF		Clearcut w/reserves	2012	tamarack	127
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	327	11	non-ERF		Clearcut w/reserves	2012	tamarack	122
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	298	27	ERF		Commercial thinning	2012	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	28	314	39	ERF		Commercial thinning	2012	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	30	463	9	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	30	467	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	30	469	6	non-ERF		Commercial thinning	2015	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	31	116	17	non-ERF		Clearcut w/reserves	2010	aspen	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	31	341	9	non-ERF		Clearcut w/reserves	2010	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	23	0	31	337	3	non-ERF		Clearcut w/reserves	2010	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	1	103	6	non-ERF	Y	Clearcut w/reserves	2018	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	5	69	9	non-ERF		Uneven-aged regeneration	2011	balsam fir	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	10	215	28	ERF		Commercial thinning	2013	white spruce	26

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	12	151	30	non-ERF		Clearcut w/reserves	2018	lowland black spruce	149
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	311	7	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	285	23	non-ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	276	6	non-ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	851	21	non-ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	333	5	ERF		Commercial thinning	2013	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	343	30	ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	16	256	28	ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	22	786	11	non-ERF		Clearcut w/reserves	2013	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	22	797	4	non-ERF		Clearcut w/reserves	2013	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	22	775	78	ERF		Clearcut w/reserves	2013	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	23	469	9	non-ERF		Clearcut w/reserves	2013	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	23	798	6	non-ERF		Clearcut w/reserves	2013	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	27	713	15	non-ERF		Clearcut w/reserves	2016	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	27	879	28	non-ERF		Clearcut w/reserves	2016	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	27	880	12	non-ERF		Clearcut w/reserves	2016	tamarack	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	28	861	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	28	865	9	non-ERF		Clearcut w/reserves	2011	lowland black spruce	118
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	28	868	31	ERF		Commercial thinning	2011	red pine	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	29	529	8	non-ERF		Clearcut w/reserves	2011	balsam fir	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	29	866	16	non-ERF		Clearcut w/reserves	2011	lowland black spruce	118
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	29	536	6	non-ERF		Clearcut w/reserves	2011	lowland black spruce	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	29	566	10	non-ERF		Clearcut w/reserves	2011	tamarack	89
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	815	4	non-ERF		Clearcut w/reserves	2011	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	528	15	non-ERF		Clearcut w/reserves	2011	lowland black spruce	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	519	12	non-ERF		Clearcut w/reserves	2011	lowland black spruce	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	710	11	non-ERF		Clearcut w/reserves	2011	tamarack	121

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	535	16	non-ERF		Clearcut w/reserves	2011	upland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	30	575	13	non-ERF		Clearcut w/reserves	2011	upland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	645	6	non-ERF		Clearcut w/reserves	2011	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	761	10	non-ERF		Clearcut w/reserves	2011	balsam fir	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	701	5	non-ERF		Clearcut w/reserves	2011	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	771	12	non-ERF		Clearcut w/reserves	2011	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	752	27	non-ERF		Clearcut w/reserves	2011	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	32	753	4	non-ERF		Clearcut w/reserves	2011	lowland black spruce	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	33	666	12	non-ERF		Clearcut w/reserves	2016	balsam fir	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	33	762	3	non-ERF		Clearcut w/reserves	2011	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	33	751	16	non-ERF		Clearcut w/reserves	2016	tamarack	92
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	33	822	24	ERF		Commercial thinning	2011	red pine	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	34	626	2	non-ERF		Clearcut w/reserves	2016	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	34	731	24	non-ERF		Clearcut w/reserves	2016	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	34	607	38	non-ERF		Clearcut w/reserves	2016	tamarack	114
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	34	612	44	ERF		Commercial thinning	2016	red pine	19
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	24	0	35	696	15	non-ERF		Clearcut w/reserves	2015	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	3	64	22	non-ERF		Clearcut w/reserves	2012	lowland black spruce	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	3	92	36	non-ERF		Clearcut w/reserves	2012	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	4	53	6	non-ERF		Clearcut w/reserves	2012	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	6	132	8	non-ERF		Clearcut w/reserves	2013	lowland black spruce	150
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	7	915	17	non-ERF		Clearcut w/reserves	2015	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	8	912	16	non-ERF		Clearcut w/reserves	2015	lowland black spruce	149
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	1042	19	non-ERF		Clearcut w/reserves	2015	balsam fir	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	1028	9	non-ERF		Clearcut w/reserves	2015	balsam fir	95
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	370	17	non-ERF		Clearcut w/reserves	2015	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	1050	25	ERF		Commercial thinning	2015	red pine	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	344	12	ERF		Commercial thinning	2015	red pine	20
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	16	389	12	ERF		Commercial thinning	2015	red pine	25

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	332	7	non-ERF		Clearcut w/reserves	2019	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	926	12	non-ERF		Clearcut w/reserves	2019	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	330	13	non-ERF		Clearcut w/reserves	2015	balsam fir	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	1073	7	non-ERF		Clearcut w/reserves	2015	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	308	43	ERF		Clearcut w/reserves	2019	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	18	921	19	ERF		Commercial thinning	2019	red pine	23
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	19	494	4	non-ERF		Uneven-aged regeneration	2014	ash	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	19	576	7	non-ERF		Commercial thinning	2014	white spruce	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	19	544	9	ERF		Commercial thinning	2014	red pine	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	21	939	14	non-ERF		Clearcut w/reserves	2015	balsam fir	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	21	938	10	non-ERF		Clearcut w/reserves	2015	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	21	944	18	non-ERF		Clearcut w/reserves	2015	lowland black spruce	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	21	937	12	non-ERF		Clearcut w/reserves	2015	lowland black spruce	146
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	21	934	63	ERF		Clearcut w/reserves	2015	lowland black spruce	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	23	1076	13	non-ERF		Clearcut w/reserves	2017	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	31	1059	23	non-ERF		Clearcut w/reserves	2017	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	32	860	13	non-ERF		Uneven-aged regeneration	2010	balsam fir	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	33	844	41	non-ERF		Clearcut w/reserves	2010	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	33	832	9	non-ERF		Clearcut w/reserves	2010	tamarack	164
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	33	859	7	non-ERF		Uneven-aged regeneration	2010	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	34	788	10	non-ERF		Clearcut w/reserves	2010	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	34	774	4	non-ERF		Clearcut w/reserves	2010	lowland black spruce	111
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	36	1004	25	non-ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	36	850	6	non-ERF		Commercial thinning	2010	white spruce	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	36	1002	34	ERF		Commercial thinning	2010	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	36	955	34	ERF		Commercial thinning	2011	white spruce	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	25	0	36	996	22	ERF		Commercial thinning	2015	white spruce	23

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	281	23	non-ERF		Clearcut w/reserves	2018	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	33	11	non-ERF		Clearcut w/reserves	2018	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	287	20	non-ERF		Clearcut w/reserves	2018	balsam fir	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	51	10	non-ERF		Clearcut w/reserves	2018	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	32	8	non-ERF		Clearcut w/reserves	2018	upland black spruce	90
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	376	41	ERF	Y	Clearcut w/reserves	2018	balsam fir	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	5	9	27	non-ERF		Clearcut w/reserves	2016	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	7	57	136	ERF		Clearcut w/reserves	2018	tamarack	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	9	64	249	ERF		Clearcut w/reserves	2018	lowland black spruce	95
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	13	103	13	non-ERF		Clearcut w/reserves	2015	jack pine	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	13	104	20	non-ERF		Clearcut w/reserves	2015	balsam fir	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	13	101	9	non-ERF		Uneven-aged regeneration	2015	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	13	105	48	ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	16	102	194	ERF		Clearcut w/reserves	2014	lowland black spruce	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	18	396	5	non-ERF		Clearcut w/reserves	2018	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	18	615	8	non-ERF		Clearcut w/reserves	2018	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	18	617	6	non-ERF		Clearcut w/reserves	2018	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	18	395	20	ERF		Clearcut w/reserves	2018	jack pine	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	19	459	9	non-ERF		Clearcut w/reserves	2019	jack pine	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	19	443	4	ERF		Commercial thinning	2013	red pine	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	19	155	46	ERF		Commercial thinning	2013	red pine	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	19	430	2	ERF		Commercial thinning	2013	red pine	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	19	424	18	ERF		Commercial thinning	2013	red pine	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	20	584	39	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	20	137	3	non-ERF		Clearcut w/reserves	2013	balm of Gilead	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	20	433	14	non-ERF		Clearcut w/reserves	2013	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	20	429	11	non-ERF		Commercial thinning	2013	white spruce	28
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	21	167	9	non-ERF		Clearcut w/reserves	2010	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	21	419	4	non-ERF		Clearcut w/reserves	2013	birch	105

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	22	127	17	non-ERF		Clearcut w/reserves	2016	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	22	136	64	ERF		Clearcut w/reserves	2016	lowland black spruce	111
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	23	141	35	ERF		Clearcut w/reserves	2016	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	23	125	143	ERF		Clearcut w/reserves	2016	lowland black spruce	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	24	124	7	non-ERF		Clearcut w/reserves	2016	lowland black spruce	112
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	25	340	7	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	25	177	18	non-ERF		Clearcut w/reserves	2012	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	25	485	114	ERF		Clearcut w/reserves	2012	lowland black spruce	119
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	26	507	30	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	26	478	26	non-ERF		Clearcut w/reserves	2012	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	27	176	3	non-ERF		Commercial thinning	2011	white spruce	23
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	27	512	24	ERF		Commercial thinning	2016	white spruce	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	27	322	23	ERF		Commercial thinning	2016	white spruce	23
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	28	190	8	non-ERF		Clearcut w/reserves	2011	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	28	343	22	non-ERF		Uneven-aged regeneration	2011	balsam fir	89
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	28	467	13	non-ERF		Commercial thinning	2011	white spruce	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	29	330	10	non-ERF		Clearcut w/reserves	2016	jack pine	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	29	320	22	ERF		Clearcut w/reserves	2016	jack pine	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	29	506	21	ERF		Clearcut w/reserves	2019	jack pine	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	29	319	20	ERF		Commercial thinning	2010	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	29	482	4	ERF		Commercial thinning	2010	red pine	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	30	207	8	non-ERF		Clearcut w/reserves	2015	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	30	341	27	non-ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	30	342	10	ERF	Y	Commercial thinning	2015	red pine	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	34	226	69	non-ERF		Uneven-aged regeneration	2012	balsam fir	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	35	366	28	non-ERF		Clearcut w/reserves	2011	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	36	529	133	non-ERF		Clearcut w/reserves	2017	balsam fir	43

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	36	535	3	non-ERF		Clearcut w/reserves	2017	tamarack	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	36	534	29	ERF		Clearcut w/reserves	2017	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	26	0	36	531	75	ERF		Clearcut w/reserves	2017	tamarack	127
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	2	123	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	2	2	48	ERF		Clearcut w/reserves	2015	tamarack	86
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	2	122	82	ERF		Clearcut w/reserves	2015	tamarack	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	64	15	non-ERF		Clearcut w/reserves	2017	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	155	5	non-ERF		Clearcut w/reserves	2015	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	252	3	non-ERF		Clearcut w/reserves	2010	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	55	2	non-ERF		Clearcut w/reserves	2010	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	65	14	non-ERF		Clearcut w/reserves	2017	balm of Gilead	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	63	10	non-ERF		Clearcut w/reserves	2017	balm of Gilead	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	152	27	non-ERF		Clearcut w/reserves	2017	balm of Gilead	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	146	4	non-ERF		Clearcut w/reserves	2017	balm of Gilead	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	150	2	non-ERF		Clearcut w/reserves	2017	balm of Gilead	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	8	4	non-ERF		Clearcut w/reserves	2015	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	151	6	non-ERF		Clearcut w/reserves	2015	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	130	15	non-ERF		Clearcut w/reserves	2015	lowland black spruce	105
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	11	147	5	ERF		Commercial thinning	2015	red pine	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	12	136	9	non-ERF		Clearcut w/reserves	2017	balm of Gilead	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	12	61	10	non-ERF		Clearcut w/reserves	2017	balsam fir	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	12	5	66	ERF		Clearcut w/reserves	2017	tamarack	101
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	13	196	17	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	13	197	56	ERF		Clearcut w/reserves	2016	jack pine	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	14	166	14	non-ERF		Clearcut w/reserves	2018	jack pine	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	14	187	12	non-ERF		Clearcut w/reserves	2018	jack pine	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	14	17	5	ERF		Commercial thinning	2011	red pine	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	14	167	24	ERF		Commercial thinning	2011	red pine	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	21	17	non-ERF		Clearcut w/reserves	2012	jack pine	64

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	218	9	non-ERF		Clearcut w/reserves	2018	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	205	40	ERF		Clearcut w/reserves	2018	aspen	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	210	8	ERF		Commercial thinning	2012	red pine	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	208	3	ERF		Commercial thinning	2012	red pine	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	23	24	2	ERF		Commercial thinning	2018	red pine	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	220	18	non-ERF		Clearcut w/reserves	2018	aspen	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	170	9	non-ERF		Clearcut w/reserves	2016	jack pine	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	202	10	non-ERF		Clearcut w/reserves	2016	jack pine	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	217	7	non-ERF		Clearcut w/reserves	2018	balsam fir	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	81	13	ERF		Clearcut w/reserves	2014	jack pine	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	221	15	ERF		Commercial thinning	2018	red pine	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	207	3	ERF		Commercial thinning	2019	red pine	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	175	11	ERF		Commercial thinning	2019	red pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	212	32	ERF		Commercial thinning	2016	red pine	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	214	16	ERF		Commercial thinning	2019	red pine	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	24	215	5	ERF		Commercial thinning	2019	red pine	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	25	239	17	non-ERF		Clearcut w/reserves	2018	jack pine	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	25	240	17	ERF		Commercial thinning	2010	red pine	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	25	244	5	ERF		Commercial thinning	2010	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	36	119	9	non-ERF		Clearcut w/reserves	2017	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	36	121	2	non-ERF		Clearcut w/reserves	2017	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	66	27	0	36	120	6	non-ERF		Clearcut w/reserves	2017	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	23	0	34	229	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	11	608	3	non-ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	11	576	7	non-ERF		Clearcut w/reserves	2010	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	16	722	16	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	16	721	9	non-ERF		Clearcut w/reserves	2013	balm of Gilead	68

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	16	740	7	non-ERF		Clearcut w/reserves	2013	balm of Gilead	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	24	0	16	731	16	non-ERF		Clearcut w/reserves	2013	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	5	58	14	non-ERF		Clearcut w/reserves	2017	birch	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	7	235	9	non-ERF		Clearcut w/reserves	2010	aspens	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	7	240	6	non-ERF		Clearcut w/reserves	2010	jack pine	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	14	299	12	non-ERF		Clearcut w/reserves	2018	lowland black spruce	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	16	284	28	non-ERF		Clearcut w/reserves	2012	aspens	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	16	317	5	non-ERF		Clearcut w/reserves	2012	aspens	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	16	287	38	non-ERF		Clearcut w/reserves	2012	aspens	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	17	311	13	non-ERF		Clearcut w/reserves	2011	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	17	350	24	non-ERF		Clearcut w/reserves	2011	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	17	314	18	non-ERF		Clearcut w/reserves	2011	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	17	383	19	non-ERF		Clearcut w/reserves	2011	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	18	279	6	non-ERF		Clearcut w/reserves	2011	balsam fir	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	18	329	290	non-ERF		Clearcut w/reserves	2011	lowland black spruce	145
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	18	322	6	non-ERF		Clearcut w/reserves	2011	lowland black spruce	145
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	23	510	14	non-ERF		Commercial thinning	2018	white spruce	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	29	783	7	non-ERF		Clearcut w/reserves	2013	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	30	767	37	non-ERF		Clearcut w/reserves	2013	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	968	5	non-ERF		Clearcut w/reserves	2013	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	830	15	non-ERF		Clearcut w/reserves	2013	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	896	16	non-ERF		Clearcut w/reserves	2013	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	934	5	non-ERF		Clearcut w/reserves	2013	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	988	47	ERF		Clearcut w/reserves	2013	lowland black spruce	213
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	31	939	82	ERF		Clearcut w/reserves	2013	lowland black spruce	197
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	32	871	4	non-ERF		Clearcut w/reserves	2013	birch	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	25	0	36	997	15	non-ERF		Clearcut w/reserves	2011	jack pine	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	1	26	26	ERF		Commercial thinning	2011	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	2	44	4	non-ERF		Clearcut w/reserves	2011	aspens	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	2	22	45	non-ERF		Clearcut w/reserves	2019	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	3	50	3	non-ERF		Clearcut w/reserves	2019	balsam fir	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	4	96	9	non-ERF		Clearcut w/reserves	2019	aspen	39
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	5	8	24	non-ERF		Clearcut w/reserves	2016	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	5	37	71	non-ERF		Clearcut w/reserves	2019	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	5	79	15	non-ERF		Clearcut w/reserves	2019	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	5	823	2	non-ERF		Clearcut w/reserves	2016	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	6	75	33	non-ERF		Clearcut w/reserves	2019	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	9	171	17	non-ERF		Clearcut w/reserves	2019	aspen	38
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	9	186	8	non-ERF		Clearcut w/reserves	2019	lowland black spruce	151
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	9	142	8	non-ERF		Uneven-aged regeneration	2019	white spruce	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	10	218	3	non-ERF		Clearcut w/reserves	2019	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	10	114	10	non-ERF		Clearcut w/reserves	2019	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	10	130	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	16	242	7	non-ERF		Clearcut w/reserves	2018	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	16	255	7	non-ERF		Clearcut w/reserves	2018	aspen	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	16	245	5	non-ERF		Clearcut w/reserves	2018	aspen	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	17	240	23	non-ERF		Clearcut w/reserves	2018	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	17	244	3	non-ERF		Clearcut w/reserves	2018	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	18	226	29	non-ERF		Clearcut w/reserves	2018	aspen	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	18	225	20	non-ERF		Clearcut w/reserves	2018	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	20	411	22	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	20	340	6	non-ERF		Clearcut w/reserves	2010	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	20	354	11	non-ERF		Clearcut w/reserves	2010	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	20	808	12	non-ERF		Commercial thinning	2017	white spruce	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	22	712	6	non-ERF		Clearcut w/reserves	2012	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	22	349	13	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	22	388	11	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	23	415	26	non-ERF		Clearcut w/reserves	2012	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	23	417	12	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	23	410	17	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	24	384	19	non-ERF		Clearcut w/reserves	2012	balsam fir	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	24	369	44	ERF		Clearcut w/reserves	2012	lowland black spruce	112
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	25	495	11	non-ERF		Clearcut w/reserves	2012	balsam fir	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	25	483	7	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	26	526	5	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	26	466	11	non-ERF		Clearcut w/reserves	2012	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	26	504	6	non-ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	26	506	5	non-ERF	Y	Clearcut w/reserves	2012	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	29	439	18	non-ERF		Clearcut w/reserves	2017	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	29	425	10	non-ERF		Clearcut w/reserves	2017	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	29	493	25	non-ERF		Clearcut w/reserves	2017	balm of Gilead	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	30	438	16	non-ERF		Clearcut w/reserves	2017	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	31	820	5	non-ERF		Clearcut w/reserves	2019	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	31	618	10	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	31	649	7	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	31	34	9	non-ERF		Clearcut w/reserves	2019	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	31	604	10	non-ERF		Clearcut w/reserves	2019	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	34	698	14	non-ERF		Uneven-aged regeneration	2014	balsam fir	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	34	694	6	non-ERF		Uneven-aged regeneration	2014	balsam fir	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	35	693	5	non-ERF	Y	Clearcut w/reserves	2014	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	35	591	55	ERF		Clearcut w/reserves	2014	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	696	24	non-ERF		Clearcut w/reserves	2018	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	620	7	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	601	8	non-ERF		Clearcut w/reserves	2014	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	578	17	non-ERF		Clearcut w/reserves	2014	balsam fir	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	579	30	non-ERF		Clearcut w/reserves	2014	balsam fir	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	652	41	non-ERF	Y	Uneven-aged regeneration	2014	balsam fir	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	27	0	2	7	9	non-ERF		Clearcut w/reserves	2019	lowland black spruce	123
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	27	0	11	26	55	non-ERF		Clearcut w/reserves	2010	lowland black spruce	164
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	27	0	13	204	22	non-ERF		Commercial thinning	2018	white spruce	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	67	27	0	25	128	11	non-ERF		Clearcut w/reserves	2010	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	23	0	2	714	2	non-ERF		Clearcut w/reserves	2017	balsam fir	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	4	4	16	non-ERF		Clearcut w/reserves	2013	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	5	864	5	non-ERF		Clearcut w/reserves	2017	aspen	89
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	5	107	5	non-ERF		Clearcut w/reserves	2011	lowland black spruce	164
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	6	108	7	non-ERF		Clearcut w/reserves	2011	lowland black spruce	164
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	301	18	non-ERF		Clearcut w/reserves	2016	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	249	8	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	284	28	non-ERF		Clearcut w/reserves	2016	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	245	13	non-ERF		Clearcut w/reserves	2016	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	238	20	non-ERF		Clearcut w/reserves	2016	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	7	215	15	non-ERF		Clearcut w/reserves	2016	lowland black spruce	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	8	149	110	non-ERF		Clearcut w/reserves	2018	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	8	227	32	non-ERF		Clearcut w/reserves	2015	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	8	266	37	non-ERF		Clearcut w/reserves	2015	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	8	297	10	non-ERF		Clearcut w/reserves	2015	balsam fir	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	9	230	12	non-ERF		Clearcut w/reserves	2015	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	9	228	19	non-ERF		Clearcut w/reserves	2015	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	9	207	13	non-ERF		Clearcut w/reserves	2018	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	975	22	non-ERF		Clearcut w/reserves	2019	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	950	33	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	985	9	non-ERF		Clearcut w/reserves	2019	aspen	62

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	988	11	non-ERF		Clearcut w/reserves	2019	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	969	16	non-ERF		Clearcut w/reserves	2019	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	16	995	9	non-ERF		Clearcut w/reserves	2010	balm of Gilead	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	17	381	9	non-ERF		Clearcut w/reserves	2015	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	17	952	21	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	18	312	17	non-ERF		Clearcut w/reserves	2016	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	21	507	17	non-ERF		Clearcut w/reserves	2010	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	21	452	18	non-ERF		Clearcut w/reserves	2010	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	21	997	13	non-ERF		Clearcut w/reserves	2010	balm of Gilead	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	32	769	7	non-ERF		Clearcut w/reserves	2015	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	32	1052	9	non-ERF		Clearcut w/reserves	2015	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	32	1070	6	non-ERF		Clearcut w/reserves	2015	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	32	1073	7	non-ERF		Clearcut w/reserves	2015	birch	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	32	1032	6	non-ERF		Clearcut w/reserves	2015	balsam fir	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	34	851	8	non-ERF		Clearcut w/reserves	2016	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	35	742	28	non-ERF		Clearcut w/reserves	2016	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	35	724	8	non-ERF		Clearcut w/reserves	2016	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	24	0	36	1063	22	non-ERF		Clearcut w/reserves	2016	lowland black spruce	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	1	173	9	non-ERF		Clearcut w/reserves	2010	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	1	55	6	non-ERF		Commercial thinning	2011	white spruce	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	2	50	17	non-ERF		Commercial thinning	2015	white spruce	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	5	940	3	non-ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	5	815	11	non-ERF		Uneven-aged regeneration	2011	ash	129
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	5	811	35	non-ERF		Uneven-aged regeneration	2011	ash	111
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	16	362	25	non-ERF		Clearcut w/reserves	2015	lowland black spruce	108
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	17	861	57	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	17	862	20	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	17	355	13	non-ERF		Clearcut w/reserves	2015	balm of Gilead	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	17	434	11	non-ERF		Clearcut w/reserves	2015	balsam fir	71

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	18	848	6	non-ERF		Clearcut w/reserves	2017	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	18	868	7	non-ERF		Clearcut w/reserves	2017	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	18	865	6	non-ERF		Clearcut w/reserves	2017	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	18	316	7	non-ERF		Clearcut w/reserves	2017	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	28	896	7	non-ERF		Clearcut w/reserves	2010	balm of Gilead	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	28	888	28	non-ERF		Uneven-aged regeneration	2011	ash	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	28	885	59	non-ERF		Uneven-aged regeneration	2011	ash	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	30	645	8	non-ERF		Clearcut w/reserves	2018	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	30	672	31	non-ERF		Clearcut w/reserves	2018	lowland black spruce	125
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	32	776	24	non-ERF		Clearcut w/reserves	2019	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	33	790	5	non-ERF		Clearcut w/reserves	2019	birch	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	36	801	19	non-ERF		Clearcut w/reserves	2013	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	36	704	27	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	36	738	42	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	36	730	5	non-ERF		Clearcut w/reserves	2013	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	25	0	36	806	4	non-ERF		Uneven-aged regeneration	2013	ash	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	2	156	12	non-ERF		Clearcut w/reserves	2012	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	2	39	14	non-ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	2	109	12	non-ERF		Clearcut w/reserves	2014	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	2	110	77	ERF		Clearcut w/reserves	2012	lowland black spruce	153
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	3	140	5	non-ERF		Clearcut w/reserves	2012	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	3	150	10	non-ERF		Clearcut w/reserves	2012	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	3	115	26	non-ERF		Clearcut w/reserves	2012	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	3	89	12	non-ERF		Clearcut w/reserves	2012	birch	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	3	94	18	non-ERF		Clearcut w/reserves	2012	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	8	280	11	non-ERF		Clearcut w/reserves	2015	lowland black spruce	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	10	175	10	non-ERF		Clearcut w/reserves	2012	aspen	69

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	11	183	17	non-ERF		Clearcut w/reserves	2012	lowland black spruce	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	13	432	8	non-ERF		Clearcut w/reserves	2010	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	15	948	3	non-ERF		Clearcut w/reserves	2011	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	18	313	6	non-ERF		Clearcut w/reserves	2015	lowland black spruce	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	18	385	28	non-ERF		Clearcut w/reserves	2015	tamarack	149
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	18	912	70	ERF		Clearcut w/reserves	2015	lowland black spruce	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	19	558	4	non-ERF		Clearcut w/reserves	2011	balsam fir	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	23	572	4	non-ERF		Clearcut w/reserves	2012	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	26	756	5	non-ERF		Uneven-aged regeneration	2012	ash	109
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	27	719	29	non-ERF		Clearcut w/reserves	2016	lowland black spruce	136
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	27	720	13	non-ERF		Clearcut w/reserves	2016	lowland black spruce	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	30	596	17	non-ERF		Clearcut w/reserves	2014	lowland black spruce	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	31	842	5	non-ERF		Clearcut w/reserves	2014	lowland black spruce	167
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	31	855	43	non-ERF		Clearcut w/reserves	2014	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	32	967	10	non-ERF		Clearcut w/reserves	2014	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	32	994	5	non-ERF		Clearcut w/reserves	2014	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	32	971	46	non-ERF		Clearcut w/reserves	2014	lowland black spruce	131
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	32	993	3	non-ERF		Clearcut w/reserves	2014	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	33	980	25	non-ERF		Clearcut w/reserves	2014	lowland black spruce	192
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	33	864	31	non-ERF		Clearcut w/reserves	2010	lowland black spruce	154
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	26	0	35	837	26	non-ERF		Clearcut w/reserves	2019	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	11	20	12	non-ERF		Clearcut w/reserves	2018	aspen	34
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	11	94	3	non-ERF		Clearcut w/reserves	2015	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	12	24	8	non-ERF		Clearcut w/reserves	2018	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	12	84	18	non-ERF		Clearcut w/reserves	2015	tamarack	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	31	30	non-ERF		Clearcut w/reserves	2018	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	33	16	non-ERF		Clearcut w/reserves	2010	lowland black spruce	161
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	132	8	non-ERF		Clearcut w/reserves	2010	lowland black spruce	152
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	37	8	non-ERF		Clearcut w/reserves	2010	lowland black spruce	110

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Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	26	11	non-ERF		Clearcut w/reserves	2018	lowland black spruce	141
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	13	127	33	non-ERF		Clearcut w/reserves	2010	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	14	130	102	ERF		Clearcut w/reserves	2018	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	23	207	9	non-ERF		Clearcut w/reserves	2016	lowland black spruce	131
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	24	55	14	non-ERF		Clearcut w/reserves	2011	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	24	54	19	non-ERF		Clearcut w/reserves	2019	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	24	198	22	non-ERF		Clearcut w/reserves	2010	lowland black spruce	141
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	24	53	4	non-ERF		Uneven-aged regeneration	2011	balsam fir	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	25	142	7	non-ERF		Clearcut w/reserves	2019	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	25	141	25	non-ERF		Clearcut w/reserves	2014	lowland black spruce	144
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	25	183	7	non-ERF		Clearcut w/reserves	2014	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	26	66	20	non-ERF		Clearcut w/reserves	2016	aspen	24
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	26	210	9	non-ERF		Clearcut w/reserves	2016	aspen	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	26	185	7	non-ERF		Clearcut w/reserves	2016	lowland black spruce	161
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	26	151	14	non-ERF		Clearcut w/reserves	2016	lowland black spruce	159
Littlefork-Vermilion Uplands	Koochiching	Littlefork	68	27	0	36	73	6	non-ERF		Clearcut w/reserves	2014	lowland black spruce	153
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	4	25	3	non-ERF		Uneven-aged regeneration	2013	balsam fir	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	4	19	13	non-ERF		Commercial thinning	2013	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	9	91	11	ERF		Clearcut w/reserves	2016	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	16	101	10	non-ERF		Clearcut w/reserves	2016	aspen	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	16	640	38	non-ERF		Clearcut w/reserves	2016	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	16	654	21	non-ERF		Clearcut w/reserves	2016	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	16	102	19	non-ERF		Clearcut w/reserves	2016	balm of Gilead	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	17	143	6	non-ERF		Clearcut w/reserves	2010	balm of Gilead	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	17	649	10	non-ERF		Uneven-aged regeneration	2010	ash	89
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	17	141	3	ERF		Clearcut w/reserves	2010	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	19	194	2	non-ERF		Clearcut w/reserves	2013	aspen	80

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	19	237	5	non-ERF		Clearcut w/reserves	2013	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	19	177	27	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	19	178	9	non-ERF		Clearcut w/reserves	2013	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	19	198	20	non-ERF		Commercial thinning	2013	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	20	674	78	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	20	710	5	non-ERF		Clearcut w/reserves	2010	balm of Gilead	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	22	230	14	non-ERF		Clearcut w/reserves	2014	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	22	176	13	non-ERF		Clearcut w/reserves	2014	balm of Gilead	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	22	772	37	non-ERF		Commercial thinning	2014	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	22	0	29	409	23	non-ERF		Commercial thinning	2011	white spruce	31
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	3	23	11	non-ERF		Clearcut w/reserves	2012	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	4	36	9	non-ERF		Clearcut w/reserves	2011	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	5	579	24	non-ERF		Clearcut w/reserves	2013	lowland black spruce	162
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	5	585	3	non-ERF		Clearcut w/reserves	2013	tamarack	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	8	94	11	non-ERF		Clearcut w/reserves	2013	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	8	619	19	non-ERF		Clearcut w/reserves	2013	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	8	613	14	non-ERF		Clearcut w/reserves	2013	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	9	64	48	non-ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	9	126	6	non-ERF		Clearcut w/reserves	2013	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	9	40	112	ERF		Clearcut w/reserves	2011	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	9	517	98	ERF		Clearcut w/reserves	2013	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	500	6	non-ERF		Clearcut w/reserves	2015	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	530	23	non-ERF		Clearcut w/reserves	2015	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	516	42	non-ERF		Clearcut w/reserves	2015	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	534	14	non-ERF		Clearcut w/reserves	2015	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	520	6	non-ERF		Clearcut w/reserves	2015	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	89	6	non-ERF		Clearcut w/reserves	2013	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	65	2	non-ERF		Clearcut w/reserves	2011	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	518	15	non-ERF		Clearcut w/reserves	2015	aspen	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	507	2	non-ERF		Clearcut w/reserves	2015	balm of Gilead	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	10	498	7	non-ERF		Uneven-aged regeneration	2015	ash	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	11	515	10	non-ERF		Clearcut w/reserves	2017	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	11	493	6	non-ERF		Clearcut w/reserves	2017	birch	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	11	93	12	non-ERF		Clearcut w/reserves	2017	balm of Gilead	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	11	513	40	non-ERF		Clearcut w/reserves	2017	balm of Gilead	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	11	492	7	non-ERF		Clearcut w/reserves	2017	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	13	179	38	non-ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	13	207	19	non-ERF		Commercial thinning	2010	white spruce	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	14	661	4	non-ERF		Clearcut w/reserves	2017	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	15	667	12	non-ERF		Clearcut w/reserves	2017	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	15	145	10	non-ERF		Clearcut w/reserves	2015	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	15	186	29	non-ERF		Commercial thinning	2016	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	129	15	non-ERF		Clearcut w/reserves	2010	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	162	14	non-ERF		Clearcut w/reserves	2010	aspen	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	639	24	non-ERF		Clearcut w/reserves	2010	balm of Gilead	90
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	139	12	non-ERF		Clearcut w/reserves	2010	balm of Gilead	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	131	9	non-ERF		Commercial thinning	2013	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	16	132	6	non-ERF		Commercial thinning	2013	white spruce	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	17	655	10	non-ERF		Clearcut w/reserves	2013	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	17	636	11	non-ERF		Clearcut w/reserves	2013	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	18	212	3	non-ERF		Clearcut w/reserves	2016	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	18	211	5	non-ERF		Clearcut w/reserves	2016	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	18	134	2	non-ERF		Clearcut w/reserves	2014	lowland black spruce	178
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	18	218	2	non-ERF		Uneven-aged regeneration	2016	ash	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	18	209	5	non-ERF		Commercial thinning	2016	white spruce	11
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	19	249	9	non-ERF		Clearcut w/reserves	2016	aspen	66

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	19	227	3	non-ERF		Clearcut w/reserves	2016	aspen	37
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	19	252	6	non-ERF		Clearcut w/reserves	2016	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	19	225	33	non-ERF		Clearcut w/reserves	2016	tamarack	127
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	19	309	18	non-ERF		Commercial thinning	2015	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	20	278	4	non-ERF		Clearcut w/reserves	2016	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	20	876	50	non-ERF		Clearcut w/reserves	2018	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	20	302	7	non-ERF		Clearcut w/reserves	2018	aspen	51
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	21	243	6	non-ERF		Clearcut w/reserves	2018	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	21	881	12	non-ERF		Clearcut w/reserves	2018	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	23	714	20	non-ERF		Clearcut w/reserves	2019	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	23	705	9	non-ERF		Clearcut w/reserves	2012	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	23	719	36	non-ERF		Clearcut w/reserves	2019	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	23	691	17	non-ERF		Clearcut w/reserves	2010	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	24	246	14	non-ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	25	938	2	non-ERF		Clearcut w/reserves	2017	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	25	975	3	non-ERF		Commercial thinning	2017	white spruce	11
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	26	924	34	non-ERF		Clearcut w/reserves	2010	aspen	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	27	329	6	non-ERF		Clearcut w/reserves	2019	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	27	914	5	non-ERF		Clearcut w/reserves	2010	aspen	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	29	356	3	non-ERF		Clearcut w/reserves	2013	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	29	769	5	non-ERF		Uneven-aged regeneration	2013	balsam fir	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	30	573	12	non-ERF		Clearcut w/reserves	2013	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	30	571	17	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	30	767	5	non-ERF		Clearcut w/reserves	2017	lowland black spruce	120
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	961	7	non-ERF	Y	Clearcut w/reserves	2013	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	964	4	non-ERF		Clearcut w/reserves	2013	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	960	10	non-ERF		Clearcut w/reserves	2013	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	958	7	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	956	63	non-ERF		Clearcut w/reserves	2017	lowland black spruce	135

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	386	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	574	3	non-ERF		Uneven-aged regeneration	2013	balsam fir	88
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	32	397	8	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	32	959	17	non-ERF		Clearcut w/reserves	2017	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	35	441	8	non-ERF		Clearcut w/reserves	2017	lowland black spruce	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	35	435	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	95
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	23	0	36	944	3	non-ERF		Clearcut w/reserves	2017	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	4	6	7	non-ERF		Clearcut w/reserves	2014	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	10	69	17	non-ERF		Clearcut w/reserves	2016	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	10	425	37	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	10	366	10	non-ERF		Clearcut w/reserves	2016	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	10	367	9	non-ERF		Clearcut w/reserves	2016	balm of Gilead	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	12	64	7	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	12	63	7	non-ERF		Clearcut w/reserves	2014	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	614	22	non-ERF		Clearcut w/reserves	2014	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	590	12	non-ERF		Clearcut w/reserves	2014	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	612	58	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	609	20	non-ERF		Clearcut w/reserves	2014	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	599	15	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	14	616	7	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	15	373	3	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	15	376	10	non-ERF		Clearcut w/reserves	2014	balm of Gilead	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	15	375	11	non-ERF		Clearcut w/reserves	2014	balm of Gilead	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	15	95	7	ERF		Clearcut w/reserves	2010	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	15	369	49	ERF		Clearcut w/reserves	2016	balm of Gilead	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	16	731	11	non-ERF		Clearcut w/reserves	2010	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	16	93	2	ERF		Clearcut w/reserves	2010	aspen	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	16	97	4	ERF		Clearcut w/reserves	2010	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	16	87	32	ERF		Clearcut w/reserves	2010	aspen	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	16	84	8	ERF		Clearcut w/reserves	2010	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	22	188	4	non-ERF		Uneven-aged regeneration	2011	lowland hardwoods	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	23	160	11	non-ERF		Clearcut w/reserves	2017	lowland black spruce	142
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	23	650	5	non-ERF		Clearcut w/reserves	2017	lowland black spruce	152
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	652	5	non-ERF		Clearcut w/reserves	2017	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	148	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	159	7	non-ERF		Clearcut w/reserves	2017	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	660	4	non-ERF		Clearcut w/reserves	2017	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	657	4	non-ERF		Clearcut w/reserves	2017	lowland black spruce	141
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	24	667	2	non-ERF		Clearcut w/reserves	2017	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	25	693	9	non-ERF		Clearcut w/reserves	2015	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	25	692	10	non-ERF		Commercial thinning	2015	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	26	441	12	non-ERF		Clearcut w/reserves	2011	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	222	19	non-ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	433	11	non-ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	442	8	non-ERF		Clearcut w/reserves	2011	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	249	7	non-ERF		Clearcut w/reserves	2011	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	229	18	non-ERF		Clearcut w/reserves	2011	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	431	32	non-ERF		Clearcut w/reserves	2013	lowland black spruce	146
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	27	232	5	non-ERF		Uneven-aged regeneration	2011	ash	113
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	28	438	16	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	28	696	25	non-ERF		Clearcut w/reserves	2013	lowland black spruce	171
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	29	702	5	non-ERF		Clearcut w/reserves	2013	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	31	286	11	non-ERF		Clearcut w/reserves	2011	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	31	408	24	non-ERF		Clearcut w/reserves	2017	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	31	312	5	non-ERF		Clearcut w/reserves	2017	balsam fir	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	31	322	11	non-ERF		Uneven-aged regeneration	2017	ash	122

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	32	407	27	non-ERF		Clearcut w/reserves	2017	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	32	289	12	non-ERF		Commercial thinning	2017	white spruce	20
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	32	298	14	non-ERF		Commercial thinning	2017	white spruce	20
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	33	482	60	non-ERF		Clearcut w/reserves	2013	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	33	455	19	non-ERF		Clearcut w/reserves	2013	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	33	458	4	non-ERF		Clearcut w/reserves	2013	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	33	466	9	non-ERF		Clearcut w/reserves	2013	lowland black spruce	160
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	33	460	3	non-ERF		Clearcut w/reserves	2013	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	459	17	non-ERF		Clearcut w/reserves	2011	aspen	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	772	8	non-ERF		Clearcut w/reserves	2011	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	572	9	non-ERF		Clearcut w/reserves	2011	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	454	6	non-ERF		Clearcut w/reserves	2013	lowland black spruce	138
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	288	6	non-ERF		Clearcut w/reserves	2013	lowland black spruce	114
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	470	9	non-ERF		Uneven-aged regeneration	2011	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	34	568	91	ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	35	559	33	non-ERF		Clearcut w/reserves	2019	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	556	18	non-ERF		Clearcut w/reserves	2019	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	453	33	non-ERF		Clearcut w/reserves	2019	lowland black spruce	128
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	758	11	non-ERF		Clearcut w/reserves	2019	lowland black spruce	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	561	9	non-ERF		Clearcut w/reserves	2019	lowland black spruce	107
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	756	25	non-ERF		Clearcut w/reserves	2019	lowland black spruce	142
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	721	17	non-ERF		Clearcut w/reserves	2019	lowland black spruce	153
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	24	0	36	718	7	non-ERF		Clearcut w/reserves	2019	lowland black spruce	118
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	3	15	14	non-ERF		Clearcut w/reserves	2017	balm of Gilead	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	4	61	24	non-ERF		Clearcut w/reserves	2011	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	14	245	7	non-ERF		Clearcut w/reserves	2012	tamarack	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	24	337	26	non-ERF		Clearcut w/reserves	2014	lowland black spruce	122

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	24	328	16	non-ERF		Clearcut w/reserves	2014	lowland black spruce	153
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	25	666	5	non-ERF		Commercial thinning	2011	white spruce	29
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	28	468	8	non-ERF		Clearcut w/reserves	2012	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	30	598	25	non-ERF		Clearcut w/reserves	2010	lowland black spruce	154
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	575	3	non-ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	533	10	non-ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	570	8	non-ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	525	6	non-ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	611	11	non-ERF		Uneven-aged regeneration	2011	ash	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	31	610	9	non-ERF		Uneven-aged regeneration	2010	ash	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	36	687	17	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	36	676	5	non-ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	25	0	36	683	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	1	45	45	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	1	36	8	non-ERF		Clearcut w/reserves	2014	lowland black spruce	155
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	2	112	7	non-ERF		Clearcut w/reserves	2014	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	4	82	10	non-ERF		Clearcut w/reserves	2018	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	4	646	39	non-ERF		Clearcut w/reserves	2018	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	4	636	10	non-ERF		Clearcut w/reserves	2018	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	7	124	5	non-ERF		Clearcut w/reserves	2011	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	7	128	6	non-ERF		Clearcut w/reserves	2011	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	7	137	3	non-ERF		Clearcut w/reserves	2011	balsam fir	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	8	232	6	non-ERF		Clearcut w/reserves	2018	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	9	675	6	non-ERF		Clearcut w/reserves	2012	lowland black spruce	107
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	9	676	29	non-ERF		Clearcut w/reserves	2012	lowland black spruce	110
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	9	208	55	non-ERF		Clearcut w/reserves	2012	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	9	677	11	non-ERF		Clearcut w/reserves	2012	lowland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	10	156	8	non-ERF		Clearcut w/reserves	2012	tamarack	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	15	372	15	non-ERF		Clearcut w/reserves	2011	aspen	36

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	15	363	10	non-ERF		Clearcut w/reserves	2011	balsam fir	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	16	302	7	non-ERF		Clearcut w/reserves	2012	lowland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	19	767	2	non-ERF		Commercial thinning	2014	white spruce	12
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	23	421	14	non-ERF		Clearcut w/reserves	2011	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	29	474	16	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	31	703	209	ERF		Clearcut w/reserves	2018	lowland black spruce	154
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	32	566	103	ERF		Clearcut w/reserves	2018	lowland black spruce	134
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	32	540	9	ERF		Clearcut w/reserves	2018	lowland black spruce	154
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	35	600	21	non-ERF		Clearcut w/reserves	2012	lowland black spruce	154
Littlefork-Vermilion Uplands	Koochiching	Littlefork	69	26	0	36	615	41	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	386	24	non-ERF		Clearcut w/reserves	2014	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	377	11	non-ERF		Clearcut w/reserves	2014	aspen	81
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	387	37	non-ERF		Clearcut w/reserves	2014	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	390	12	non-ERF		Clearcut w/reserves	2014	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	391	7	non-ERF		Uneven-aged regeneration	2014	lowland hardwoods	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	291	5	non-ERF	Y	Uneven-aged regeneration	2014	white pine	129
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	17	373	10	non-ERF		Clearcut w/reserves	2010	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	17	63	9	non-ERF		Clearcut w/reserves	2014	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	17	323	3	non-ERF		Clearcut w/reserves	2010	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	18	310	8	non-ERF		Clearcut w/reserves	2010	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	18	47	4	non-ERF		Clearcut w/reserves	2010	aspen	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	18	319	13	non-ERF		Clearcut w/reserves	2010	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	18	316	8	non-ERF		Clearcut w/reserves	2010	aspen	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	18	54	5	non-ERF		Uneven-aged regeneration	2010	lowland hardwoods	106
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	19	211	7	non-ERF		Clearcut w/reserves	2016	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	19	90	14	non-ERF		Clearcut w/reserves	2016	aspen	52
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	394	11	non-ERF		Clearcut w/reserves	2014	aspen	54

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	395	4	non-ERF		Clearcut w/reserves	2014	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	78	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	125
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	183	30	non-ERF		Clearcut w/reserves	2015	lowland black spruce	110
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	401	69	non-ERF		Clearcut w/reserves	2015	lowland black spruce	125
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	187	28	non-ERF		Clearcut w/reserves	2015	lowland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	20	403	17	non-ERF		Clearcut w/reserves	2015	tamarack	117
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	21	396	21	non-ERF		Clearcut w/reserves	2014	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	21	402	9	non-ERF		Clearcut w/reserves	2014	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	21	409	16	non-ERF		Clearcut w/reserves	2015	lowland black spruce	75
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	21	406	4	non-ERF		Clearcut w/reserves	2015	tamarack	112
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	21	414	8	non-ERF		Uneven-aged regeneration	2015	ash	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	29	294	21	non-ERF		Clearcut w/reserves	2017	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	29	296	14	non-ERF		Clearcut w/reserves	2017	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	29	111	5	non-ERF		Clearcut w/reserves	2015	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	29	299	3	ERF		Clearcut w/reserves	2017	tamarack	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	30	214	23	non-ERF		Clearcut w/reserves	2016	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	30	230	8	non-ERF		Clearcut w/reserves	2016	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	30	235	39	non-ERF		Clearcut w/reserves	2014	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	31	262	48	ERF		Clearcut w/reserves	2014	tamarack	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	33	281	17	non-ERF		Uneven-aged regeneration	2013	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	22	0	33	146	42	non-ERF		Commercial thinning	2013	white spruce	26
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	599	7	non-ERF		Clearcut w/reserves	2016	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	612	8	non-ERF		Clearcut w/reserves	2016	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	606	4	non-ERF		Clearcut w/reserves	2016	aspen	45
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	510	28	non-ERF		Clearcut w/reserves	2013	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	600	8	non-ERF		Clearcut w/reserves	2016	birch	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	508	8	non-ERF		Commercial thinning	2013	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	4	512	8	non-ERF		Commercial thinning	2013	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	5	785	8	non-ERF		Clearcut w/reserves	2016	balsam fir	42

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	5	34	13	non-ERF		Clearcut w/reserves	2013	balsam fir	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	6	63	18	non-ERF		Clearcut w/reserves	2010	aspen	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	6	76	9	non-ERF		Uneven-aged regeneration	2010	ash	112
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	9	96	8	non-ERF		Clearcut w/reserves	2013	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	9	93	7	non-ERF		Clearcut w/reserves	2013	upland black spruce	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	10	95	4	ERF		Clearcut w/reserves	2013	upland black spruce	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	14	143	14	ERF		Clearcut w/reserves	2013	birch	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	16	187	33	ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	16	148	46	ERF		Clearcut w/reserves	2012	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	17	184	62	non-ERF		Clearcut w/reserves	2012	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	17	127	9	non-ERF		Clearcut w/reserves	2011	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	17	188	10	non-ERF		Clearcut w/reserves	2011	balsam fir	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	18	845	4	non-ERF		Clearcut w/reserves	2015	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	20	247	65	non-ERF		Clearcut w/reserves	2012	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	20	327	29	non-ERF		Clearcut w/reserves	2015	lowland black spruce	125
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	20	293	15	non-ERF		Clearcut w/reserves	2015	lowland black spruce	115
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	24	344	38	non-ERF		Clearcut w/reserves	2016	aspen	53
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	25	404	24	non-ERF		Clearcut w/reserves	2010	aspen	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	25	535	40	non-ERF		Clearcut w/reserves	2014	lowland black spruce	108
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	25	532	48	non-ERF		Clearcut w/reserves	2014	lowland black spruce	135
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	26	802	15	non-ERF		Clearcut w/reserves	2012	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	26	798	8	non-ERF		Clearcut w/reserves	2012	aspen	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	26	797	9	non-ERF		Clearcut w/reserves	2012	lowland black spruce	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	29	406	20	non-ERF		Clearcut w/reserves	2013	lowland black spruce	129
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	29	396	71	non-ERF		Clearcut w/reserves	2013	lowland black spruce	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	31	460	11	non-ERF		Clearcut w/reserves	2011	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	856	12	non-ERF		Clearcut w/reserves	2013	lowland black spruce	86

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	434	50	non-ERF		Clearcut w/reserves	2013	lowland black spruce	117
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	854	26	non-ERF		Clearcut w/reserves	2013	lowland black spruce	130
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	432	4	non-ERF		Clearcut w/reserves	2013	tamarack	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	441	37	non-ERF		Clearcut w/reserves	2013	tamarack	104
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	32	425	176	ERF		Clearcut w/reserves	2013	lowland black spruce	184
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	33	754	8	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	33	761	3	non-ERF		Clearcut w/reserves	2013	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	33	548	7	non-ERF		Clearcut w/reserves	2011	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	34	440	13	non-ERF		Clearcut w/reserves	2011	balm of Gilead	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	35	820	40	non-ERF		Clearcut w/reserves	2012	aspen	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	36	419	6	non-ERF		Clearcut w/reserves	2010	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	36	456	4	non-ERF		Clearcut w/reserves	2012	lowland black spruce	167
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	36	424	7	non-ERF		Clearcut w/reserves	2010	lowland black spruce	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	23	0	36	545	36	non-ERF		Clearcut w/reserves	2014	lowland black spruce	124
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	21	86	9	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	24	53	3	non-ERF		Clearcut w/reserves	2015	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	24	47	11	non-ERF		Clearcut w/reserves	2015	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	25	124	4	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	25	126	5	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	28	331	10	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	28	333	5	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	32	268	7	non-ERF		Clearcut w/reserves	2014	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	32	184	39	ERF		Clearcut w/reserves	2014	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	32	172	17	ERF		Uneven-aged regeneration	2014	white spruce	98
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	32	252	26	ERF		Commercial thinning	2014	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	32	255	5	ERF		Commercial thinning	2014	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	33	179	15	non-ERF		Clearcut w/reserves	2014	aspen	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	33	175	7	non-ERF		Clearcut w/reserves	2014	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	33	189	15	non-ERF		Clearcut w/reserves	2014	upland black spruce	67

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	143	15	non-ERF		Clearcut w/reserves	2019	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	162	9	non-ERF		Clearcut w/reserves	2019	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	258	4	non-ERF		Clearcut w/reserves	2019	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	131	5	non-ERF		Clearcut w/reserves	2019	lowland black spruce	136
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	163	7	non-ERF		Commercial thinning	2019	white spruce	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	34	148	11	non-ERF		Commercial thinning	2019	white spruce	21
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	35	269	4	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	36	272	4	non-ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	36	137	9	non-ERF		Clearcut w/reserves	2011	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	36	166	5	non-ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	24	0	36	135	103	ERF		Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	87	8	non-ERF		Clearcut w/reserves	2018	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	142	9	non-ERF		Clearcut w/reserves	2018	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	89	9	non-ERF		Clearcut w/reserves	2018	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	134	21	non-ERF		Clearcut w/reserves	2010	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	28	8	non-ERF	Y	Commercial thinning	2018	white pine	31
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	27	135	40	non-ERF		Clearcut w/reserves	2010	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	27	138	5	non-ERF		Clearcut w/reserves	2010	balm of Gilead	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	27	136	5	non-ERF		Clearcut w/reserves	2010	balm of Gilead	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	33	81	25	non-ERF		Clearcut w/reserves	2011	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	33	40	22	non-ERF		Clearcut w/reserves	2011	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	34	129	25	non-ERF		Clearcut w/reserves	2017	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	34	127	44	non-ERF		Clearcut w/reserves	2017	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	34	130	5	non-ERF		Clearcut w/reserves	2017	balm of Gilead	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	35	105	9	non-ERF		Clearcut w/reserves	2017	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	35	111	19	non-ERF		Clearcut w/reserves	2017	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	35	15	13	non-ERF		Commercial thinning	2017	white spruce	25

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	36	38	5	non-ERF		Clearcut w/reserves	2014	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	36	34	21	non-ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	36	55	27	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	36	31	71	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	70	25	0	36	42	24	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	71	23	0	31	50	9	non-ERF		Clearcut w/reserves	2012	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	71	23	0	33	47	8	non-ERF		Clearcut w/reserves	2016	aspen	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	71	23	0	33	110	8	non-ERF		Clearcut w/reserves	2016	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	71	23	0	33	112	11	non-ERF		Clearcut w/reserves	2016	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Littlefork	71	23	0	33	114	27	non-ERF		Clearcut w/reserves	2016	jack pine	67
Tamarack Lowlands	Crow Wing	Backus	136	25	0	16	49	25	non-ERF		Clearcut w/reserves	2018	aspen	47
Tamarack Lowlands	Crow Wing	Backus	136	25	0	16	53	10	non-ERF		Clearcut w/reserves	2018	aspen	65
St.Louis Moraines	Crow Wing	Backus	136	26	0	16	17	36	non-ERF		Clearcut w/reserves	2013	aspen	35
St.Louis Moraines	Crow Wing	Backus	136	26	0	16	59	4	non-ERF		Clearcut w/reserves	2013	aspen	44
St.Louis Moraines	Crow Wing	Backus	136	26	0	16	61	6	non-ERF		Clearcut w/reserves	2013	tamarack	91
St.Louis Moraines	Crow Wing	Backus	136	27	0	24	90	23	non-ERF		Clearcut w/reserves	2012	birch	62
St.Louis Moraines	Crow Wing	Backus	136	27	0	25	163	8	non-ERF		Clearcut w/reserves	2012	jack pine	61
St.Louis Moraines	Crow Wing	Backus	137	25	0	4	48	10	non-ERF		Uneven-aged regeneration	2012	balsam fir	81
St.Louis Moraines	Crow Wing	Backus	137	25	0	16	252	13	non-ERF		Clearcut w/reserves	2012	aspen	81
St.Louis Moraines	Crow Wing	Backus	137	25	0	16	353	10	non-ERF		Clearcut w/reserves	2012	balsam fir	56
St.Louis Moraines	Crow Wing	Backus	137	25	0	16	287	4	non-ERF		Uneven-aged regeneration	2012	balsam fir	65
St.Louis Moraines	Crow Wing	Backus	137	25	0	29	636	2	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	59
St.Louis Moraines	Crow Wing	Backus	137	25	0	36	616	18	non-ERF		Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Crow Wing	Backus	137	25	0	36	618	13	non-ERF		Clearcut w/reserves	2016	aspen	33
St.Louis Moraines	Crow Wing	Backus	137	25	0	36	554	17	non-ERF		Clearcut w/reserves	2016	birch	80
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	31	3	non-ERF		Clearcut w/reserves	2019	aspen	58
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	53	2	non-ERF		Clearcut w/reserves	2013	aspen	25
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	47	12	non-ERF		Clearcut w/reserves	2013	jack pine	63
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	41	5	non-ERF		Clearcut w/reserves	2017	jack pine	64

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	35	4	non-ERF		Uneven-aged regeneration	2019	balsam fir	49
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	54	4	non-ERF	Y	Commercial thinning	2017	white pine	14
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	56	8	ERF		Clearcut w/reserves	2013	aspen	58
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	20	19	ERF		Commercial thinning	2013	red pine	23
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	19	31	ERF	Y	Commercial thinning	2013	red pine	32
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	17	10	ERF		Commercial thinning	2013	red pine	23
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	33	17	ERF		Commercial thinning	2019	red pine	32
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	51	27	ERF		Commercial thinning	2013	red pine	29
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	109	7	ERF		Commercial thinning	2017	red pine	25
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	46	8	ERF		Commercial thinning	2017	red pine	32
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	49	13	ERF		Commercial thinning	2017	red pine	92
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	32	17	ERF	Y	Commercial thinning	2019	red pine	94
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	112	3	ERF	Y	Commercial thinning	2019	red pine	11
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	115	3	ERF	Y	Commercial thinning	2019	red pine	62
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	111	2	ERF	Y	Commercial thinning	2019	red pine	11
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	129	1	ERF	Y	Commercial thinning	2019	red pine	94
St.Louis Moraines	Crow Wing	Backus	138	25	0	36	137	4	ERF		Clearcut w/reserves	2012	aspen	60
St.Louis Moraines	Crow Wing	Backus	138	26	0	35	105	8	non-ERF		Clearcut w/reserves	2018	aspen	21
St.Louis Moraines	Crow Wing	Backus	138	26	0	35	110	1	non-ERF		Clearcut w/reserves	2018	birch	83
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	85	26	non-ERF		Clearcut w/reserves	2018	aspen	42
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	100	5	non-ERF	Y	Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	125	7	non-ERF		Clearcut w/reserves	2012	aspen	44
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	88	9	non-ERF		Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	118	9	non-ERF		Commercial thinning	2012	white spruce	25
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	128	3	ERF		Clearcut w/reserves	2018	aspen	44
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	117	7	ERF		Commercial thinning	2012	red pine	47
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	116	9	ERF		Commercial thinning	2012	red pine	47

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	103	15	ERF	Y	Commercial thinning	2012	red pine	47
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	94	50	ERF		Commercial thinning	2018	white spruce	18
St.Louis Moraines	Cass	Backus	141	25	0	4	18	7	non-ERF		Clearcut w/reserves	2014	aspen	85
St.Louis Moraines	Cass	Backus	141	25	0	6	17	11	non-ERF		Uneven-aged regeneration	2012	ash	121
St.Louis Moraines	Cass	Backus	141	25	0	16	46	47	non-ERF		Clearcut w/reserves	2017	aspen	30
St.Louis Moraines	Cass	Backus	141	25	0	16	43	34	non-ERF		Clearcut w/reserves	2017	aspen	31
St.Louis Moraines	Cass	Backus	141	25	0	16	44	11	non-ERF		Clearcut w/reserves	2017	birch	75
St.Louis Moraines	Cass	Backus	141	25	0	16	40	9	non-ERF		Clearcut w/reserves	2017	balm of Gilead	75
St.Louis Moraines	Cass	Backus	141	25	0	20	59	51	non-ERF		Clearcut w/reserves	2014	aspen	32
St.Louis Moraines	Cass	Backus	141	25	0	26	83	19	non-ERF		Clearcut w/reserves	2015	aspen	32
St.Louis Moraines	Cass	Backus	141	25	0	36	106	18	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Cass	Backus	141	25	0	36	113	9	non-ERF		Clearcut w/reserves	2019	aspen	32
St.Louis Moraines	Cass	Backus	141	25	0	36	111	9	non-ERF		Clearcut w/reserves	2019	aspen	42
St.Louis Moraines	Cass	Backus	141	25	0	36	97	20	non-ERF		Clearcut w/reserves	2019	aspen	30
St.Louis Moraines	Cass	Backus	141	25	0	36	99	29	non-ERF		Clearcut w/reserves	2019	birch	69
St.Louis Moraines	Cass	Deer River	142	25	0	8	99	6	non-ERF		Clearcut w/reserves	2016	balm of Gilead	107
St.Louis Moraines	Cass	Deer River	142	25	0	12	96	15	non-ERF		Clearcut w/reserves	2010	birch	109
St.Louis Moraines	Cass	Deer River	142	25	0	12	107	24	non-ERF		Clearcut w/reserves	2010	balm of Gilead	85
St.Louis Moraines	Cass	Deer River	142	25	0	12	97	12	non-ERF		Uneven-aged regeneration	2010	ash	91
St.Louis Moraines	Cass	Deer River	142	25	0	12	94	39	non-ERF		Uneven-aged regeneration	2010	lowland hardwoods	109
St.Louis Moraines	Cass	Deer River	142	25	0	16	139	21	non-ERF		Clearcut w/reserves	2016	aspen	40
St.Louis Moraines	Cass	Deer River	142	25	0	16	140	10	non-ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Cass	Deer River	142	25	0	16	135	15	non-ERF		Clearcut w/reserves	2016	aspen	39
St.Louis Moraines	Cass	Deer River	142	25	0	16	131	3	non-ERF		Uneven-aged regeneration	2016	ash	83
St.Louis Moraines	Cass	Deer River	142	25	0	16	183	12	ERF		Commercial thinning	2011	red pine	105
St.Louis Moraines	Cass	Deer River	142	25	0	16	130	13	ERF		Commercial thinning	2016	red pine	28
St.Louis Moraines	Cass	Deer River	142	25	0	16	137	10	ERF		Commercial thinning	2016	red pine	26
St.Louis Moraines	Cass	Deer River	142	25	0	16	23	6	ERF		Commercial thinning	2016	red pine	21
St.Louis Moraines	Cass	Deer River	142	25	0	28	45	7	non-ERF		Clearcut w/reserves	2012	aspen	50

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Cass	Deer River	142	25	0	28	47	12	non-ERF		Clearcut w/reserves	2012	aspen	40
St.Louis Moraines	Cass	Deer River	142	25	0	28	193	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	85
St.Louis Moraines	Cass	Deer River	142	25	0	30	149	5	non-ERF		Clearcut w/reserves	2011	tamarack	91
St.Louis Moraines	Cass	Deer River	142	25	0	32	65	6	non-ERF		Clearcut w/reserves	2019	aspen	31
St.Louis Moraines	Cass	Deer River	142	25	0	32	62	9	non-ERF		Clearcut w/reserves	2019	aspen	29
St.Louis Moraines	Cass	Deer River	142	25	0	36	156	7	non-ERF		Clearcut w/reserves	2017	aspen	77
St.Louis Moraines	Cass	Deer River	142	25	0	36	163	176	ERF		Clearcut w/reserves	2017	aspen	36
St.Louis Moraines	Cass	Deer River	142	26	0	16	50	25	non-ERF		Clearcut w/reserves	2018	aspen	32
St.Louis Moraines	Cass	Deer River	142	26	0	16	89	12	non-ERF		Clearcut w/reserves	2010	birch	78
St.Louis Moraines	Cass	Deer River	142	26	0	16	91	9	non-ERF		Clearcut w/reserves	2010	birch	78
St.Louis Moraines	Cass	Deer River	142	26	0	16	51	48	non-ERF		Uneven-aged regeneration	2010	northern hardwoods	85
St.Louis Moraines	Cass	Deer River	142	26	0	36	77	6	non-ERF		Clearcut w/reserves	2011	aspen	47
St.Louis Moraines	Cass	Deer River	142	26	0	36	67	27	non-ERF		Clearcut w/reserves	2011	aspen	51
St.Louis Moraines	Cass	Deer River	142	26	0	36	73	62	non-ERF		Clearcut w/reserves	2011	lowland black spruce	96
St.Louis Moraines	Cass	Deer River	143	26	0	36	754	46	non-ERF		Clearcut w/reserves	2016	aspen	35
St.Louis Moraines	Cass	Deer River	143	26	0	36	580	11	non-ERF		Clearcut w/reserves	2012	birch	71
St.Louis Moraines	Cass	Deer River	143	26	0	36	516	11	non-ERF	Y	Clearcut w/reserves	2016	lowland black spruce	129
St.Louis Moraines	Cass	Deer River	143	26	0	36	765	35	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	75
St.Louis Moraines	Cass	Deer River	143	27	0	36	65	41	non-ERF		Clearcut w/reserves	2015	aspen	36
St.Louis Moraines	Cass	Deer River	143	27	0	36	84	175	non-ERF		Clearcut w/reserves	2019	aspen	28
St.Louis Moraines	Cass	Deer River	143	27	0	36	60	23	non-ERF		Clearcut w/reserves	2015	aspen	39
St.Louis Moraines	Cass	Deer River	143	27	0	36	86	8	non-ERF		Clearcut w/reserves	2015	aspen	37
St.Louis Moraines	Cass	Deer River	143	27	0	36	59	53	non-ERF		Clearcut w/reserves	2015	aspen	30
St.Louis Moraines	Cass	Deer River	143	27	0	36	77	9	non-ERF		Clearcut w/reserves	2012	aspen	37
St.Louis Moraines	Cass	Deer River	143	27	0	36	78	42	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	81
St.Louis Moraines	Cass	Deer River	143	27	0	36	68	36	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	74
St.Louis Moraines	Cass	Deer River	143	27	0	36	70	7	non-ERF		Uneven-aged regeneration	2012	oak	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Deer River	149	25	0	3	222	2	non-ERF		Clearcut w/reserves	2014	lowland black spruce	134
St.Louis Moraines	Itasca	Deer River	149	25	0	10	258	10	non-ERF	Y	Clearcut w/reserves	2014	aspen	34
St.Louis Moraines	Itasca	Deer River	149	25	0	10	254	9	non-ERF		Clearcut w/reserves	2014	aspen	46
St.Louis Moraines	Itasca	Deer River	149	25	0	10	244	17	non-ERF		Clearcut w/reserves	2014	aspen	54
Littlefork-Vermilion Uplands	Itasca	Deer River	149	25	0	11	47	26	non-ERF		Uneven-aged regeneration	2014	ash	117
St.Louis Moraines	Itasca	Deer River	149	25	0	25	338	5	non-ERF		Uneven-aged regeneration	2012	ash	123
St.Louis Moraines	Itasca	Deer River	149	25	0	25	290	26	ERF	Y	Clearcut w/reserves	2012	aspen	71
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	2	352	10	non-ERF		Clearcut w/reserves	2010	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	2	349	5	non-ERF		Clearcut w/reserves	2010	birch	108
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	2	408	1	non-ERF		Clearcut w/reserves	2011	birch	109
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	2	303	6	non-ERF		Clearcut w/reserves	2014	aspen	62
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	5	54	9	non-ERF		Clearcut w/reserves	2019	lowland black spruce	84
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	6	37	51	ERF		Clearcut w/reserves	2010	aspen	63
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	8	84	5	non-ERF		Clearcut w/reserves	2019	aspen	41
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	8	69	29	non-ERF		Clearcut w/reserves	2019	aspen	55
Littlefork-Vermilion Uplands	Itasca	Blackduck	149	26	0	11	364	7	non-ERF		Clearcut w/reserves	2014	aspen	62
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	4	45	17	non-ERF		Clearcut w/reserves	2013	aspen	38
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	4	42	119	non-ERF		Uneven-aged regeneration	2013	northern hardwoods	81
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	4	26	28	ERF		Clearcut w/reserves	2013	birch	72
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	5	43	10	non-ERF		Commercial thinning	2013	white spruce	23
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	6	40	170	ERF	Y	Clearcut w/reserves	2013	balm of Gilead	47
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	8	307	9	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	8	95	51	ERF	Y	Clearcut w/reserves	2010	aspen	63
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	8	71	96	ERF	Y	Clearcut w/reserves	2010	aspen	61
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	10	218	81	ERF		Clearcut w/reserves	2012	aspen	67
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	10	75	51	ERF		Clearcut w/reserves	2012	aspen	67
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	10	214	42	ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	10	76	93	ERF		Clearcut w/reserves	2012	balm of Gilead	45
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	10	90	28	ERF		Clearcut w/reserves	2012	balm of Gilead	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	12	91	24	non-ERF	Y	Uneven-aged regeneration	2011	ash	143
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	12	97	8	ERF		Clearcut w/reserves	2010	aspen	55
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	14	233	27	non-ERF		Clearcut w/reserves	2011	tamarack	130
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	16	304	20	non-ERF		Uneven-aged regeneration	2010	balsam fir	83
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	16	132	118	ERF	Y	Clearcut w/reserves	2010	aspen	54
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	18	118	141	non-ERF	Y	Uneven-aged regeneration	2013	ash	70
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	18	131	57	ERF		Clearcut w/reserves	2013	balm of Gilead	72
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	24	175	34	non-ERF		Uneven-aged regeneration	2011	ash	138
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	28	187	124	ERF		Clearcut w/reserves	2011	aspen	53
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	34	316	16	non-ERF		Clearcut w/reserves	2010	aspen	79
Littlefork-Vermilion Uplands	Itasca	Deer River	150	25	0	36	288	9	non-ERF		Clearcut w/reserves	2014	balsam fir	54
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	2	529	24	non-ERF	Y	Clearcut w/reserves	2011	aspen	65
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	2	18	8	non-ERF		Clearcut w/reserves	2011	aspen	89
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	2	17	10	non-ERF		Clearcut w/reserves	2011	balm of Gilead	78
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	3	49	13	non-ERF		Clearcut w/reserves	2017	aspen	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	3	37	7	non-ERF		Clearcut w/reserves	2017	balm of Gilead	68
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	48	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	76
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	22	6	non-ERF		Clearcut w/reserves	2019	balm of Gilead	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	50	3	non-ERF		Clearcut w/reserves	2012	balm of Gilead	67
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	44	11	non-ERF		Clearcut w/reserves	2012	balm of Gilead	77
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	53	11	non-ERF		Clearcut w/reserves	2019	balm of Gilead	72
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	70	5	non-ERF		Uneven-aged regeneration	2017	ash	88
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	30	8	non-ERF		Uneven-aged regeneration	2012	ash	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	4	67	48	ERF		Clearcut w/reserves	2017	aspen	71
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	5	258	12	non-ERF		Clearcut w/reserves	2019	balm of Gilead	73
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	10	288	10	non-ERF		Clearcut w/reserves	2012	aspen	72
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	10	102	24	non-ERF		Clearcut w/reserves	2013	aspen	80

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	10	290	15	non-ERF		Clearcut w/reserves	2012	aspen	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	10	91	3	non-ERF		Clearcut w/reserves	2012	balsam fir	60
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	10	92	45	ERF		Clearcut w/reserves	2012	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	13	642	5	non-ERF		Clearcut w/reserves	2012	aspen	73
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	14	374	21	non-ERF		Clearcut w/reserves	2012	balm of Gilead	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	14	148	7	non-ERF		Clearcut w/reserves	2012	balm of Gilead	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	14	354	11	non-ERF		Clearcut w/reserves	2012	balm of Gilead	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	14	138	3	ERF		Clearcut w/reserves	2012	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	15	492	23	non-ERF	Y	Clearcut w/reserves	2016	aspen	68
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	15	586	3	non-ERF		Uneven-aged regeneration	2016	lowland hardwoods	136
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	16	318	10	non-ERF		Clearcut w/reserves	2013	aspen	80
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	16	577	4	non-ERF		Clearcut w/reserves	2013	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	16	347	7	non-ERF		Clearcut w/reserves	2013	balm of Gilead	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	18	120	6	non-ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	18	365	12	non-ERF		Clearcut w/reserves	2014	aspen	58
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	18	343	26	non-ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	18	135	5	non-ERF		Clearcut w/reserves	2014	balm of Gilead	76
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	18	363	45	non-ERF		Clearcut w/reserves	2018	lowland black spruce	95
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	19	387	16	non-ERF		Clearcut w/reserves	2018	lowland black spruce	95
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	20	504	11	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	21	386	20	non-ERF		Clearcut w/reserves	2015	aspen	69
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	21	156	15	non-ERF		Clearcut w/reserves	2015	aspen	66
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	21	160	8	non-ERF		Clearcut w/reserves	2015	aspen	68
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	21	153	6	non-ERF		Clearcut w/reserves	2015	balm of Gilead	67
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	21	157	22	non-ERF		Clearcut w/reserves	2015	balm of Gilead	78
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	22	398	5	non-ERF		Clearcut w/reserves	2015	balm of Gilead	76
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	22	589	10	non-ERF		Uneven-aged regeneration	2016	lowland hardwoods	136
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	22	591	2	non-ERF		Uneven-aged regeneration	2016	lowland hardwoods	136
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	22	163	26	ERF		Clearcut w/reserves	2011	birch	76

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	26	428	7	non-ERF		Clearcut w/reserves	2012	aspen	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	26	178	9	non-ERF		Clearcut w/reserves	2012	balm of Gilead	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	29	190	5	non-ERF		Clearcut w/reserves	2014	aspen	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	30	184	5	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	30	171	5	non-ERF		Clearcut w/reserves	2014	aspen	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	30	598	67	ERF		Clearcut w/reserves	2014	aspen	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	31	217	24	non-ERF		Clearcut w/reserves	2013	aspen	73
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	31	221	15	non-ERF		Commercial thinning	2019	white spruce	11
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	32	214	7	non-ERF		Clearcut w/reserves	2013	aspen	79
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	240	2	non-ERF		Clearcut w/reserves	2016	aspen	84
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	228	3	non-ERF		Clearcut w/reserves	2012	aspen	101
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	215	2	non-ERF		Clearcut w/reserves	2012	aspen	63
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	458	29	non-ERF		Clearcut w/reserves	2010	lowland black spruce	115
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	232	5	non-ERF		Clearcut w/reserves	2012	lowland black spruce	93
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	460	23	non-ERF		Clearcut w/reserves	2012	lowland black spruce	91
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	478	12	ERF		Commercial thinning	2016	red pine	43
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	624	9	ERF		Commercial thinning	2016	red pine	62
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	481	8	ERF		Commercial thinning	2019	red pine	12
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	623	10	ERF		Commercial thinning	2016	red pine	43
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	34	233	4	ERF		Commercial thinning	2019	red pine	12
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	36	517	31	non-ERF		Clearcut w/reserves	2010	aspen	49
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	36	479	6	non-ERF		Clearcut w/reserves	2010	balm of Gilead	56
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	36	485	8	non-ERF		Uneven-aged regeneration	2010	ash	98
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	26	0	36	241	34	ERF		Clearcut w/reserves	2010	aspen	65
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	1	230	37	ERF		Clearcut w/reserves	2017	aspen	74
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	2	20	4	non-ERF		Clearcut w/reserves	2018	aspen	76
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	2	234	14	non-ERF		Clearcut w/reserves	2014	aspen	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	3	3	19	non-ERF		Clearcut w/reserves	2011	aspen	73
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	3	236	32	non-ERF		Clearcut w/reserves	2011	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	3	22	12	non-ERF		Clearcut w/reserves	2014	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	3	8	10	non-ERF		Clearcut w/reserves	2011	balm of Gilead	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	10	317	6	non-ERF		Commercial thinning	2019	white spruce	22
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	63	8	non-ERF		Clearcut w/reserves	2014	aspen	75
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	304	6	non-ERF		Clearcut w/reserves	2017	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	71	2	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	486	12	non-ERF		Clearcut w/reserves	2014	aspen	44
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	281	12	non-ERF		Clearcut w/reserves	2017	balm of Gilead	46
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	11	302	2	non-ERF		Clearcut w/reserves	2017	balm of Gilead	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	12	40	14	non-ERF		Clearcut w/reserves	2017	aspen	43
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	12	41	4	non-ERF		Clearcut w/reserves	2018	birch	71
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	12	37	4	ERF		Commercial thinning	2017	red pine	47
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	13	112	23	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	13	109	3	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Itasca	Blackduck	150	27	0	13	96	20	non-ERF		Uneven-aged regeneration	2016	ash	139
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	30	0	5	123	6	non-ERF		Clearcut w/reserves	2016	balm of Gilead	64
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	30	0	8	3	9	non-ERF		Clearcut w/reserves	2016	balm of Gilead	55
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	5	21	8	non-ERF		Clearcut w/reserves	2014	birch	72
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	6	8	10	non-ERF		Clearcut w/reserves	2014	aspen	56
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	6	17	12	non-ERF		Clearcut w/reserves	2014	aspen	46
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	16	62	17	non-ERF		Clearcut w/reserves	2019	aspen	21
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	16	73	10	non-ERF		Clearcut w/reserves	2019	aspen	69
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	31	0	16	56	20	non-ERF		Clearcut w/reserves	2017	balm of Gilead	58
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	32	0	12	54	21	non-ERF		Clearcut w/reserves	2018	aspen	61
Littlefork-Vermilion Uplands	Beltrami	Blackduck	150	32	0	12	28	12	non-ERF		Clearcut w/reserves	2018	balm of Gilead	50
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	1	186	15	non-ERF		Clearcut w/reserves	2012	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	1	310	23	non-ERF		Clearcut w/reserves	2012	lowland black spruce	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	1	311	21	non-ERF		Uneven-aged regeneration	2012	balsam fir	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	2	303	9	non-ERF		Clearcut w/reserves	2012	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	2	172	20	non-ERF		Clearcut w/reserves	2012	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	2	182	16	non-ERF		Clearcut w/reserves	2012	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	2	301	24	non-ERF		Uneven-aged regeneration	2012	balsam fir	81
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	4	171	36	non-ERF		Clearcut w/reserves	2014	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	5	457	9	non-ERF		Clearcut w/reserves	2014	birch	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	5	13	11	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	9	34	42	ERF		Clearcut w/reserves	2016	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	11	57	8	non-ERF		Clearcut w/reserves	2011	balsam fir	111
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	11	207	9	non-ERF		Clearcut w/reserves	2011	balsam fir	86
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	11	460	21	non-ERF		Uneven-aged regeneration	2012	northern hardwoods	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	12	195	29	non-ERF		Clearcut w/reserves	2011	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	12	336	37	ERF		Clearcut w/reserves	2011	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	15	224	15	non-ERF		Clearcut w/reserves	2014	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	16	353	21	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	16	80	8	non-ERF		Uneven-aged regeneration	2014	ash	93
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	17	75	20	non-ERF		Clearcut w/reserves	2010	lowland black spruce	69
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	17	221	35	ERF		Clearcut w/reserves	2010	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	20	102	12	non-ERF		Clearcut w/reserves	2015	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	21	235	24	non-ERF	Y	Uneven-aged regeneration	2014	ash	71
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	21	361	67	ERF		Clearcut w/reserves	2014	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	22	437	18	non-ERF		Clearcut w/reserves	2010	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	22	473	5	non-ERF		Clearcut w/reserves	2014	balm of Gilead	61
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	26	391	27	ERF		Clearcut w/reserves	2010	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	27	121	34	ERF		Clearcut w/reserves	2013	lowland black spruce	101
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	29	243	21	non-ERF		Uneven-aged regeneration	2015	balsam fir	134

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	29	249	37	ERF		Clearcut w/reserves	2014	balm of Gilead	52
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	30	382	57	non-ERF		Uneven-aged regeneration	2019	ash	86
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	33	261	56	ERF		Clearcut w/reserves	2011	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	34	395	24	non-ERF		Clearcut w/reserves	2013	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	35	150	38	ERF		Clearcut w/reserves	2013	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	36	287	66	ERF		Clearcut w/reserves	2017	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Deer River	151	25	0	36	449	90	ERF		Commercial thinning	2018	white spruce	34
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	3	28	5	non-ERF		Clearcut w/reserves	2019	balm of Gilead	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	5	245	0	non-ERF		Clearcut w/reserves	2019	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	5	10	8	non-ERF		Clearcut w/reserves	2012	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	5	57	3	non-ERF		Clearcut w/reserves	2012	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	5	54	5	non-ERF		Clearcut w/reserves	2012	balsam fir	61
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	6	63	11	non-ERF		Clearcut w/reserves	2019	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	6	65	10	non-ERF		Clearcut w/reserves	2019	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	6	73	4	non-ERF		Clearcut w/reserves	2019	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	6	244	94	ERF		Clearcut w/reserves	2019	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	12	79	8	non-ERF		Clearcut w/reserves	2019	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	12	80	27	non-ERF		Clearcut w/reserves	2019	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	16	119	4	non-ERF		Clearcut w/reserves	2011	aspen	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	16	120	21	non-ERF		Clearcut w/reserves	2011	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	16	133	5	non-ERF		Clearcut w/reserves	2011	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	16	117	13	non-ERF		Clearcut w/reserves	2011	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	191	6	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	209	3	non-ERF		Clearcut w/reserves	2019	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	213	14	non-ERF		Clearcut w/reserves	2019	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	187	21	non-ERF		Clearcut w/reserves	2014	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	239	4	non-ERF		Clearcut w/reserves	2019	balm of Gilead	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	208	9	non-ERF		Clearcut w/reserves	2014	balm of Gilead	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	178	16	non-ERF		Clearcut w/reserves	2017	balm of Gilead	79

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	33	222	40	ERF		Clearcut w/reserves	2011	balm of Gilead	59
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	35	212	11	non-ERF		Clearcut w/reserves	2011	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	35	205	5	non-ERF		Clearcut w/reserves	2011	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	35	207	6	non-ERF		Clearcut w/reserves	2011	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	26	0	36	199	28	ERF		Clearcut w/reserves	2013	birch	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	1	12	26	non-ERF		Clearcut w/reserves	2010	balm of Gilead	54
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	5	131	11	non-ERF		Clearcut w/reserves	2013	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	8	155	7	non-ERF		Clearcut w/reserves	2018	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	8	140	9	non-ERF		Clearcut w/reserves	2013	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	8	154	8	non-ERF		Clearcut w/reserves	2018	balsam fir	74
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	9	37	8	non-ERF		Clearcut w/reserves	2013	balsam fir	43
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	11	35	78	ERF		Commercial thinning	2011	white spruce	45
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	13	62	20	non-ERF		Clearcut w/reserves	2019	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	16	160	33	non-ERF		Clearcut w/reserves	2018	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	16	173	37	non-ERF		Clearcut w/reserves	2018	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	16	59	11	non-ERF		Clearcut w/reserves	2018	lowland black spruce	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	16	292	28	ERF		Clearcut w/reserves	2018	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	17	159	4	non-ERF		Clearcut w/reserves	2018	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	17	158	9	non-ERF		Clearcut w/reserves	2018	balsam fir	74
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	18	70	5	non-ERF		Clearcut w/reserves	2015	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	30	98	10	non-ERF		Clearcut w/reserves	2018	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	30	96	5	non-ERF		Clearcut w/reserves	2018	balm of Gilead	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	30	95	13	non-ERF		Clearcut w/reserves	2018	balsam fir	44
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	31	119	0	non-ERF		Clearcut w/reserves	2016	aspen	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	31	115	5	non-ERF		Clearcut w/reserves	2016	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	151	27	0	36	110	47	ERF		Clearcut w/reserves	2010	balm of Gilead	79
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	28	51	5	non-ERF		Clearcut w/reserves	2012	aspen	56

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	28	56	8	non-ERF		Clearcut w/reserves	2012	aspen	55
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	28	49	12	non-ERF		Clearcut w/reserves	2012	balsam fir	55
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	32	106	11	non-ERF		Clearcut w/reserves	2016	aspen	23
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	32	77	10	non-ERF		Clearcut w/reserves	2016	aspen	60
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	32	137	2	non-ERF		Clearcut w/reserves	2016	aspen	23
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	32	87	4	non-ERF		Clearcut w/reserves	2016	aspen	23
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	34	76	11	non-ERF		Clearcut w/reserves	2012	balm of Gilead	68
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	35	113	24	non-ERF		Clearcut w/reserves	2011	aspen	49
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	35	116	10	non-ERF		Clearcut w/reserves	2011	aspen	55
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	35	91	3	non-ERF		Clearcut w/reserves	2011	balm of Gilead	65
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	36	144	15	non-ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	36	66	8	non-ERF		Clearcut w/reserves	2011	aspen	44
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	36	81	14	non-ERF		Clearcut w/reserves	2015	aspen	54
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	36	68	9	non-ERF		Clearcut w/reserves	2011	aspen	52
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	30	0	36	123	10	non-ERF		Clearcut w/reserves	2015	aspen	55
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	9	3	23	non-ERF		Clearcut w/reserves	2014	aspen	66
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	11	40	25	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	14	54	19	non-ERF		Clearcut w/reserves	2013	aspen	58
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	15	61	9	non-ERF		Clearcut w/reserves	2013	aspen	49
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	15	60	11	ERF	Y	Commercial thinning	2013	red pine	99
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	16	69	8	non-ERF		Clearcut w/reserves	2019	aspen	69
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	16	65	39	non-ERF		Clearcut w/reserves	2019	aspen	73
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	29	114	6	non-ERF		Clearcut w/reserves	2010	lowland black spruce	103
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	31	91	19	non-ERF		Clearcut w/reserves	2018	balm of Gilead	70
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	36	23	15	non-ERF		Clearcut w/reserves	2010	aspen	56
Littlefork-Vermilion Uplands	Beltrami	Blackduck	151	31	0	36	122	7	non-ERF		Clearcut w/reserves	2010	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	2	332	34	ERF		Commercial thinning	2014	white spruce	51
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	3	42	19	non-ERF		Clearcut w/reserves	2014	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	3	55	9	non-ERF		Commercial thinning	2014	white spruce	50

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	9	356	33	non-ERF		Uneven-aged regeneration	2018	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	10	66	2	non-ERF		Commercial thinning	2014	white spruce	45
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	10	63	9	ERF		Commercial thinning	2014	red pine	39
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	11	89	20	non-ERF		Clearcut w/reserves	2011	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	11	84	5	non-ERF		Commercial thinning	2014	white spruce	37
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	11	341	7	non-ERF		Commercial thinning	2014	white spruce	52
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	11	340	25	ERF		Commercial thinning	2014	red pine	46
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	13	166	18	non-ERF		Clearcut w/reserves	2015	jack pine	49
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	13	165	13	non-ERF		Clearcut w/reserves	2015	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	13	149	29	non-ERF		Clearcut w/reserves	2015	lowland black spruce	103
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	16	516	12	non-ERF		Clearcut w/reserves	2018	birch	89
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	16	129	4	non-ERF		Clearcut w/reserves	2018	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	16	504	9	non-ERF		Clearcut w/reserves	2018	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	16	506	10	non-ERF		Clearcut w/reserves	2018	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	159	23	non-ERF		Clearcut w/reserves	2018	balsam fir	52
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	161	5	non-ERF	Y	Clearcut w/reserves	2018	balsam fir	63
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	142	10	non-ERF	Y	Clearcut w/reserves	2018	lowland black spruce	160
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	118	15	non-ERF		Clearcut w/reserves	2018	lowland black spruce	146
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	134	8	non-ERF		Clearcut w/reserves	2018	tamarack	167
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	17	132	18	non-ERF	Y	Uneven-aged regeneration	2018	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	20	410	12	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	20	406	19	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	21	183	14	non-ERF		Clearcut w/reserves	2015	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	21	389	25	non-ERF		Clearcut w/reserves	2015	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	24	174	9	non-ERF		Clearcut w/reserves	2015	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	24	393	12	non-ERF		Clearcut w/reserves	2015	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	25	221	14	non-ERF	Y	Clearcut w/reserves	2014	aspen	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	25	437	60	ERF		Commercial thinning	2013	white spruce	43
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	27	235	13	non-ERF	Y	Clearcut w/reserves	2019	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	28	205	33	non-ERF		Clearcut w/reserves	2019	balsam fir	41
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	28	425	9	non-ERF		Clearcut w/reserves	2019	balsam fir	51
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	28	225	6	non-ERF	Y	Uneven-aged regeneration	2019	balsam fir	81
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	28	258	7	non-ERF		Uneven-aged regeneration	2019	balsam fir	86
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	30	218	18	non-ERF		Clearcut w/reserves	2013	aspen	56
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	30	252	7	non-ERF		Clearcut w/reserves	2013	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	30	527	14	non-ERF		Clearcut w/reserves	2013	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	32	264	11	non-ERF		Clearcut w/reserves	2019	birch	77
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	33	276	12	non-ERF		Clearcut w/reserves	2019	balsam fir	45
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	34	267	11	non-ERF		Clearcut w/reserves	2019	upland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	35	277	9	non-ERF		Clearcut w/reserves	2013	balsam fir	76
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	35	295	11	non-ERF		Clearcut w/reserves	2013	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	35	278	15	ERF		Clearcut w/reserves	2013	birch	84
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	467	14	non-ERF		Clearcut w/reserves	2015	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	450	10	non-ERF		Clearcut w/reserves	2013	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	461	16	non-ERF		Clearcut w/reserves	2015	aspen	59
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	466	35	non-ERF		Clearcut w/reserves	2015	balsam fir	53
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	468	15	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	57
Littlefork-Vermilion Uplands	Koochiching	Deer River	152	25	0	36	462	34	ERF		Clearcut w/reserves	2013	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	25	317	9	non-ERF		Clearcut w/reserves	2018	aspen	69
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	25	290	16	non-ERF		Clearcut w/reserves	2011	balsam fir	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	26	307	2	non-ERF		Clearcut w/reserves	2013	aspen	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	27	240	17	non-ERF		Clearcut w/reserves	2013	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	27	295	11	non-ERF		Clearcut w/reserves	2012	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	28	297	6	non-ERF		Clearcut w/reserves	2012	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	28	422	40	non-ERF		Clearcut w/reserves	2012	lowland black spruce	163
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	31	332	12	non-ERF		Clearcut w/reserves	2016	aspen	76

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	31	352	4	non-ERF		Uneven-aged regeneration	2016	ash	125
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	32	380	16	non-ERF		Clearcut w/reserves	2012	balm of Gilead	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	34	65	5	non-ERF		Clearcut w/reserves	2013	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	26	0	35	386	5	non-ERF		Clearcut w/reserves	2019	balsam fir	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	7	144	27	non-ERF		Clearcut w/reserves	2015	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	7	84	7	non-ERF		Clearcut w/reserves	2015	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	7	149	11	non-ERF		Clearcut w/reserves	2015	aspen	80
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	7	89	6	non-ERF		Clearcut w/reserves	2015	aspen	22
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	7	132	11	non-ERF		Clearcut w/reserves	2015	balm of Gilead	63
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	17	238	5	non-ERF		Clearcut w/reserves	2011	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	17	460	11	non-ERF		Clearcut w/reserves	2011	balsam fir	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	24	491	19	non-ERF		Clearcut w/reserves	2018	tamarack	148
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	25	489	25	non-ERF		Clearcut w/reserves	2013	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	25	312	8	non-ERF		Clearcut w/reserves	2014	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	25	310	28	non-ERF		Clearcut w/reserves	2014	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	25	304	9	non-ERF		Uneven-aged regeneration	2013	ash	81
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	26	294	31	non-ERF		Clearcut w/reserves	2011	tamarack	137
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	29	303	6	non-ERF		Clearcut w/reserves	2017	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	29	394	52	non-ERF		Clearcut w/reserves	2017	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	29	397	24	non-ERF		Clearcut w/reserves	2017	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	30	313	11	non-ERF		Clearcut w/reserves	2016	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	31	443	10	non-ERF		Clearcut w/reserves	2016	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	31	436	12	non-ERF		Clearcut w/reserves	2016	aspen	58
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	32	445	7	non-ERF		Clearcut w/reserves	2016	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	33	345	7	non-ERF		Clearcut w/reserves	2016	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	35	363	4	non-ERF		Clearcut w/reserves	2012	aspen	80
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	35	448	5	non-ERF		Clearcut w/reserves	2012	balsam fir	50

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	380	5	non-ERF		Clearcut w/reserves	2019	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	458	10	non-ERF		Clearcut w/reserves	2018	aspen	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	342	41	non-ERF		Clearcut w/reserves	2018	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	455	7	non-ERF		Clearcut w/reserves	2018	balm of Gilead	69
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	364	20	non-ERF		Clearcut w/reserves	2012	balm of Gilead	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	449	2	non-ERF		Clearcut w/reserves	2012	balsam fir	50
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	378	5	non-ERF		Uneven-aged regeneration	2018	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	27	0	36	453	67	ERF		Commercial thinning	2019	white spruce	41
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	76	16	non-ERF		Clearcut w/reserves	2017	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	117	16	non-ERF		Clearcut w/reserves	2014	aspen	82
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	101	7	non-ERF		Clearcut w/reserves	2017	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	67	26	non-ERF		Clearcut w/reserves	2017	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	91	14	non-ERF		Clearcut w/reserves	2012	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	95	6	non-ERF		Clearcut w/reserves	2012	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	70	12	non-ERF		Clearcut w/reserves	2012	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	8	104	6	non-ERF		Clearcut w/reserves	2012	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	9	106	7	non-ERF		Clearcut w/reserves	2012	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	9	92	4	non-ERF		Clearcut w/reserves	2012	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	9	73	5	non-ERF		Clearcut w/reserves	2012	balsam fir	56
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	10	93	12	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	10	100	23	non-ERF		Clearcut w/reserves	2013	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	10	118	5	non-ERF		Clearcut w/reserves	2013	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	10	77	4	non-ERF		Clearcut w/reserves	2015	balsam fir	57
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	10	78	8	non-ERF		Uneven-aged regeneration	2015	white spruce	86
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	11	121	24	non-ERF		Clearcut w/reserves	2016	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	11	120	7	non-ERF		Clearcut w/reserves	2016	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	11	116	12	non-ERF		Clearcut w/reserves	2016	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	11	105	12	non-ERF		Clearcut w/reserves	2016	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	12	130	3	non-ERF		Clearcut w/reserves	2017	aspen	73

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	13	151	5	non-ERF		Clearcut w/reserves	2017	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	13	144	27	non-ERF		Clearcut w/reserves	2017	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	14	147	4	non-ERF		Clearcut w/reserves	2013	balm of Gilead	78
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	16	154	11	non-ERF		Clearcut w/reserves	2018	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	16	136	28	non-ERF		Clearcut w/reserves	2018	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	16	148	7	non-ERF		Clearcut w/reserves	2018	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	16	135	8	non-ERF		Clearcut w/reserves	2012	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	36	232	23	non-ERF		Clearcut w/reserves	2019	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	28	0	36	212	10	non-ERF		Clearcut w/reserves	2019	aspen	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	4	14	39	non-ERF		Uneven-aged regeneration	2012	ash	132
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	7	309	41	non-ERF		Clearcut w/reserves	2012	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	71	17	non-ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	65	7	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	79	11	non-ERF		Clearcut w/reserves	2017	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	310	8	non-ERF		Clearcut w/reserves	2017	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	279	6	non-ERF		Clearcut w/reserves	2016	balsam fir	50
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	80	12	non-ERF		Clearcut w/reserves	2017	balsam fir	46
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	82	6	non-ERF		Clearcut w/reserves	2017	balsam fir	58
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	8	84	21	non-ERF		Commercial thinning	2019	white spruce	20
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	9	53	48	non-ERF		Clearcut w/reserves	2016	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	9	40	21	non-ERF		Clearcut w/reserves	2016	aspen	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	9	288	4	non-ERF		Clearcut w/reserves	2018	balm of Gilead	68
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	9	64	13	non-ERF		Clearcut w/reserves	2016	balsam fir	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	10	78	3	non-ERF		Clearcut w/reserves	2013	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	10	72	5	non-ERF		Clearcut w/reserves	2013	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	12	30	26	non-ERF		Clearcut w/reserves	2014	aspen	61
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	12	56	12	non-ERF		Clearcut w/reserves	2014	aspen	72

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	13	133	5	non-ERF		Clearcut w/reserves	2015	balm of Gilead	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	14	124	34	non-ERF		Clearcut w/reserves	2014	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	14	134	12	non-ERF		Clearcut w/reserves	2014	balm of Gilead	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	15	116	9	non-ERF		Clearcut w/reserves	2017	aspen	77
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	15	256	5	non-ERF		Clearcut w/reserves	2017	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	15	119	8	non-ERF		Clearcut w/reserves	2017	aspen	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	117	15	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	297	7	non-ERF		Clearcut w/reserves	2013	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	296	41	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	99	40	non-ERF		Clearcut w/reserves	2013	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	90	33	non-ERF		Clearcut w/reserves	2018	balm of Gilead	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	264	10	non-ERF		Clearcut w/reserves	2010	balsam fir	62
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	16	265	8	non-ERF		Uneven-aged regeneration	2010	ash	119
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	17	267	8	non-ERF		Clearcut w/reserves	2010	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	17	266	20	non-ERF		Clearcut w/reserves	2010	aspen	66
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	17	270	23	non-ERF		Clearcut w/reserves	2010	aspen	75
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	17	269	5	non-ERF		Clearcut w/reserves	2010	balm of Gilead	71
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	17	98	5	non-ERF		Clearcut w/reserves	2017	balm of Gilead	73
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	18	102	11	non-ERF		Clearcut w/reserves	2010	birch	72
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	18	105	6	non-ERF		Clearcut w/reserves	2010	balsam fir	67
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	18	92	12	non-ERF		Clearcut w/reserves	2010	balsam fir	70
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	18	93	6	non-ERF		Clearcut w/reserves	2010	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	18	91	7	non-ERF		Clearcut w/reserves	2010	balsam fir	64
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	23	141	16	non-ERF		Clearcut w/reserves	2013	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	23	259	21	non-ERF		Clearcut w/reserves	2015	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Blackduck	152	29	0	24	155	16	non-ERF		Clearcut w/reserves	2015	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	154	25	0	3	4	7	non-ERF		Clearcut w/reserves	2012	aspen	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	154	25	0	3	14	2	non-ERF		Clearcut w/reserves	2012	jack pine	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	154	25	0	3	3	4	ERF		Commercial thinning	2012	red pine	63

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	154	25	0	4	337	3	non-ERF		Clearcut w/reserves	2012	jack pine	71
Littlefork-Vermilion Uplands	Koochiching	Littlefork	154	25	0	4	331	9	ERF		Commercial thinning	2012	red pine	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	1	36	31	non-ERF		Clearcut w/reserves	2016	lowland black spruce	152
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	2	121	6	non-ERF		Clearcut w/reserves	2011	balsam fir	92
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	10	196	12	non-ERF		Clearcut w/reserves	2019	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	11	790	4	non-ERF		Clearcut w/reserves	2016	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	11	793	8	non-ERF		Clearcut w/reserves	2016	tamarack	112
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	11	769	27	non-ERF		Uneven-aged regeneration	2011	white spruce	96
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	12	186	10	non-ERF		Clearcut w/reserves	2016	aspen	35
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	12	190	8	non-ERF		Clearcut w/reserves	2016	aspen	36
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	12	638	18	non-ERF		Uneven-aged regeneration	2016	white spruce	99
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	14	1009	6	non-ERF		Clearcut w/reserves	2014	aspen	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	14	1014	7	non-ERF		Clearcut w/reserves	2014	aspen	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	14	225	12	non-ERF		Commercial thinning	2019	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	14	229	18	ERF		Commercial thinning	2019	red pine	16
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	14	1017	28	ERF		Commercial thinning	2013	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	15	807	15	non-ERF		Clearcut w/reserves	2014	lowland black spruce	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	15	801	8	non-ERF		Commercial thinning	2013	white spruce	22
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	15	986	3	non-ERF		Commercial thinning	2019	white spruce	13
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	15	811	7	non-ERF		Commercial thinning	2014	white spruce	25
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	985	5	non-ERF		Clearcut w/reserves	2017	jack pine	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	1002	17	non-ERF		Clearcut w/reserves	2011	jack pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	981	4	non-ERF		Clearcut w/reserves	2019	balsam fir	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	1004	69	ERF		Clearcut w/reserves	2011	jack pine	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	991	15	ERF		Commercial thinning	2017	red pine	74
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	995	16	ERF		Commercial thinning	2017	red pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	980	4	ERF		Commercial thinning	2017	red pine	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	16	990	10	ERF		Commercial thinning	2017	red pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	286	6	non-ERF	Y	Clearcut w/reserves	2016	aspen	33
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	287	9	non-ERF		Clearcut w/reserves	2016	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	238	7	non-ERF		Clearcut w/reserves	2019	jack pine	59
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	647	30	non-ERF		Clearcut w/reserves	2016	lowland black spruce	139
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	242	4	non-ERF		Commercial thinning	2019	white spruce	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	237	5	ERF		Commercial thinning	2019	red pine	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	244	10	ERF		Commercial thinning	2019	red pine	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	20	1047	12	non-ERF		Clearcut w/reserves	2012	tamarack	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	20	1108	3	non-ERF		Uneven-aged regeneration	2012	ash	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	663	9	non-ERF		Clearcut w/reserves	2017	aspen	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	671	10	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	423	8	non-ERF		Clearcut w/reserves	2017	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	334	5	non-ERF		Clearcut w/reserves	2016	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	413	5	non-ERF		Clearcut w/reserves	2017	balsam fir	97
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	414	2	non-ERF		Clearcut w/reserves	2017	lowland black spruce	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	679	6	non-ERF		Clearcut w/reserves	2017	lowland black spruce	83
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	680	4	non-ERF		Clearcut w/reserves	2017	lowland black spruce	92
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	669	10	non-ERF		Clearcut w/reserves	2017	lowland black spruce	10
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	21	1043	17	non-ERF		Clearcut w/reserves	2012	tamarack	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1130	8	non-ERF		Clearcut w/reserves	2013	jack pine	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1139	11	non-ERF		Clearcut w/reserves	2013	jack pine	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1148	2	non-ERF		Clearcut w/reserves	2013	jack pine	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1137	24	ERF		Clearcut w/reserves	2013	jack pine	57
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1140	11	ERF		Commercial thinning	2015	red pine	55
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1143	7	ERF		Commercial thinning	2015	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1129	29	ERF	Y	Commercial thinning	2019	red pine	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1152	7	ERF		Commercial thinning	2018	red pine	79
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	816	23	non-ERF		Clearcut w/reserves	2017	aspen	58

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	425	6	non-ERF		Clearcut w/reserves	2013	jack pine	65
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	819	31	ERF		Clearcut w/reserves	2017	jack pine	58
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	430	2	ERF		Commercial thinning	2013	red pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	817	18	ERF		Commercial thinning	2014	red pine	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	818	36	ERF		Commercial thinning	2013	red pine	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	838	7	ERF	Y	Commercial thinning	2013	red pine	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	831	21	ERF		Commercial thinning	2017	red pine	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	831	1	ERF		Commercial thinning	2017	red pine	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	1155	5	ERF		Commercial thinning	2017	red pine	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	1138	55	ERF		Commercial thinning	2011	red pine	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	823	16	ERF		Commercial thinning	2010	red pine	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	305	24	ERF		Commercial thinning	2013	white spruce	27
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	24	406	8	non-ERF		Clearcut w/reserves	2015	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	24	405	13	non-ERF		Clearcut w/reserves	2015	balsam fir	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	24	435	11	ERF		Commercial thinning	2011	red pine	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	28	439	18	non-ERF		Clearcut w/reserves	2017	aspen	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	28	440	14	non-ERF		Clearcut w/reserves	2017	aspen	41
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	28	732	22	ERF		Clearcut w/reserves	2010	aspen	68
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	29	696	6	non-ERF		Clearcut w/reserves	2010	aspen	67
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	29	692	7	ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	29	694	21	ERF		Clearcut w/reserves	2014	aspen	64
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	30	698	33	non-ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	30	748	6	non-ERF		Clearcut w/reserves	2016	birch	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	31	1085	4	non-ERF		Clearcut w/reserves	2015	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	31	1087	15	non-ERF		Clearcut w/reserves	2015	balsam fir	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	31	1093	11	non-ERF		Clearcut w/reserves	2015	balsam fir	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	31	557	1	non-ERF		Clearcut w/reserves	2016	balsam fir	70

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	31	1090	19	non-ERF		Clearcut w/reserves	2015	lowland black spruce	94
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	32	583	9	non-ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	32	577	5	non-ERF		Clearcut w/reserves	2016	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	32	1163	2	non-ERF		Clearcut w/reserves	2011	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	32	587	8	non-ERF		Commercial thinning	2014	white spruce	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	33	884	34	non-ERF		Clearcut w/reserves	2014	aspen	63
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	33	1171	4	non-ERF		Commercial thinning	2014	white spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	33	580	8	non-ERF		Commercial thinning	2014	white spruce	40
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	33	1169	7	non-ERF		Commercial thinning	2014	white spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	605	16	non-ERF		Clearcut w/reserves	2019	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	598	5	non-ERF		Clearcut w/reserves	2014	aspen	78
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	905	23	non-ERF		Clearcut w/reserves	2015	aspen	73
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	909	15	non-ERF		Clearcut w/reserves	2015	aspen	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	622	10	non-ERF		Commercial thinning	2019	white spruce	44
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	34	915	5	non-ERF		Commercial thinning	2015	white spruce	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	35	918	7	non-ERF		Clearcut w/reserves	2010	aspen	76
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	35	906	7	non-ERF		Commercial thinning	2014	white spruce	48
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	716	14	non-ERF		Clearcut w/reserves	2010	balsam fir	85
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	624	6	non-ERF	Y	Commercial thinning	2019	white pine	15
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	742	3	non-ERF		Commercial thinning	2014	white spruce	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	588	9	non-ERF		Commercial thinning	2014	white spruce	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	743	12	ERF		Commercial thinning	2014	red pine	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	903	6	ERF		Commercial thinning	2019	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	744	6	ERF		Commercial thinning	2019	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	594	6	ERF		Commercial thinning	2019	red pine	50
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	741	3	ERF		Commercial thinning	2014	red pine	49
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	35	677	14	non-ERF		Clearcut w/reserves	2018	aspen	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	35	679	11	non-ERF		Clearcut w/reserves	2018	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	36	440	18	non-ERF		Clearcut w/reserves	2012	aspen	60

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	36	484	12	non-ERF		Clearcut w/reserves	2015	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	36	436	10	non-ERF		Uneven-aged regeneration	2019	balsam fir	90
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	36	468	30	ERF		Commercial thinning	2019	white spruce	37
Littlefork-Vermilion Uplands	Koochiching	Littlefork	155	26	0	36	435	53	ERF		Commercial thinning	2019	white spruce	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	1	63	19	non-ERF		Clearcut w/reserves	2019	balsam fir	61
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	1	120	3	non-ERF		Clearcut w/reserves	2016	lowland black spruce	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	12	140	21	non-ERF		Clearcut w/reserves	2016	lowland black spruce	87
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	12	143	15	non-ERF		Clearcut w/reserves	2016	lowland black spruce	147
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	13	542	23	non-ERF		Clearcut w/reserves	2019	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	13	533	28	non-ERF		Clearcut w/reserves	2011	lowland black spruce	137
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	13	543	69	ERF		Clearcut w/reserves	2019	lowland black spruce	133
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	14	627	15	non-ERF		Clearcut w/reserves	2011	balsam fir	60
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	15	692	20	non-ERF		Clearcut w/reserves	2015	lowland black spruce	108
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	24	345	3	non-ERF		Clearcut w/reserves	2010	lowland black spruce	127
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	25	368	18	non-ERF		Clearcut w/reserves	2010	lowland black spruce	166
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	25	636	34	non-ERF		Clearcut w/reserves	2010	lowland black spruce	143
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	26	763	14	non-ERF		Clearcut w/reserves	2011	aspen	84
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	26	644	16	non-ERF		Clearcut w/reserves	2012	aspen	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	26	653	15	non-ERF		Clearcut w/reserves	2012	lowland black spruce	93
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	26	648	14	non-ERF		Uneven-aged regeneration	2012	balsam fir	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	26	652	8	non-ERF		Uneven-aged regeneration	2012	balsam fir	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	27	765	16	non-ERF		Commercial thinning	2019	white spruce	34
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	27	566	5	ERF		Commercial thinning	2019	red pine	47
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	34	803	27	ERF		Clearcut w/reserves	2010	balm of Gilead	80
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	35	784	63	non-ERF		Uneven-aged regeneration	2016	balsam fir	42
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	35	790	53	ERF		Clearcut w/reserves	2010	lowland black spruce	152
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	36	793	7	non-ERF		Clearcut w/reserves	2010	aspen	74

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	36	473	16	non-ERF		Clearcut w/reserves	2010	lowland black spruce	132
Littlefork-Vermilion Uplands	Koochiching	Littlefork	156	25	0	36	663	62	ERF		Clearcut w/reserves	2010	lowland black spruce	134
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	1	60	4	non-ERF		Clearcut w/reserves	2016	aspen	70
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	1	59	8	non-ERF		Clearcut w/reserves	2016	aspen	43
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	1	14	9	non-ERF		Clearcut w/reserves	2019	lowland black spruce	149
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	2	13	4	non-ERF		Clearcut w/reserves	2019	lowland black spruce	149
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	24	214	12	non-ERF		Clearcut w/reserves	2018	aspen	54
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	36	387	6	non-ERF		Clearcut w/reserves	2019	birch	66
Littlefork-Vermilion Uplands	Koochiching	Littlefork	157	25	0	36	359	11	non-ERF		Clearcut w/reserves	2018	tamarack	150
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	13	173	49	non-ERF		Clearcut w/reserves	2016	lowland black spruce	165
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	13	171	13	non-ERF		Clearcut w/reserves	2016	lowland black spruce	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	24	460	61	non-ERF		Clearcut w/reserves	2016	lowland black spruce	165
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	24	459	23	non-ERF		Clearcut w/reserves	2016	lowland black spruce	103
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	24	467	10	non-ERF		Clearcut w/reserves	2016	tamarack	150
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	24	189	16	non-ERF		Commercial thinning	2016	white spruce	38
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	338	6	non-ERF		Clearcut w/reserves	2019	lowland black spruce	102
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	348	28	non-ERF		Clearcut w/reserves	2019	lowland black spruce	77
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	351	51	non-ERF		Clearcut w/reserves	2019	lowland black spruce	139
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	343	11	non-ERF		Clearcut w/reserves	2019	lowland black spruce	46
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	340	6	non-ERF	Y	Clearcut w/reserves	2019	lowland black spruce	91
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	392	16	non-ERF		Clearcut w/reserves	2019	lowland black spruce	129
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	346	9	non-ERF		Clearcut w/reserves	2019	lowland black spruce	82
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	342	15	non-ERF		Clearcut w/reserves	2019	lowland black spruce	100
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	36	345	23	non-ERF		Clearcut w/reserves	2019	lowland black spruce	150
Littlefork-Vermilion Uplands	Koochiching	Littlefork	158	25	0	36	328	28	non-ERF		Clearcut w/reserves	2019	tamarack	143
Littlefork-Vermilion Uplands	0	Littlefork			0			87	non-ERF		Clearcut w/reserves	2011	unknown	0

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Appendix S

Stands on the Ten-Year Stand Examination List Having a White Pine Component

Table 7.16: Stands Having a White Pine Component on the Ten-Year Stand Examination List (these stands are also included in Table 7.15, above).

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	St.Louis	Hibbing	60	21	0	9	257	30	ERF	Y	Commercial thinning	2017	red pine	36
Littlefork Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	173	6	non-ERF	Y	Clearcut w/reserves	2012	birch	84
Littlefork Vermilion Uplands	St.Louis	Hibbing	60	21	0	10	769	6	non-ERF	Y	Commercial thinning	2019	white pine	12
Littlefork Vermilion Uplands	St.Louis	Hibbing	60	21	0	14	810	10	ERF	Y	Commercial thinning	2019	red pine	11
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	16	122	2	non-ERF	Y	Clearcut w/reserves	2010	aspen	87
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	16	97	4	non-ERF	Y	Uneven-aged regeneration	2010	balsam fir	81
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	16	89	91	ERF	Y	Clearcut w/reserves	2010	aspen	71
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	16	100	3	ERF	Y	Commercial thinning	2010	red pine	96
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	36	281	23	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	77
Littlefork Vermilion Uplands	St.Louis	Tower	61	19	0	36	301	25	ERF	Y	Clearcut w/reserves	2014	upland black spruce	64
Littlefork Vermilion Uplands	St.Louis	Hibbing	61	20	0	36	704	14	ERF	Y	Commercial thinning	2018	red pine	94
Littlefork Vermilion Uplands	St.Louis	Hibbing	61	21	0	9	261	2	non-ERF	Y	Uneven-aged regeneration	2016	white pine	164
Littlefork Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	423	15	non-ERF	Y	Clearcut w/reserves	2015	aspen	54
Littlefork Vermilion Uplands	St.Louis	Hibbing	61	21	0	16	955	5	ERF	Y	Commercial thinning	2018	red pine	91
Littlefork Vermilion Uplands	St.Louis	Hibbing	61	21	0	20	478	16	non-ERF	Y	Commercial thinning	2012	white spruce	35

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Itasca	Hibbing	61	22	0	26	216	10	ERF	Y	Commercial thinning	2018	red pine	70
Littlefork Vermilion Uplands	Itasca	Hibbing	61	22	0	26	217	11	ERF	Y	Commercial thinning	2018	red pine	84
Littlefork Vermilion Uplands	Itasca	Deer River	61	26	0	29	119	27	ERF	Y	Commercial thinning	2016	red pine	22
Littlefork Vermilion Uplands	Itasca	Deer River	61	27	0	3	60	9	non-ERF	Y	Clearcut w/reserves	2012	aspen	64
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	26	383	35	non-ERF	Y	Commercial thinning	2018	white pine	12
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	26	381	11	non-ERF	Y	Commercial thinning	2018	white spruce	12
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	34	484	5	non-ERF	Y	Commercial thinning	2019	white spruce	11
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	35	289	9	non-ERF	Y	Clearcut w/reserves	2013	upland black spruce	63
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	36	261	14	non-ERF	Y	Clearcut w/reserves	2018	balsam fir	81
Littlefork Vermilion Uplands	St.Louis	Tower	62	17	0	36	276	8	ERF	Y	Clearcut w/reserves	2011	aspen	80
Littlefork Vermilion Uplands	St.Louis	Tower	62	20	0	34	239	23	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	106
Littlefork Vermilion Uplands	St.Louis	Tower	62	21	0	16	212	33	non-ERF	Y	Clearcut w/reserves	2015	aspen	66
Littlefork Vermilion Uplands	Itasca	Hibbing	62	22	0	18	91	31	non-ERF	Y	Uneven-aged regeneration	2019	white pine	169
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	4	19	83	ERF	Y	Clearcut w/reserves	2012	aspen	63
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	7	49	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	45
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	7	317	8	non-ERF	Y	Clearcut w/reserves	2017	aspen	52
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	7	328	24	ERF	Y	Commercial thinning	2011	red pine	95
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	9	53	9	ERF	Y	Commercial thinning	2010	red pine	73
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	9	56	15	ERF	Y	Commercial thinning	2010	red pine	70
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	15	526	5	non-ERF	Y	Clearcut w/reserves	2015	birch	72
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	347	28	ERF	Y	Clearcut w/reserves	2018	aspen	25
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	88	21	ERF	Y	Commercial thinning	2015	red pine	78
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	97	8	ERF	Y	Commercial thinning	2012	red pine	90

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	102	7	ERF	Y	Commercial thinning	2012	red pine	84
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	348	6	ERF	Y	Commercial thinning	2012	red pine	84
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	338	47	ERF	Y	Commercial thinning	2019	red pine	78
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	86	7	ERF	Y	Commercial thinning	2012	red pine	96
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	16	73	47	ERF	Y	Commercial thinning	2019	red pine	99
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	26	356	12	non-ERF	Y	Clearcut w/reserves	2015	aspen	53
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	26	162	5	non-ERF	Y	Clearcut w/reserves	2012	jack pine	50
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	26	362	11	ERF	Y	Commercial thinning	2013	red pine	95
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	26	167	6	ERF	Y	Commercial thinning	2016	red pine	84
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	26	165	23	ERF	Y	Commercial thinning	2012	red pine	86
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	27	491	11	ERF	Y	Commercial thinning	2015	red pine	50
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	27	485	51	ERF	Y	Commercial thinning	2015	red pine	47
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	27	486	9	ERF	Y	Commercial thinning	2019	red pine	18
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	27	363	43	ERF	Y	Commercial thinning	2015	red pine	46
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	35	223	12	non-ERF	Y	Uneven-aged regeneration	2015	jack pine	32
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	35	255	1	non-ERF	Y	Commercial thinning	2016	white pine	14
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	35	375	17	ERF	Y	Uneven-aged regeneration	2015	jack pine	46
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	35	368	24	ERF	Y	Commercial thinning	2012	red pine	62
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	35	258	22	ERF	Y	Commercial thinning	2016	red pine	96
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	205	15	non-ERF	Y	Clearcut w/reserves	2016	aspen	48
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	218	3	non-ERF	Y	Commercial thinning	2018	white spruce	17
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	285	15	ERF	Y	Commercial thinning	2013	red pine	71
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	296	4	ERF	Y	Commercial thinning	2016	red pine	30

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	267	11	ERF	Y	Commercial thinning	2013	red pine	82
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	280	13	ERF	Y	Commercial thinning	2016	red pine	80
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	263	12	ERF	Y	Commercial thinning	2016	red pine	84
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	275	37	ERF	Y	Commercial thinning	2013	red pine	74
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	281	8	ERF	Y	Commercial thinning	2013	red pine	67
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	207	38	ERF	Y	Commercial thinning	2018	white spruce	28
Littlefork Vermilion Uplands	Itasca	Hibbing	62	23	0	36	252	55	ERF	Y	Commercial thinning	2013	white spruce	17
Littlefork Vermilion Uplands	Itasca	Deer River	62	24	0	3	227	18	ERF	Y	Commercial thinning	2011	red pine	103
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	1	3	26	non-ERF	Y	Commercial thinning	2019	white pine	12
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	4	19	11	non-ERF	Y	Clearcut w/reserves	2013	aspen	59
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	4	132	16	non-ERF	Y	Uneven-aged regeneration	2013	ash	77
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	9	160	28	non-ERF	Y	Clearcut w/reserves	2017	aspen	58
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	16	197	3	non-ERF	Y	Commercial thinning	2014	white pine	95
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	16	175	17	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	16	433	149	ERF	Y	Clearcut w/reserves	2017	aspen	52
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	16	418	76	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	16	417	25	ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	22	213	17	non-ERF	Y	Clearcut w/reserves	2018	aspen	86
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	22	225	28	non-ERF	Y	Clearcut w/reserves	2018	aspen	52
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	28	297	23	non-ERF	Y	Clearcut w/reserves	2019	aspen	58
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	28	293	18	non-ERF	Y	Clearcut w/reserves	2012	aspen	72
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	33	337	61	ERF	Y	Clearcut w/reserves	2017	aspen	63
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	36	88	15	non-ERF	Y	Clearcut w/reserves	2011	aspen	97

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	36	90	38	non-ERF	Y	Clearcut w/reserves	2011	aspen	56
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	36	397	5	non-ERF	Y	Commercial thinning	2018	white pine	104
Littlefork Vermilion Uplands	St.Louis	Tower	63	20	0	36	93	3	ERF	Y	Commercial thinning	2018	red pine	95
Littlefork Vermilion Uplands	Koochiching	Hibbing	63	22	0	36	357	4	non-ERF	Y	Commercial thinning	2012	white pine	94
Littlefork Vermilion Uplands	Koochiching	Hibbing	63	23	0	9	178	2	non-ERF	Y	Commercial thinning	2016	white pine	157
Littlefork Vermilion Uplands	Koochiching	Hibbing	63	23	0	16	426	4	non-ERF	Y	Clearcut w/reserves	2012	aspen	66
Littlefork Vermilion Uplands	Koochiching	Hibbing	63	23	0	32	384	7	ERF	Y	Clearcut w/reserves	2010	aspen	88
Littlefork Vermilion Uplands	Koochiching	Deer River	63	24	0	31	296	7	non-ERF	Y	Clearcut w/reserves	2014	lowland black spruce	72
Littlefork Vermilion Uplands	Koochiching	Deer River	63	24	0	32	316	10	non-ERF	Y	Clearcut w/reserves	2011	aspen	72
Littlefork Vermilion Uplands	Koochiching	Deer River	63	24	0	32	278	16	non-ERF	Y	Clearcut w/reserves	2011	aspen	83
Littlefork Vermilion Uplands	Koochiching	Deer River	63	25	0	36	300	13	non-ERF	Y	Clearcut w/reserves	2011	balm of gilead	61
Littlefork Vermilion Uplands	Koochiching	Deer River	63	25	0	36	310	21	ERF	Y	Commercial thinning	2013	white spruce	42
Littlefork Vermilion Uplands	Koochiching	Deer River	63	26	0	16	106	4	non-ERF	Y	Clearcut w/reserves	2010	aspen	48
Littlefork Vermilion Uplands	Koochiching	Deer River	63	26	0	16	102	23	non-ERF	Y	Commercial thinning	2015	white pine	70
Littlefork Vermilion Uplands	Koochiching	Deer River	63	27	0	15	85	116	ERF	Y	Clearcut w/reserves	2014	upland black spruce	60
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	10	12	7	non-ERF	Y	Clearcut w/reserves	2015	aspen	45
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	13	387	7	non-ERF	Y	Clearcut w/reserves	2016	aspen	49
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	14	360	10	non-ERF	Y	Clearcut w/reserves	2010	aspen	54
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	22	84	6	non-ERF	Y	Commercial thinning	2014	white spruce	49
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	22	85	10	non-ERF	Y	Commercial thinning	2014	white spruce	49
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	22	156	35	ERF	Y	Commercial thinning	2014	red pine	40
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	24	130	33	ERF	Y	Commercial thinning	2013	white spruce	44
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	27	162	8	non-ERF	Y	Commercial thinning	2014	white spruce	36

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	27	176	17	non-ERF	Y	Commercial thinning	2014	white spruce	33
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	27	86	13	non-ERF	Y	Commercial thinning	2014	white spruce	36
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	27	87	6	non-ERF	Y	Commercial thinning	2014	white spruce	36
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	30	241	7	non-ERF	Y	Clearcut w/reserves	2015	jack pine	58
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	35	291	23	non-ERF	Y	Clearcut w/reserves	2012	aspen	45
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	36	274	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	53
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	36	300	5	non-ERF	Y	Clearcut w/reserves	2017	aspen	54
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	36	314	5	non-ERF	Y	Commercial thinning	2017	white pine	111
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	36	286	15	non-ERF	Y	Commercial thinning	2017	white spruce	45
Littlefork Vermilion Uplands	St.Louis	Orr	64	21	0	36	431	27	ERF	Y	Commercial thinning	2017	white spruce	45
Littlefork Vermilion Uplands	Koochiching	Deer River	64	25	0	21	158	12	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	61
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	23	0	6	155	10	ERF	Y	Commercial thinning	2019	white pine	12
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	23	0	7	160	35	ERF	Y	Commercial thinning	2019	red pine	13
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	23	0	18	140	33	ERF	Y	Clearcut w/reserves	2014	lowland black spruce	93
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	23	0	31	139	13	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	62
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	23	0	31	132	4	non-ERF	Y	Clearcut w/reserves	2012	upland black spruce	58
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	2	58	20	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	78
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	21	70	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	45
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	3	63	18	ERF	Y	Clearcut w/reserves	2017	jack pine	84
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	821	24	ERF	Y	Clearcut w/reserves	2010	jack pine	73
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	4	98	7	ERF	Y	Commercial thinning	2010	red pine	45
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	7	347	31	non-ERF	Y	Uneven-aged regeneration	2010	balsam fir	93
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	8	279	15	non-ERF	Y	Clearcut w/reserves	2013	ash	160

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	12	7	1	non-ERF	Y	Clearcut w/reserves	2014	upland black spruce	86
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	16	798	18	non-ERF	Y	Clearcut w/reserves	2014	aspen	54
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	17	801	9	non-ERF	Y	Uneven-aged regeneration	2012	balsam fir	82
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	17	330	43	ERF	Y	Clearcut w/reserves	2012	aspen	70
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	26	783	10	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	69
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	30	581	0	non-ERF	Y	Clearcut w/reserves	2013	aspen	75
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	779	14	ERF	Y	Clearcut w/reserves	2019	aspen	75
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	653	20	ERF	Y	Clearcut w/reserves	2010	balm of Gilead	78
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	687	36	ERF	Y	Clearcut w/reserves	2019	balm of Gilead	79
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	656	17	ERF	Y	Clearcut w/reserves	2016	balm of Gilead	75
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	716	14	ERF	Y	Clearcut w/reserves	2012	balm of Gilead	74
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	781	23	ERF	Y	Clearcut w/reserves	2016	balsam fir	71
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	737	7	ERF	Y	Uneven-aged regeneration	2016	balsam fir	86
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	24	0	36	750	7	ERF	Y	Uneven-aged regeneration	2016	balsam fir	181
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	7	98	8	ERF	Y	Commercial thinning	2011	red pine	29
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	8	702	7	non-ERF	Y	Clearcut w/reserves	2011	balsam fir	85
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	8	99	4	ERF	Y	Commercial thinning	2011	red pine	17
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	14	580	26	non-ERF	Y	Clearcut w/reserves	2010	balsam fir	69
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	17	199	10	ERF	Y	Commercial thinning	2011	red pine	91
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	21	491	22	ERF	Y	Commercial thinning	2017	red pine	87
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	25	0	28	503	18	ERF	Y	Commercial thinning	2017	red pine	87
Littlefork Vermilion Uplands	Koochiching	Littlefork	65	26	0	10	115	4	non-ERF	Y	Commercial thinning	2019	white pine	14
Littlefork Vermilion Uplands	Koochiching	Orr	66	22	0	8	281	18	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	42

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Koochiching	Orr	66	22	0	14	95	7	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	62
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	3	150	4	non-ERF	Y	Clearcut w/reserves	2019	balsam fir	53
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	16	473	12	ERF	Y	Commercial thinning	2016	red pine	69
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	324	6	ERF	Y	Clearcut w/reserves	2014	aspen	55
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	422	9	ERF	Y	Clearcut w/reserves	2014	aspen	73
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	26	318	7	ERF	Y	Clearcut w/reserves	2014	upland black spruce	118
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	23	0	30	463	9	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	71
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	24	0	1	103	6	non-ERF	Y	Clearcut w/reserves	2018	aspen	69
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	26	0	1	376	41	ERF	Y	Clearcut w/reserves	2018	balsam fir	63
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	26	0	25	340	7	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	67
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	26	0	26	507	30	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	80
Littlefork Vermilion Uplands	Koochiching	Littlefork	66	26	0	30	342	10	ERF	Y	Commercial thinning	2015	red pine	39
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	22	349	13	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	71
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	22	388	11	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	67
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	23	410	17	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	65
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	25	483	7	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	65
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	26	506	5	non-ERF	Y	Clearcut w/reserves	2012	aspen	61
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	35	693	5	non-ERF	Y	Clearcut w/reserves	2014	aspen	62
Littlefork Vermilion Uplands	Koochiching	Littlefork	67	26	0	36	652	41	non-ERF	Y	Uneven-aged regeneration	2014	balsam fir	88
Littlefork Vermilion Uplands	Koochiching	Littlefork	69	23	0	31	961	7	non-ERF	Y	Clearcut w/reserves	2013	aspen	69
Littlefork Vermilion Uplands	Koochiching	Littlefork	69	23	0	32	397	8	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	73
Littlefork Vermilion Uplands	Koochiching	Littlefork	70	22	0	16	291	5	non-ERF	Y	Uneven-aged regeneration	2014	white pine	129
Littlefork Vermilion Uplands	Koochiching	Littlefork	70	25	0	26	28	8	non-ERF	Y	Commercial thinning	2018	white pine	31

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	6	40	170	ERF	Y	Clearcut w/reserves	2013	balm of Gilead	47
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	8	95	51	ERF	Y	Clearcut w/reserves	2010	aspen	63
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	8	71	96	ERF	Y	Clearcut w/reserves	2010	aspen	61
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	12	91	24	non-ERF	Y	Uneven-aged regeneration	2011	ash	143
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	16	132	118	ERF	Y	Clearcut w/reserves	2010	aspen	54
Littlefork Vermilion Uplands	Itasca	Deer River	150	25	0	18	118	141	non-ERF	Y	Uneven-aged regeneration	2013	ash	70
Littlefork Vermilion Uplands	Itasca	Blackduck	150	26	0	2	529	24	non-ERF	Y	Clearcut w/reserves	2011	aspen	65
Littlefork Vermilion Uplands	Itasca	Blackduck	150	26	0	15	492	23	non-ERF	Y	Clearcut w/reserves	2016	aspen	68
Littlefork Vermilion Uplands	Koochiching	Deer River	151	25	0	5	13	11	non-ERF	Y	Clearcut w/reserves	2014	balsam fir	58
Littlefork Vermilion Uplands	Koochiching	Deer River	151	25	0	21	235	24	non-ERF	Y	Uneven-aged regeneration	2014	ash	71
Littlefork Vermilion Uplands	Beltrami	Blackduck	151	31	0	15	60	11	ERF	Y	Commercial thinning	2013	red pine	99
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	17	161	5	non-ERF	Y	Clearcut w/reserves	2018	balsam fir	63
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	17	142	10	non-ERF	Y	Clearcut w/reserves	2018	lowland black spruce	160
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	17	132	18	non-ERF	Y	Uneven-aged regeneration	2018	balsam fir	85
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	25	221	14	non-ERF	Y	Clearcut w/reserves	2014	aspen	52
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	27	235	13	non-ERF	Y	Clearcut w/reserves	2019	lowland black spruce	143
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	28	225	6	non-ERF	Y	Uneven-aged regeneration	2019	balsam fir	81
Littlefork Vermilion Uplands	Koochiching	Deer River	152	25	0	36	468	15	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	57
Littlefork Vermilion Uplands	Koochiching	Littlefork	155	25	0	17	286	6	non-ERF	Y	Clearcut w/reserves	2016	aspen	33
Littlefork Vermilion Uplands	Koochiching	Littlefork	155	25	0	22	1129	29	ERF	Y	Commercial thinning	2019	red pine	60
Littlefork Vermilion Uplands	Koochiching	Littlefork	155	25	0	23	838	7	ERF	Y	Commercial thinning	2013	red pine	87
Littlefork Vermilion Uplands	Koochiching	Littlefork	155	25	0	36	624	6	non-ERF	Y	Commercial thinning	2019	white pine	15
Littlefork Vermilion Uplands	Koochiching	Littlefork	158	25	0	35	340	6	non-ERF	Y	Clearcut w/reserves	2019	lowland black spruce	91

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	Itasca	Hibbing	56	23	0	34	194	7	non-ERF	Y	Clearcut w/reserves	2010	birch	84
Nashwauk Uplands	Itasca	Hibbing	56	23	0	36	186	3	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	82
Nashwauk Uplands	Itasca	Hibbing	57	23	0	16	66	9	ERF	Y	Commercial thinning	2019	red pine	91
Nashwauk Uplands	Itasca	Hibbing	57	23	0	16	72	19	ERF	Y	Commercial thinning	2019	red pine	81
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	16	48	9	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	65
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	27	81	8	non-ERF	Y	Commercial thinning	2019	white pine	12
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	193	17	non-ERF	Y	Clearcut w/reserves	2010	aspen	50
Nashwauk Uplands	St.Louis	Hibbing	58	17	0	28	106	43	ERF	Y	Clearcut w/reserves	2010	birch	78
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	8	137	44	non-ERF	Y	Uneven-aged regeneration	2013	northern hardwoods	80
Nashwauk Uplands	St.Louis	Hibbing	58	19	0	8	107	4	ERF	Y	Commercial thinning	2013	red pine	93
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	232	8	non-ERF	Y	Clearcut w/reserves	2013	aspen	74
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	242	9	non-ERF	Y	Clearcut w/reserves	2013	birch	65
Nashwauk Uplands	St.Louis	Hibbing	58	20	0	13	229	21	non-ERF	Y	Clearcut w/reserves	2013	birch	72
Nashwauk Uplands	St.Louis	Tower	59	15	0	16	20	8	non-ERF	Y	Commercial thinning	2019	white spruce	20
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	36	214	21	non-ERF	Y	Uneven-aged regeneration	2015	oak	90
Nashwauk Uplands	St.Louis	Hibbing	59	19	0	36	228	22	non-ERF	Y	Uneven-aged regeneration	2015	oak	88
Nashwauk Uplands	St.Louis	Hibbing	59	21	0	6	761	14	ERF	Y	Commercial thinning	2019	red pine	13
Nashwauk Uplands	St.Louis	Tower	60	16	0	16	24	7	non-ERF	Y	Clearcut w/reserves	2017	aspen	78
Nashwauk Uplands	St.Louis	Tower	60	16	0	36	68	24	ERF	Y	Commercial thinning	2016	white spruce	23
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	15	117	8	non-ERF	Y	Uneven-aged regeneration	2011	ash	112
Nashwauk Uplands	St.Louis	Hibbing	60	17	0	16	119	32	non-ERF	Y	Uneven-aged regeneration	2011	ash	112
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	272	17	non-ERF	Y	Clearcut w/reserves	2012	aspen	75
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	214	8	non-ERF	Y	Clearcut w/reserves	2012	aspen	83
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	275	17	non-ERF	Y	Clearcut w/reserves	2012	birch	92
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	269	25	non-ERF	Y	Clearcut w/reserves	2012	birch	84
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	16	279	33	ERF	Y	Clearcut w/reserves	2012	aspen	91
Nashwauk Uplands	St.Louis	Hibbing	60	18	0	30	93	28	non-ERF	Y	Clearcut w/reserves	2018	aspen	40
Nashwauk Uplands	St.Louis	Hibbing	60	19	0	34	330	25	non-ERF	Y	Clearcut w/reserves	2018	aspen	32

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Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	804	10	non-ERF	Y	Commercial thinning	2011	white pine	72
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	801	19	non-ERF	Y	Commercial thinning	2018	white pine	70
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	802	5	non-ERF	Y	Commercial thinning	2018	white pine	65
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	311	3	non-ERF	Y	Commercial thinning	2018	white pine	15
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	797	42	ERF	Y	Commercial thinning	2011	red pine	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	803	18	ERF	Y	Commercial thinning	2018	red pine	12
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	799	2	ERF	Y	Commercial thinning	2011	red pine	80
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	292	36	ERF	Y	Commercial thinning	2018	red pine	78
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	1036	11	ERF	Y	Commercial thinning	2011	red pine	73
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	16	396	8	ERF	Y	Commercial thinning	2011	red pine	75
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	21	493	10	non-ERF	Y	Commercial thinning	2017	white pine	45
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	21	506	18	ERF	Y	Commercial thinning	2017	red pine	28
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	497	20	ERF	Y	Commercial thinning	2018	red pine	98
Nashwauk Uplands	St.Louis	Hibbing	60	21	0	23	522	12	ERF	Y	Commercial thinning	2018	red pine	17
Nashwauk Uplands	Itasca	Hibbing	60	22	0	1	422	2	non-ERF	Y	Commercial thinning	2013	white pine	15
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	277	5	non-ERF	Y	Clearcut w/reserves	2018	birch	75
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	51	7	non-ERF	Y	Clearcut w/reserves	2015	birch	79
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	32	6	non-ERF	Y	Commercial thinning	2017	white pine	89
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	61	10	non-ERF	Y	Commercial thinning	2015	white pine	12
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	453	8	non-ERF	Y	Commercial thinning	2017	white pine	21
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	439	11	ERF	Y	Commercial thinning	2018	red pine	69
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	45	20	ERF	Y	Commercial thinning	2015	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	432	36	ERF	Y	Commercial thinning	2018	red pine	84
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	445	16	ERF	Y	Commercial thinning	2014	red pine	77
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	330	35	ERF	Y	Commercial thinning	2018	red pine	83
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	16	27	ERF	Y	Commercial thinning	2010	red pine	71
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	430	15	ERF	Y	Commercial thinning	2014	red pine	74
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	444	37	ERF	Y	Commercial thinning	2014	red pine	77
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	12	9	ERF	Y	Commercial thinning	2010	red pine	70

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Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	530	6	ERF	Y	Commercial thinning	2013	red pine	54
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	436	6	ERF	Y	Commercial thinning	2018	red pine	38
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	64	13	ERF	Y	Commercial thinning	2018	red pine	67
Nashwauk Uplands	Itasca	Hibbing	60	22	0	2	341	14	ERF	Y	Commercial thinning	2017	red pine	23
Nashwauk Uplands	Itasca	Hibbing	60	22	0	3	443	34	ERF	Y	Commercial thinning	2012	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	12	465	80	ERF	Y	Commercial thinning	2014	red pine	82
Nashwauk Uplands	Itasca	Hibbing	60	22	0	34	391	41	non-ERF	Y	Uneven-aged regeneration	2015	balsam fir	34
Nashwauk Uplands	Itasca	Hibbing	60	23	0	25	109	20	non-ERF	Y	Clearcut w/reserves	2010	birch	70
Nashwauk Uplands	St.Louis	Tower	61	14	0	4	481	70	ERF	Y	Clearcut w/reserves	2013	birch	82
Nashwauk Uplands	St.Louis	Tower	61	14	0	8	383	10	ERF	Y	Commercial thinning	2014	red pine	107
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	382	13	non-ERF	Y	Clearcut w/reserves	2012	birch	78
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	394	6	ERF	Y	Commercial thinning	2018	red pine	12
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	386	8	ERF	Y	Commercial thinning	2018	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	69	7	ERF	Y	Commercial thinning	2018	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	485	6	ERF	Y	Commercial thinning	2014	red pine	112
Nashwauk Uplands	St.Louis	Tower	61	14	0	9	489	4	ERF	Y	Commercial thinning	2014	red pine	112
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	284	7	non-ERF	Y	Commercial thinning	2019	white pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	472	41	ERF	Y	Commercial thinning	2019	red pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	16	488	8	ERF	Y	Commercial thinning	2014	red pine	3
Nashwauk Uplands	St.Louis	Tower	61	14	0	22	314	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	94
Nashwauk Uplands	St.Louis	Tower	61	14	0	22	169	19	non-ERF	Y	Clearcut w/reserves	2011	birch	94
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	310	12	non-ERF	Y	Clearcut w/reserves	2016	birch	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	152	39	ERF	Y	Clearcut w/reserves	2015	birch	83
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	329	13	ERF	Y	Clearcut w/reserves	2011	birch	82
Nashwauk Uplands	St.Louis	Tower	61	14	0	23	316	53	ERF	Y	Commercial thinning	2019	red pine	38
Nashwauk Uplands	St.Louis	Tower	61	14	0	26	221	7	non-ERF	Y	Commercial thinning	2019	white pine	11
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	213	7	non-ERF	Y	Commercial thinning	2018	white pine	20
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	192	49	ERF	Y	Clearcut w/reserves	2012	birch	91
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	208	32	ERF	Y	Commercial thinning	2018	red pine	42

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Nashwauk Uplands	St.Louis	Tower	61	14	0	27	223	4	ERF	Y	Commercial thinning	2018	red pine	42
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	43	4	non-ERF	Y	Clearcut w/reserves	2018	aspen	38
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	22	5	non-ERF	Y	Commercial thinning	2018	white pine	15
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	36	36	ERF	Y	Clearcut w/reserves	2013	aspen	58
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	48	34	ERF	Y	Clearcut w/reserves	2013	aspen	58
Nashwauk Uplands	St.Louis	Tower	61	15	0	16	20	5	ERF	Y	Commercial thinning	2018	red pine	91
Nashwauk Uplands	St.Louis	Tower	61	16	0	17	39	5	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	113
Nashwauk Uplands	St.Louis	Tower	61	17	0	16	128	16	non-ERF	Y	Clearcut w/reserves	2013	aspen	75
Nashwauk Uplands	St.Louis	Tower	61	17	0	22	167	7	non-ERF	Y	Commercial thinning	2019	white spruce	12
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	262	20	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	47
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	248	17	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	47
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	237	12	ERF	Y	Commercial thinning	2016	red pine	89
Nashwauk Uplands	St.Louis	Tower	61	17	0	36	245	13	ERF	Y	Commercial thinning	2016	red pine	73
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	499	6	ERF	Y	Commercial thinning	2019	red pine	65
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	471	9	ERF	Y	Commercial thinning	2019	red pine	73
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	497	2	ERF	Y	Commercial thinning	2019	red pine	65
Nashwauk Uplands	Itasca	Hibbing	61	22	0	36	498	2	ERF	Y	Commercial thinning	2015	red pine	65
St.Louis Moraines	Aitkin	Aitkin	46	25	0	16	212	12	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	52
St.Louis Moraines	Aitkin	Aitkin	46	26	0	6	20	23	non-ERF	Y	Uneven-aged regeneration	2019	ash	116
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	95	20	non-ERF	Y	Clearcut w/reserves	2011	aspen	36
St.Louis Moraines	Aitkin	Aitkin	46	27	0	16	106	14	non-ERF	Y	Uneven-aged regeneration	2019	oak	69
St.Louis Moraines	Crow Wing	Backus	46	29	0	8	78	4	non-ERF	Y	Commercial thinning	2018	white spruce	11
St.Louis Moraines	Crow Wing	Backus	47	29	0	16	100	27	ERF	Y	Commercial thinning	2016	red pine	46
St.Louis Moraines	Crow Wing	Backus	47	29	0	21	115	5	non-ERF	Y	Clearcut w/reserves	2011	aspen	70
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	61	5	non-ERF	Y	Commercial thinning	2011	white pine	74
St.Louis Moraines	Crow Wing	Backus	47	29	0	36	60	30	non-ERF	Y	Commercial thinning	2011	white spruce	44
St.Louis Moraines	Aitkin	Aitkin	48	22	0	13	147	27	non-ERF	Y	Clearcut w/reserves	2017	tamarack	126
St.Louis Moraines	Carlton	Cloquet	49	21	0	22	210	2	non-ERF	Y	Clearcut w/reserves	2016	birch	81

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	49	22	0	2	87	12	non-ERF	Y	Clearcut w/reserves	2014	aspen	57
St.Louis Moraines	Aitkin	Aitkin	49	22	0	6	106	12	ERF	Y	Commercial thinning	2013	red pine	79
St.Louis Moraines	Aitkin	Aitkin	49	22	0	10	123	12	ERF	Y	Commercial thinning	2017	red pine	62
St.Louis Moraines	Aitkin	Aitkin	49	23	0	12	757	3	non-ERF	Y	Commercial thinning	2013	white pine	57
St.Louis Moraines	Aitkin	Aitkin	49	23	0	13	285	7	ERF	Y	Commercial thinning	2011	red pine	47
St.Louis Moraines	Aitkin	Aitkin	49	23	0	14	313	13	non-ERF	Y	Commercial thinning	2019	white pine	18
St.Louis Moraines	Aitkin	Aitkin	49	23	0	24	359	10	non-ERF	Y	Clearcut w/reserves	2011	aspen	70
St.Louis Moraines	Aitkin	Aitkin	49	23	0	33	528	6	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	70
St.Louis Moraines	Aitkin	Aitkin	49	27	0	16	75	17	non-ERF	Y	Uneven-aged regeneration	2015	northern hardwoods	106
St.Louis Moraines	Aitkin	Aitkin	50	22	0	16	214	32	non-ERF	Y	Uneven-aged regeneration	2016	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	50	22	0	23	1011	41	non-ERF	Y	Uneven-aged regeneration	2018	northern hardwoods	66
St.Louis Moraines	Aitkin	Aitkin	50	22	0	24	967	30	ERF	Y	Commercial thinning	2012	red pine	58
St.Louis Moraines	Aitkin	Aitkin	50	22	0	30	435	24	ERF	Y	Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Aitkin	Aitkin	50	23	0	3	84	58	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	65
St.Louis Moraines	Aitkin	Aitkin	50	23	0	10	750	27	ERF	Y	Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	23	0	14	300	23	non-ERF	Y	Commercial thinning	2017	white pine	109
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	271	13	non-ERF	Y	Clearcut w/reserves	2018	aspen	34
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	765	75	ERF	Y	Clearcut w/reserves	2018	aspen	36
St.Louis Moraines	Aitkin	Aitkin	50	23	0	15	267	9	ERF	Y	Commercial thinning	2018	red pine	21
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	297	9	non-ERF	Y	Clearcut w/reserves	2011	aspen	88
St.Louis Moraines	Aitkin	Aitkin	50	23	0	18	325	9	non-ERF	Y	Clearcut w/reserves	2011	birch	82
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	347	3	non-ERF	Y	Clearcut w/reserves	2011	birch	83
St.Louis Moraines	Aitkin	Aitkin	50	23	0	19	351	13	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	107
St.Louis Moraines	Aitkin	Aitkin	50	23	0	21	402	10	non-ERF	Y	Uneven-aged regeneration	2017	northern hardwoods	124
St.Louis Moraines	Aitkin	Aitkin	50	23	0	23	813	10	non-ERF	Y	Uneven-aged regeneration	2014	white pine	123
St.Louis Moraines	Aitkin	Aitkin	50	23	0	24	411	9	ERF	Y	Commercial thinning	2014	red pine	76
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	659	12	non-ERF	Y	Commercial thinning	2010	white spruce	16

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Aitkin	Aitkin	50	23	0	36	647	50	ERF	Y	Commercial thinning	2010	red pine	90
St.Louis Moraines	Aitkin	Aitkin	50	26	0	4	77	9	non-ERF	Y	Commercial thinning	2017	white pine	111
St.Louis Moraines	Aitkin	Aitkin	50	26	0	17	204	67	non-ERF	Y	Uneven-aged regeneration	2015	oak	79
St.Louis Moraines	Aitkin	Aitkin	51	22	0	18	42	5	ERF	Y	Commercial thinning	2015	red pine	52
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	623	19	non-ERF	Y	Clearcut w/reserves	2016	aspen	46
St.Louis Moraines	Aitkin	Aitkin	51	23	0	16	220	7	non-ERF	Y	Commercial thinning	2011	white pine	109
St.Louis Moraines	Aitkin	Aitkin	51	23	0	22	271	7	non-ERF	Y	Commercial thinning	2011	white pine	61
St.Louis Moraines	Aitkin	Aitkin	51	23	0	36	516	18	non-ERF	Y	Uneven-aged regeneration	2011	northern hardwoods	93
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	545	19	non-ERF	Y	Uneven-aged regeneration	2017	balsam fir	86
St.Louis Moraines	Aitkin	Aitkin	51	26	0	10	588	12	non-ERF	Y	Commercial thinning	2018	white pine	112
St.Louis Moraines	Aitkin	Aitkin	51	26	0	15	602	12	non-ERF	Y	Clearcut w/reserves	2018	aspen	42
St.Louis Moraines	Aitkin	Aitkin	51	27	0	36	479	5	non-ERF	Y	Uneven-aged regeneration	2012	oak	62
St.Louis Moraines	Aitkin	Aitkin	52	26	0	20	681	16	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	77
St.Louis Moraines	Itasca	Deer River	54	23	0	36	240	5	non-ERF	Y	Clearcut w/reserves	2016	birch	67
St.Louis Moraines	Itasca	Deer River	54	24	0	30	94	9	ERF	Y	Commercial thinning	2010	red pine	88
St.Louis Moraines	Itasca	Deer River	54	25	0	31	107	5	non-ERF	Y	Uneven-aged regeneration	2011	northern hardwoods	69
St.Louis Moraines	St.Louis	Hibbing	55	21	0	28	127	14	ERF	Y	Commercial thinning	2018	red pine	95
St.Louis Moraines	St.Louis	Hibbing	55	21	0	30	98	2	non-ERF	Y	Commercial thinning	2019	white pine	15
St.Louis Moraines	Itasca	Hibbing	55	22	0	16	24	20	non-ERF	Y	Clearcut w/reserves	2010	birch	95
St.Louis Moraines	Itasca	Hibbing	55	22	0	24	145	13	ERF	Y	Commercial thinning	2019	red pine	45
St.Louis Moraines	Itasca	Deer River	55	26	0	13	194	33	non-ERF	Y	Clearcut w/reserves	2019	aspen	46
St.Louis Moraines	Itasca	Deer River	55	26	0	13	192	6	non-ERF	Y	Clearcut w/reserves	2014	aspen	66
St.Louis Moraines	Itasca	Deer River	55	26	0	13	189	4	non-ERF	Y	Commercial thinning	2014	white pine	82
St.Louis Moraines	Itasca	Deer River	55	26	0	13	170	23	ERF	Y	Commercial thinning	2014	red pine	44
St.Louis Moraines	Itasca	Deer River	55	26	0	14	169	12	ERF	Y	Commercial thinning	2014	red pine	44
St.Louis Moraines	Itasca	Deer River	56	24	0	36	95	3	non-ERF	Y	Uneven-aged regeneration	2018	white pine	159
St.Louis Moraines	St.Louis	Hibbing	57	19	0	2	33	13	non-ERF	Y	Clearcut w/reserves	2011	aspen	47
St.Louis Moraines	Itasca	Deer River	57	26	0	18	53	9	ERF	Y	Commercial thinning	2015	red pine	52

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	58	24	0	20	465	1	non-ERF	Y	Clearcut w/reserves	2016	aspen	60
St.Louis Moraines	Itasca	Deer River	58	24	0	21	493	19	ERF	Y	Commercial thinning	2012	red pine	44
St.Louis Moraines	Itasca	Deer River	58	24	0	21	878	13	ERF	Y	Commercial thinning	2012	red pine	44
St.Louis Moraines	Itasca	Deer River	58	26	0	16	78	30	non-ERF	Y	Clearcut w/reserves	2010	aspen	79
St.Louis Moraines	Itasca	Deer River	58	26	0	36	99	3	ERF	Y	Clearcut w/reserves	2011	birch	85
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	560	14	ERF	Y	Commercial thinning	2016	red pine	70
St.Louis Moraines	Itasca	Hibbing	59	23	0	30	562	13	ERF	Y	Commercial thinning	2016	red pine	93
St.Louis Moraines	Itasca	Hibbing	59	23	0	32	946	3	ERF	Y	Commercial thinning	2017	red pine	44
St.Louis Moraines	Itasca	Hibbing	59	23	0	34	953	8	ERF	Y	Commercial thinning	2019	red pine	82
St.Louis Moraines	Itasca	Deer River	59	24	0	4	1040	14	non-ERF	Y	Commercial thinning	2012	white pine	66
St.Louis Moraines	Itasca	Deer River	59	24	0	9	206	5	ERF	Y	Commercial thinning	2012	red pine	61
St.Louis Moraines	Itasca	Deer River	59	24	0	16	484	7	ERF	Y	Commercial thinning	2015	red pine	101
St.Louis Moraines	Itasca	Deer River	59	24	0	21	1041	4	non-ERF	Y	Clearcut w/reserves	2015	birch	79
St.Louis Moraines	Itasca	Deer River	59	24	0	31	880	6	non-ERF	Y	Clearcut w/reserves	2011	aspen	85
St.Louis Moraines	Itasca	Deer River	59	25	0	1	125	33	non-ERF	Y	Clearcut w/reserves	2019	aspen	19
St.Louis Moraines	Itasca	Deer River	59	25	0	4	1068	11	ERF	Y	Clearcut w/reserves	2012	birch	73
St.Louis Moraines	Itasca	Deer River	59	25	0	17	1061	5	non-ERF	Y	Clearcut w/reserves	2011	aspen	89
St.Louis Moraines	Itasca	Deer River	59	25	0	23	527	52	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	84
St.Louis Moraines	Itasca	Deer River	59	25	0	34	929	13	non-ERF	Y	Uneven-aged regeneration	2011	balsam fir	74
St.Louis Moraines	Itasca	Deer River	59	25	0	35	1067	7	non-ERF	Y	Clearcut w/reserves	2011	birch	87
St.Louis Moraines	Itasca	Deer River	59	26	0	36	27	11	non-ERF	Y	Clearcut w/reserves	2012	aspen	96
St.Louis Moraines	Itasca	Deer River	59	26	0	36	32	6	ERF	Y	Commercial thinning	2016	red pine	101
St.Louis Moraines	Itasca	Deer River	59	26	0	36	80	5	ERF	Y	Commercial thinning	2013	red pine	26
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	312	32	ERF	Y	Clearcut w/reserves	2012	jack pine	78
St.Louis Moraines	Itasca	Hibbing	60	23	0	3	13	5	ERF	Y	Commercial thinning	2018	red pine	74
St.Louis Moraines	Itasca	Hibbing	60	23	0	21	228	18	ERF	Y	Commercial thinning	2019	red pine	94
St.Louis Moraines	Itasca	Deer River	60	24	0	13	115	21	ERF	Y	Commercial thinning	2013	red pine	65
St.Louis Moraines	Itasca	Deer River	60	24	0	13	79	15	ERF	Y	Commercial thinning	2010	red pine	59
St.Louis Moraines	Itasca	Deer River	60	24	0	14	537	10	non-ERF	Y	Clearcut w/reserves	2012	aspen	51

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	60	24	0	16	94	4	ERF	Y	Commercial thinning	2019	red pine	18
St.Louis Moraines	Itasca	Deer River	60	24	0	16	577	4	ERF	Y	Commercial thinning	2019	red pine	18
St.Louis Moraines	Itasca	Deer River	60	24	0	20	252	30	ERF	Y	Commercial thinning	2015	red pine	70
St.Louis Moraines	Itasca	Deer River	60	24	0	20	241	10	ERF	Y	Commercial thinning	2012	red pine	86
St.Louis Moraines	Itasca	Deer River	60	24	0	21	246	18	ERF	Y	Commercial thinning	2019	red pine	16
St.Louis Moraines	Itasca	Deer River	60	24	0	21	239	11	ERF	Y	Commercial thinning	2012	red pine	84
St.Louis Moraines	Itasca	Deer River	60	24	0	23	142	34	non-ERF	Y	Clearcut w/reserves	2015	aspen	42
St.Louis Moraines	Itasca	Deer River	60	24	0	24	585	7	ERF	Y	Commercial thinning	2013	red pine	56
St.Louis Moraines	Itasca	Deer River	60	24	0	28	344	36	non-ERF	Y	Clearcut w/reserves	2011	aspen	88
St.Louis Moraines	Itasca	Deer River	60	24	0	32	456	22	non-ERF	Y	Clearcut w/reserves	2013	aspen	50
St.Louis Moraines	Itasca	Deer River	60	24	0	34	389	3	ERF	Y	Commercial thinning	2018	red pine	82
St.Louis Moraines	Itasca	Deer River	60	24	0	35	435	34	non-ERF	Y	Clearcut w/reserves	2017	aspen	33
St.Louis Moraines	Itasca	Deer River	60	24	0	35	419	6	ERF	Y	Commercial thinning	2011	red pine	59
St.Louis Moraines	Itasca	Deer River	60	24	0	36	387	16	non-ERF	Y	Commercial thinning	2016	white spruce	35
St.Louis Moraines	Itasca	Deer River	60	25	0	8	243	17	non-ERF	Y	Clearcut w/reserves	2018	aspen	22
St.Louis Moraines	Itasca	Deer River	60	25	0	28	508	3	ERF	Y	Commercial thinning	2017	red pine	64
St.Louis Moraines	Itasca	Deer River	60	25	0	30	550	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	69
St.Louis Moraines	Itasca	Deer River	60	25	0	30	521	13	ERF	Y	Commercial thinning	2016	red pine	101
St.Louis Moraines	Itasca	Deer River	60	25	0	31	570	8	ERF	Y	Commercial thinning	2015	red pine	102
St.Louis Moraines	Itasca	Deer River	60	25	0	33	615	2	ERF	Y	Clearcut w/reserves	2016	aspen	82
St.Louis Moraines	Itasca	Deer River	60	25	0	33	574	23	ERF	Y	Commercial thinning	2015	red pine	69
St.Louis Moraines	Itasca	Deer River	60	25	0	36	617	21	ERF	Y	Commercial thinning	2019	red pine	21
St.Louis Moraines	Itasca	Deer River	60	26	0	11	120	11	ERF	Y	Commercial thinning	2011	red pine	101
St.Louis Moraines	Itasca	Deer River	60	26	0	11	125	9	ERF	Y	Commercial thinning	2011	red pine	122
St.Louis Moraines	Itasca	Deer River	60	26	0	11	98	6	ERF	Y	Commercial thinning	2010	red pine	120
St.Louis Moraines	Itasca	Deer River	60	26	0	21	267	6	ERF	Y	Commercial thinning	2011	red pine	71
St.Louis Moraines	Itasca	Deer River	60	26	0	36	244	8	ERF	Y	Commercial thinning	2015	red pine	118
St.Louis Moraines	Itasca	Hibbing	61	22	0	19	193	19	non-ERF	Y	Clearcut w/reserves	2016	birch	80
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	778	5	ERF	Y	Clearcut w/reserves	2010	aspen	76

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	677	2	ERF	Y	Clearcut w/reserves	2016	jack pine	175
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	745	6	ERF	Y	Commercial thinning	2016	red pine	65
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	857	7	ERF	Y	Commercial thinning	2012	red pine	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	851	11	ERF	Y	Commercial thinning	2012	red pine	93
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	679	6	ERF	Y	Commercial thinning	2016	red pine	33
St.Louis Moraines	Itasca	Hibbing	61	23	0	1	744	14	ERF	Y	Commercial thinning	2016	red pine	68
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	775	4	ERF	Y	Clearcut w/reserves	2010	aspen	76
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	681	7	ERF	Y	Clearcut w/reserves	2011	jack pine	116
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	720	5	ERF	Y	Commercial thinning	2016	red pine	75
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	51	17	ERF	Y	Commercial thinning	2012	red pine	51
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	995	3	ERF	Y	Commercial thinning	2012	red pine	99
St.Louis Moraines	Itasca	Hibbing	61	23	0	2	44	14	ERF	Y	Commercial thinning	2012	red pine	54
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	873	2	non-ERF	Y	Clearcut w/reserves	2010	aspen	121
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	867	6	non-ERF	Y	Commercial thinning	2019	white pine	192
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	721	8	ERF	Y	Uneven-aged regeneration	2012	jack pine	48
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	868	36	ERF	Y	Commercial thinning	2019	red pine	15
St.Louis Moraines	Itasca	Hibbing	61	23	0	3	759	6	ERF	Y	Commercial thinning	2013	red pine	70
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	872	12	non-ERF	Y	Clearcut w/reserves	2010	aspen	121
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	669	17	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	65
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	120	4	non-ERF	Y	Commercial thinning	2017	white pine	97
St.Louis Moraines	Itasca	Hibbing	61	23	0	4	22	4	non-ERF	Y	Commercial thinning	2018	white pine	11
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	883	29	non-ERF	Y	Clearcut w/reserves	2017	aspen	62
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	211	9	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	70
St.Louis Moraines	Itasca	Hibbing	61	23	0	8	265	1	non-ERF	Y	Commercial thinning	2017	white pine	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	9	898	10	ERF	Y	Commercial thinning	2019	red pine	12
St.Louis Moraines	Itasca	Hibbing	61	23	0	10	803	16	ERF	Y	Clearcut w/reserves	2010	aspen	80
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	798	8	ERF	Y	Clearcut w/reserves	2010	aspen	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	11	783	18	ERF	Y	Clearcut w/reserves	2011	aspen	89
St.Louis Moraines	Itasca	Hibbing	61	23	0	12	909	3	non-ERF	Y	Clearcut w/reserves	2010	aspen	78

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	822	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	46
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	931	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	47
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	363	5	non-ERF	Y	Clearcut w/reserves	2013	birch	71
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	925	10	non-ERF	Y	Clearcut w/reserves	2013	lowland black spruce	119
St.Louis Moraines	Itasca	Hibbing	61	23	0	13	346	6	non-ERF	Y	Commercial thinning	2013	white spruce	18
St.Louis Moraines	Itasca	Hibbing	61	23	0	14	832	18	non-ERF	Y	Clearcut w/reserves	2016	aspen	43
St.Louis Moraines	Itasca	Hibbing	61	23	0	25	449	4	non-ERF	Y	Uneven-aged regeneration	2013	balsam fir	76
St.Louis Moraines	Itasca	Deer River	61	24	0	5	11	20	non-ERF	Y	Clearcut w/reserves	2012	aspen	59
St.Louis Moraines	Itasca	Deer River	61	24	0	5	19	17	non-ERF	Y	Commercial thinning	2019	white spruce	25
St.Louis Moraines	Itasca	Deer River	61	24	0	7	69	7	ERF	Y	Clearcut w/reserves	2016	aspen	29
St.Louis Moraines	Itasca	Deer River	61	25	0	2	66	6	non-ERF	Y	Clearcut w/reserves	2013	aspen	50
St.Louis Moraines	Itasca	Deer River	61	25	0	10	922	11	ERF	Y	Commercial thinning	2019	white spruce	12
St.Louis Moraines	Itasca	Deer River	61	25	0	10	921	12	ERF	Y	Commercial thinning	2019	white spruce	12
St.Louis Moraines	Itasca	Deer River	61	25	0	11	204	40	non-ERF	Y	Clearcut w/reserves	2016	balsam fir	56
St.Louis Moraines	Itasca	Deer River	61	25	0	20	690	28	non-ERF	Y	Clearcut w/reserves	2014	aspen	89
St.Louis Moraines	Itasca	Deer River	61	25	0	25	861	16	non-ERF	Y	Clearcut w/reserves	2011	aspen	59
St.Louis Moraines	Itasca	Deer River	61	25	0	36	874	31	non-ERF	Y	Clearcut w/reserves	2011	aspen	59
St.Louis Moraines	Itasca	Deer River	61	25	0	36	877	8	non-ERF	Y	Clearcut w/reserves	2011	aspen	61
St.Louis Moraines	Itasca	Deer River	61	25	0	36	879	58	ERF	Y	Clearcut w/reserves	2017	balm of Gilead	33
St.Louis Moraines	Itasca	Hibbing	62	23	0	29	191	2	non-ERF	Y	Commercial thinning	2019	white pine	15
St.Louis Moraines	Itasca	Hibbing	62	23	0	33	256	29	non-ERF	Y	Clearcut w/reserves	2014	aspen	52
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	240	4	non-ERF	Y	Clearcut w/reserves	2014	birch	84
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	501	7	non-ERF	Y	Uneven-aged regeneration	2012	jack pine	32
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	254	12	ERF	Y	Commercial thinning	2019	red pine	14
St.Louis Moraines	Itasca	Hibbing	62	23	0	34	495	7	ERF	Y	Commercial thinning	2015	red pine	50
St.Louis Moraines	Itasca	Deer River	62	24	0	26	307	30	non-ERF	Y	Clearcut w/reserves	2012	aspen	62
St.Louis Moraines	Itasca	Deer River	62	24	0	28	249	9	non-ERF	Y	Clearcut w/reserves	2012	lowland black spruce	116
St.Louis Moraines	Itasca	Deer River	62	24	0	29	251	13	ERF	Y	Commercial thinning	2013	red pine	87

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
St.Louis Moraines	Itasca	Deer River	62	24	0	31	191	5	non-ERF	Y	Clearcut w/reserves	2011	upland black spruce	62
St.Louis Moraines	Itasca	Deer River	62	24	0	34	197	18	non-ERF	Y	Clearcut w/reserves	2017	aspen	46
St.Louis Moraines	Itasca	Deer River	62	24	0	36	270	23	ERF	Y	Commercial thinning	2015	white spruce	24
St.Louis Moraines	Crow Wing	Backus	137	25	0	29	636	2	non-ERF	Y	Clearcut w/reserves	2013	balsam fir	59
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	54	4	non-ERF	Y	Commercial thinning	2017	white pine	14
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	19	31	ERF	Y	Commercial thinning	2013	red pine	32
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	32	17	ERF	Y	Commercial thinning	2019	red pine	94
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	112	3	ERF	Y	Commercial thinning	2019	red pine	11
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	115	3	ERF	Y	Commercial thinning	2019	red pine	62
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	111	2	ERF	Y	Commercial thinning	2019	red pine	11
St.Louis Moraines	Crow Wing	Backus	137	26	0	16	129	1	ERF	Y	Commercial thinning	2019	red pine	94
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	100	5	non-ERF	Y	Clearcut w/reserves	2018	aspen	23
St.Louis Moraines	Crow Wing	Backus	138	26	0	36	103	15	ERF	Y	Commercial thinning	2012	red pine	47
St.Louis Moraines	Cass	Deer River	143	26	0	36	516	11	non-ERF	Y	Clearcut w/reserves	2016	lowland black spruce	129
St.Louis Moraines	Itasca	Deer River	149	25	0	10	258	10	non-ERF	Y	Clearcut w/reserves	2014	aspen	34
St.Louis Moraines	Itasca	Deer River	149	25	0	25	290	26	ERF	Y	Clearcut w/reserves	2012	aspen	71
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	85	2	non-ERF	Y	Commercial thinning	2014	white pine	47
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	84	7	ERF	Y	Commercial thinning	2014	red pine	47
Tamarack Lowlands	Crow Wing	Backus	47	28	0	36	129	5	ERF	Y	Commercial thinning	2014	red pine	46
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	78	21	non-ERF	Y	Clearcut w/reserves	2019	aspen	29
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	9	61	7	non-ERF	Y	Clearcut w/reserves	2019	aspen	31
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	16	135	12	non-ERF	Y	Clearcut w/reserves	2010	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	16	130	63	non-ERF	Y	Clearcut w/reserves	2014	aspen	65
Tamarack Lowlands	Aitkin	Aitkin	48	23	0	21	143	18	non-ERF	Y	Clearcut w/reserves	2010	aspen	53
Tamarack Lowlands	Aitkin	Aitkin	49	24	0	16	128	27	ERF	Y	Clearcut w/reserves	2015	aspen	63
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	13	226	24	non-ERF	Y	Uneven-aged regeneration	2010	northern hardwoods	85

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	50	26	0	36	515	7	non-ERF	Y	Uneven-aged regeneration	2017	ash	137
Tamarack Lowlands	St.Louis	Cloquet	51	19	0	30	344	14	non-ERF	Y	Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Cloquet	51	21	0	36	124	20	non-ERF	Y	Clearcut w/reserves	2011	aspen	49
Tamarack Lowlands	Aitkin	Aitkin	51	22	0	20	62	29	ERF	Y	Clearcut w/reserves	2019	aspen	68
Tamarack Lowlands	Aitkin	Aitkin	51	24	0	29	458	40	non-ERF	Y	Clearcut w/reserves	2011	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	25	0	21	372	25	ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	51	26	0	26	362	5	non-ERF	Y	Clearcut w/reserves	2017	tamarack	121
Tamarack Lowlands	St.Louis	Cloquet	52	17	0	18	113	24	non-ERF	Y	Uneven-aged regeneration	2014	balsam fir	78
Tamarack Lowlands	Aitkin	Aitkin	52	22	0	23	62	6	non-ERF	Y	Uneven-aged regeneration	2013	balsam fir	86
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	789	18	non-ERF	Y	Clearcut w/reserves	2010	aspen	79
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	2	926	10	ERF	Y	Commercial thinning	2011	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	12	170	9	non-ERF	Y	Clearcut w/reserves	2012	aspen	61
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	276	11	non-ERF	Y	Clearcut w/reserves	2011	aspen	62
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	19	864	26	ERF	Y	Commercial thinning	2015	red pine	47
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	20	910	13	non-ERF	Y	Commercial thinning	2013	white spruce	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	27	309	7	non-ERF	Y	Clearcut w/reserves	2019	aspen	25
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	888	3	non-ERF	Y	Commercial thinning	2015	white pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	981	9	ERF	Y	Clearcut w/reserves	2011	aspen	67
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	883	3	ERF	Y	Commercial thinning	2015	red pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	878	9	ERF	Y	Commercial thinning	2015	red pine	52
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	877	7	ERF	Y	Commercial thinning	2015	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	765	7	ERF	Y	Commercial thinning	2015	red pine	48
Tamarack Lowlands	Aitkin	Aitkin	52	24	0	30	880	16	ERF	Y	Commercial thinning	2015	red pine	66

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	1	51	8	ERF	Y	Commercial thinning	2013	red pine	45
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	2	575	6	non-ERF	Y	Commercial thinning	2011	white pine	96
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	716	23	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	104
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	713	14	non-ERF	Y	Uneven-aged regeneration	2012	northern hardwoods	95
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	1003	98	non-ERF	Y	Uneven-aged regeneration	0	white pine	117
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	11	811	8	ERF	Y	Commercial thinning	2019	red pine	16
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	608	15	non-ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	946	33	non-ERF	Y	Clearcut w/reserves	2013	aspen	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	77	6	non-ERF	Y	Commercial thinning	2013	white pine	58
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	114	2	non-ERF	Y	Commercial thinning	2013	white pine	50
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	12	592	4	non-ERF	Y	Commercial thinning	2013	white pine	57
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	210	3	non-ERF	Y	Commercial thinning	2014	white pine	46
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	13	953	13	ERF	Y	Commercial thinning	2014	red pine	42
Tamarack Lowlands	Aitkin	Aitkin	52	25	0	33	793	6	ERF	Y	Commercial thinning	2013	red pine	42
Tamarack Lowlands	St.Louis	Cloquet	53	17	0	14	167	51	non-ERF	Y	Clearcut w/reserves	2017	aspen	57
Tamarack Lowlands	Itasca	Deer River	53	23	0	35	322	5	non-ERF	Y	Clearcut w/reserves	2012	balsam fir	61
Tamarack Lowlands	Itasca	Deer River	53	25	0	25	80	20	ERF	Y	Commercial thinning	2019	red pine	12
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	30	249	3	non-ERF	Y	Clearcut w/reserves	2016	aspen	76
Tamarack Lowlands	St.Louis	Cloquet	54	15	0	30	253	17	non-ERF	Y	Uneven-aged regeneration	2016	balsam fir	81
Tamarack Lowlands	St.Louis	Cloquet	54	16	0	1	3	85	non-ERF	Y	Clearcut w/reserves	2019	aspen	26
Tamarack Lowlands	St.Louis	Cloquet	54	17	0	16	77	6	non-ERF	Y	Commercial thinning	2015	white spruce	64
Tamarack Lowlands	St.Louis	Cloquet	54	19	0	8	25	17	non-ERF	Y	Clearcut w/reserves	2014	aspen	61
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	71	3	non-ERF	Y	Clearcut w/reserves	2014	aspen	68

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	19	4	non-ERF	Y	Commercial thinning	2010	white pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	12	7	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	63	7	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	128	20	ERF	Y	Commercial thinning	2010	red pine	93
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	130	56	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	Itasca	Deer River	54	24	0	18	127	9	ERF	Y	Commercial thinning	2010	red pine	62
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	83	26	non-ERF	Y	Clearcut w/reserves	2011	aspen	55
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	103	15	non-ERF	Y	Clearcut w/reserves	2011	birch	53
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	87	14	non-ERF	Y	Clearcut w/reserves	2011	birch	63
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	11	82	0	non-ERF	Y	Commercial thinning	2011	white pine	93
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	15	161	27	non-ERF	Y	Commercial thinning	2011	white pine	18
Tamarack Lowlands	St.Louis	Cloquet	55	15	0	16	307	8	ERF	Y	Commercial thinning	2011	red pine	67
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	15	201	7	non-ERF	Y	Clearcut w/reserves	2013	aspen	51
Tamarack Lowlands	St.Louis	Hibbing	55	19	0	31	190	20	non-ERF	Y	Clearcut w/reserves	2012	aspen	64
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	16	338	13	ERF	Y	Commercial thinning	2017	red pine	111
Tamarack Lowlands	St.Louis	Hibbing	56	17	0	21	125	6	non-ERF	Y	Clearcut w/reserves	2017	aspen	88
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	17	279	10	non-ERF	Y	Clearcut w/reserves	2015	balsam fir	67
Tamarack Lowlands	St.Louis	Hibbing	56	18	0	19	308	14	non-ERF	Y	Clearcut w/reserves	2015	aspen	59
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	11	219	23	non-ERF	Y	Clearcut w/reserves	2010	aspen	69
Tamarack Lowlands	St.Louis	Hibbing	56	19	0	35	694	8	non-ERF	Y	Clearcut w/reserves	2011	birch	77
Tamarack Lowlands	St.Louis	Hibbing	57	16	0	28	314	4	non-ERF	Y	Clearcut w/reserves	2017	aspen	37
Tamarack Lowlands	St.Louis	Hibbing	57	17	0	16	36	41	non-ERF	Y	Clearcut w/reserves	2012	birch	68
Tamarack Lowlands	St.Louis	Hibbing	57	17	0	33	145	10	ERF	Y	Commercial thinning	2010	red pine	83

Subsection	County	Area	Twp	Rng	Rdir	Sect	Stand No.	Treatment Acres	ERF	White Pine Component	Preliminary Prescription	Exam Year	Forest Type	2008 Age
Tamarack Lowlands	St.Louis	Hibbing	58	15	0	36	78	9	non-ERF	Y	Clearcut w/reserves	2017	aspen	29
Tamarack Lowlands	St.Louis	Hibbing	58	16	0	18	77	11	non-ERF	Y	Uneven-aged regeneration	2019	balsam fir	109
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	178	20	non-ERF	Y	Commercial thinning	2013	white pine	25
Tamarack Lowlands	St.Louis	Hibbing	58	17	0	36	182	15	non-ERF	Y	Commercial thinning	2013	white pine	16

Appendix T

New Access Needs List

Purpose

The primary purpose of identifying new access needs in SFRMP planning is to provide an estimate of general location, miles, and type of new access needed to implement the 10-year plan. The preliminary access needs information also:

- Provides a general assessment of new state forest road construction needs for budget development;
- Identifies access that will require a USFS (or other public or private) road use permit or special use permit; and
- Addresses access, habitat fragmentation, and road density concerns via post-sale access management intentions.

Scope

The scope of identifying new access needs in the SFRMP is limited to:

- Estimating the miles of new state forest road and new temporary access needed to access stands identified for treatment in the 10-Year Stand Exam List; and,
- Identifying (tagging) stands for which new access is needed.

Developing a comprehensive access plan for all land ownerships within the subsections is beyond the scope SFRMP. Establishing a guideline for maximum road/trail density in these subsections is also beyond the scope of this plan. The DNR cooperates and coordinates with other landowners on road and trail use and development. This cooperation and coordination will be used to minimize new road/access development, forest fragmentation, and disturbance to wildlife.

As part of the *Interdisciplinary Forest Management Coordination Framework*, members of the staffs of the DNR Fish and Wildlife Division, Section of Wildlife, and the divisions of Forestry and Ecological Resources have an opportunity to review the New Access Needs Lists and advise on the type of access needed and post-use disposition. In addition, as part of annual coordination meetings, prior to completion of the Forestry Area Annual Stand Exam Lists, consultation with the appropriate staffs on the location of new access routes will occur where endangered, threatened, or special concern species, rare native plant communities, or other significant non-timber forest resources may be affected.

DNR Road Classifications

The following DNR forest road classifications were used in identifying new access needs:

System Roads

These roads are the major roads in the forest that provide forest management and recreational access. These roads are open to all motorized vehicles but can be closed temporarily to address seasonal road or fire conditions.

Minimum Maintenance Roads

These roads are used for forest management access on an intermittent, as-needed basis. Recreational users may use them, but the roads are not promoted or maintained for recreation. The roads are open to all motorized vehicles but can be temporarily closed to address road deterioration or fire conditions.

Resource Management Access Routes

These routes are used only during management activity. They are not immediately needed after management activity ends but the corridor is preserved for future management activity. Specific closure methods (e.g., gate, berm, rocks, or felled timber) are determined at the time the route is established. These routes are closed to all motorized recreation use (for hunting, trapping, etc. exceptions, see Minnesota Statutes 84.926).

Temporary Access Routes

If the access route does not fit into one of the first three options, it must be abandoned and the site reclaimed so evidence of a travel route is minimized. Temporary access routes are used only during management activity. They are closed to all motorized recreation use (for hunting, trapping, etc. exceptions, see Minnesota Statutes 84.926).

Interdisciplinary Review of Access Planning

Anticipated new access needs were identified by field personnel (with interdisciplinary input and/or review) after stands were identified for inclusion on the 10-Year Stand Exam List. The SFRMP process does not identify, map, or digitize detailed routes for the identified new access needs. Actual route layout will occur on the ground at the time of project implementation.

New Access Needs Results

The North 4 Plan identifies stands requiring new access. Of the 7,662 stands on the 10-year Stand Exam List, 424 stands, or 5.5 percent required some type of new access designation, permit or construction. The road classification, mileage, and closure method will be finalized when field staff completes the actual on-the-ground road layout. Interdisciplinary review process will be followed if significant changes or alterations are made following the stand site visits.

Table 7.17 summarizes the number of miles by new access route type needed to access the stands in the 10-year Stand Exam List for the North 4 subsections.

Table 7.17: New Access Needs Miles by Subsection, Season of Use, and Access Type

Subsection	Season of Use	Miles of Resource Management Access Route	Miles of Temporary Access Route	Total Miles
St. Louis Moraines	Summer	2.9	1.7	4.6
	Winter	10.1	3.2	13.3
SLM Total		13	4.9	17.9
Tamarack Lowlands	Summer	13	1	14
	Winter	24.4	1.7	26.1
TL Total		37.4	2.7	40.1
Nashwauk Uplands	Summer	0	0	0
	Winter	1.1	1.5	2.6
NU Total		1.1	1.5	2.6
Littlefork-Vermilion Uplands	Summer	0.2	0	0.2
	Winter	46.7	37.7	84.4
LVU Total		46.9	37.7	84.6

Most temporary roads will not be maintained after harvest is completed. These access routes should be used again for future forest management activities instead of disturbing new areas.

Responses to Public Comments on the Draft North 4 SFRMP

The Draft North 4 plan went out for public review on July 24, 2009. At the request of Minnesota Forest Industries, the comment period was extended to 60 days, closing on September 24, 2009.

Eighteen letters were received, comments were summarized, and responses drafted by the Northeast Region Core 4, per SFRMP process. Responses were drafted to approximately 45 comments, many of which were of a non-controversial nature. A number of those resulted in changes/corrections being made to the draft plan. Comments were received from the following individuals and organizations:

Pine Products, Inc.
 Norbord Minnesota OSB, mill manager
 City of Bemidji
 Norbord Minnesota OSB, purchasing
 Miller McDonald, Inc. CPA
 Potlatch Land and Lumber, LLC
 Joint Economic Development Commission
 UPM Blandin Paper Company/Forestry
 Grand Rapids Area Chamber of Commerce
 Robert Brittain
 The Nature Conservancy of Minnesota, North Dakota, and South Dakota
 The Ruffed Grouse Society
 Bill Haugen (1)
 *Bill Haugen (2)
 *Minnesota Forest Industries
 *Timber Producers Association

*Received after close of public comment period.

Some responses and changes to the draft North 4 plan required the support of a modeling specialist; changes to the plan are noted in bold type in the response summary below.

Harvest Levels

1. The proposed plan proposes to offer approximately 183,000 cords, annually. This is a reduction in volume offered when compared to historic numbers. We estimate that sustainable harvest rates within these subsections to be approximately 305,000 cords per year. The DNR reduction in harvest can be attributed to the constraints applied during the planning process. Overall, 55 percent of the commercial forest acres have a constraint applied to them.
2. Reducing the rate of harvest may demonstrate to existing mills who want to expand, and to any mill that may want to do business in our region, that our timber supply cannot support their endeavor.

Response:

DNR timber sales data show that the average volume harvested in this landscape during the previous ten year period was 191,500 cords per year. With the addition of another 7,200 acres of black spruce and approximately 1,000 acres of red pine final harvest over that proposed in the draft plan, the current plan proposes a harvest in the range of 185,000 – 205,000 cords per year. So the current plan does not offer a volume of timber that differs significantly from past available volumes. This volume compares favorably to the sustainable harvest level proposed by Minnesota Forest Industries (MFI) in their revised comments i.e., 255,000 cords/year. Even as it tried to maintain a reasonable harvest level, the North 4 SFRMP team worked to schedule a ten-year harvest that would contribute to correcting the current undesirable age class structure of the subsections' forests. It should be noted that the planning process involved collaboration among DNR Wildlife, Forestry, and Ecological Resources divisions, and considered the benefits to some wildlife species of older forest in addition to the economic benefits of timber production. Natural resources are by definition limited, and cannot sustain unlimited industrial growth, even if that were a desired goal.

DNR sets future timber harvest rates based on a number of objectives, including forest health, productivity, game and non-game wildlife habitat needs, and biological diversity concerns. That said, this plan was able to do more to optimize timber volume while considering those other factors, because of the use of the Remsoft harvest-scheduling model.

The North 4 team took into consideration the facts that the planning area contains a high percentage of state timberlands; that those timberlands contain a high percentage of aspen acres; that a number of industries rely on timber supplies from state land in the subsection, particularly aspen species; that a native plant community in which aspen is a particularly good competitor (MHN44) is common in these subsections; that the subsections are heavily hunted for species which require multiple age classes of early successional forest (e.g., ruffed grouse, woodcock, deer); that hunting and income generated by activities related to hunting are important to the economy of the region; and that the Department's Strategic Conservation Agenda includes a goal of harvesting an average of 650,000 ruffed grouse annually.

These factors combined to suggest goals for treatment of the aspen cover type (e.g., rotation ages, conversion out of the cover type) should reflect the importance aspen cover type to the economic and recreational needs of this region of the State.

3. DNR should take another look at the modeling process and give the modeling a chance to put forth several different levels of harvest, for discussion and consideration internally and externally. The review should be re-opened and modified by removing substantial numbers of these constraints.

Response: DNR leadership confirmed its intent to keep ERF ages and levels fixed for the duration of the current planning period. Therefore, the option of changing those constraints was off the table.

However, a number of scenarios that involved relaxing even-flow constraints and removing age-class distribution constraints were evaluated in the effort to find additional black spruce and aspen volume *during the current planning period*. Relaxing even flow did result in a small increase in volume being available for harvest, while minimizing volume fluctuations over the planning horizon, and avoiding severe impacts to future age-class distribution. The team proposed the following model, the outcomes of which were approved by DNR division directors (Fish and Wildlife, Forestry, and Ecological Resources-Waters):

St. Louis Moraines - 55% even-flow on all cover type volume, 41% even-flow on aspen volume, no black spruce even-flow, age-class distribution constraints on aspen and black spruce;

Littlefork-Vermilion Uplands - 15% even-flow on all cover type volume, 15% even-flow on aspen volume, 20% even-flow on black spruce, WITH age-class distribution constraints on aspen but WITHOUT age-class distribution constraints on black spruce,

Tamarack Lowlands - 10% even-flow on all cover type volume, 35% even-flow on aspen volume, 15% even-flow on black spruce, WITH age-class distribution constraints on aspen but WITHOUT age-class distribution constraints on black spruce,

Nashwauk Uplands - no even-flow constraints, volume of ALL cover types must be less 15,300 cords beginning in year 15, and WITH aspen age-class distribution constraints but WITHOUT black spruce age-class distribution constraints.

This results in approximately 53% more acres of black spruce being selected in the first (current) decade (5.7% increase in acreage overall). Some change to this estimate would be expected due to real-life operational constraints.

4. The proposed plan additionally constrains the model by designating an amount of old forest acres and the amount of acres to be within ten year age classes. These constraints significantly reduce timber outputs. Removal of these constraints increased timber outputs by nearly 70,000 cords, annually. DNR should remove old forest and age-class constraints. Application of ERF and old growth stands provide for older forests on commercial timber lands. Further, reserved and non-commercial forestlands, lands not managed for timber, provide for old forest habitat as well.

Response: DNR and other external modeling efforts suggest that the effect of these constraints is much less than 70,000 cords/year. As noted in our response to comment 1, MFI later adjusted its own model harvest level downward to a sustainable harvest level more consistent with that proposed in this plan. Balancing age-class distributions is a major underlying goal of DNR forest management; this constraint has a larger bearing on volume differences between MFI and DNR models than either ERF or normal rotation ages. Balancing age classes is an important underpinning of DNR forest management because it potentially provides a steady amount of forest products, revenue, habitat and recreation,

thereby meeting the needs of a wide array of stakeholders. Balancing forest age classes is also identified as a key strategy for mitigation of higher harvest levels in the GEIS on Minnesota Timber Harvest and Forest Management (GEIS). If this constraint were removed, a short term gain in volume could be achieved, at expense of a long term, steady predictable supply of public resources. MFI also used a clear-cut prescription in its model for forest types that DNR manages using uneven-age systems for ecological and economic reasons, e.g. northern hardwoods and lowland hardwoods.

Very little “old” birch remains in these landscapes, as is shown by the birch age-class distribution charts in the North 4 SFRMP. All of that is scheduled for a stand examination. SFRMP is a “vegetation management plan”; timber harvest is the major piece of the plan. Increasing old forest is a smart strategic move by the state in terms of the emerging global carbon market and old forest’s carbon positive attributes; it is also a “plus” with respect to the State’s ability to market certified wood.–The constraints applied to the North 4 modeling effort reflect application of existing DNR policy and guidance, and was influenced by all three participating divisions – Forestry, Fish and Wildlife, and Ecological Resources.

Removing black spruce age-class distribution constraints for all subsections except St. Louis Moraines resulted in an increase in black spruce (7,200 acres) that will be added to the ten-year stand exam list. Removal of age-class distribution constraints on the aspen type was evaluated, but they could not be removed without creating unstable age classes in future decades.

Extended Rotation and Old Forest

5. Given these are public lands, I suggest a large portion use extended rotations.
6. Restricting harvest levels now, in what is already an aging forest, will surely lead to lower levels of growth and harvest in the future. Given the high amount of federal land in the same area as the North Four subsections, it seems the DNR should use its own guidelines recommending 20 to 25 percent ERF.
7. The 1994 Generic Environmental Impact Statement (GEIS) and DNR Extended Rotation Forest Guidelines suggest that a level of 20-25 percent prescribed ERF would mitigate impacts to most wildlife species. The North Four plan prescribes 52 percent of the commercial forest acres as ERF. Some types such as red pine all acres managed on an ERF basis. Further, the ERF ages have been greatly extended. For example, recommended ERF rotation age for aspen is 50-60 years. The DNR has prescribed aspen ERF ages as high as 85 years. We recommend the DNR only prescribe 20-25 percent of any type to an ERF age. ERF rotation ages should not exceed 1.5 times recommended rotation ages.

Response: The GEIS assumed 20 percent of state and federal lands would be managed as ERF. This was simply a rough modeling assumption used to project changes in forest age-class distributions

over the 50-year modeling horizon, and associated potential effects on numerous factors (including wildlife). It is not intended to be a guideline for forest management.

It would be incorrect to say that the GEIS predicted that 20-25 percent ERF would mitigate effects on most wildlife species of an increased timber harvest. In fact, of the 17 potential significant effects predicted under the GEIS base harvest scenario, most of them were predicted to happen even with the assumed mitigations built into the second model runs (which assumed 20 percent prescribed ERF on state lands). Mitigations to those significant impacts (many of which would affect wildlife) included designating additional ERF and balancing forest age classes.

DNR's 1994 Extended Rotation Forest Guideline does not recommend any particular level of prescribed ERF; it establishes a 10 percent minimum, but no maximum. In fact, it recognizes that, "It may be appropriate to manage more than 50 percent of the timberlands" as ERF in some landscapes. The ERF Guideline presents average recommended rotation ages for various forest types as general guidance, and does recommend 50-60 years as *minimum* extended rotation ages. Rather than focus on the very small number of acres that would be held to the maximum rotation ages of 80-85 years, a more meaningful picture of the ERF scenario in the North 4 plan can be gained by looking at the average ERF rotation age, which is 66-67 years. Overall, the North 4 plan designates 35 percent of commercial forest as ERF, not 52 percent. The percentages vary by subsection, as one would expect with a landscape-based plan.

Since the adoption of the ERF guideline, DNR has consistently directed staff to adjust rotation ages based on local conditions and data, and professional judgment. To that end, the SFRMP process was changed in 2006 so that an ERF-Rotation Age work group would determine landscape-appropriate rotation ages prior to the start of a new SFRMP.

By policy, 100 percent of red and white pine forests on DNR timberlands are to be managed as ERF. For other types, the amount of timberland given an ERF prescription (i.e., prescribed ERF) was based on a goal to have a certain amount of the forest beyond the identified normal rotation age at any point in time in the future (i.e., once the forest desired age-class distribution is achieved). **In response to public comments on the draft plan, work has been done to identify a pool of red pine stands to be evaluated for a final harvest in these subsections. A pool of stands was nominated by field foresters and underwent interdisciplinary review. In May 2010, approximately 300 acres were offered for sale with a clear cut or final harvest prescription. Additional acres of red pine (a combination of planted and natural stands) will potentially be added to the 10-year stand examination list, for a total of approximately 1,000 acres of final harvest contingent upon Forestry areas identifying additional planted acres (to balance natural stands on the list) for final harvest.**

ERF is intended to provide a suite of "old forest" characteristics on the landscape in the context of a productive, working forest. This is in contrast to old-growth forests, SNAs, and other reserved forest land areas where harvest is not an explicit part of the management plan. Final harvest is merely being delayed to provide more old forest "services" to the landscape. ERF that is designated in the

North 4 plan is not focused on WMAs, however ERF is designed to provide old forest values, many of which are in fact wildlife values, including hunt-able populations of game species.

Historical conditions were not used as a management goal in the plan. Rather, those data helped the team locate ERF in parts of the subsection where soils, climate, and disturbance regimes have allowed old forest to develop in the past.

8. Old forest is defined as those stands older than commercial rotation age. While this definition may be useful for planning purposes, it has less bearing on the composition and structural conditions that develop in late-successional forests. Extended rotation forests as defined in this plan likely do not provide for the area or range of late-successional forest habitat conditions. For example, mesic fire dependent forests (FDN43) in the Manitou forest landscape in northeastern Minnesota begin developing late-successional characteristics between 50-70 years of age. The differences between economically defined rotation ages and native plant community based growth stages should be discussed. *Biological Diversity, Forest Composition, and Spatial Distribution (Section 3.1)*.

Response: There is an ongoing effort by the Department to incorporate NPC and growth stage understanding into field forest management. The Department recognizes that making this kind of a change will take time, however, the North 4 plan provides a great deal of direction to manage stands consistent with native plant communities. Again, the North 4 Team was following Department direction to balance age classes and provide an even flow of timber, direction that required retention of a significant amount of forest in younger growth stages, in recognition of industry, recreation, and wildlife interests. Strategies recommending management in designated patches include managing for components of the next older growth stage, as a way of achieving greater structural and species diversity in these areas.

9. Across northern Minnesota forested landscapes, ecologically defined late successional forest, particularly in the uplands currently covers a very small proportion of the landscape. While this document describes the importance of “old forest”, it appears that the desired balanced age-class distributions for upland types will actually significantly reduce the area later successional forest in these subsections. This should be clearly described in the document. I am concerned about what we are going to do with 150 year old timber, and what industry might be able to utilize or even pay for this stumpage.
10. It is more important to harvest and process the over-mature timber than to have it rot and die in the forest, which can create hazards and unusable areas.
11. In birch alone, it appears in your first ten years of the plan you would harvest only the equivalent of the acres over 85 years old.
12. We are concerned that the draft SFRMP proposes significant reductions in aspen and other early successional forest habitats over time. The young growth stages of these early successional types provide critical breeding and post-fledging habitats for many species of

wildlife, including numerous species identified by the MN Department of Natural Resources as Species of Greatest Conservation Need.

Response: See response to comments 5-7, above. Also, recall that the role of the SFRMP team is to balance all stakeholder interests; the model results represent the team's effort to do that. However, it is particularly old aspen that has been identified as a Key Habitat for SGCNs associated with forests – most forest-related SGCNs are associated with older growth stages and/or interior forest conditions. Young aspen forest is not a conservation concern in Minnesota, even though it may be in other parts of the United States.

New model scenarios for aspen and black spruce were reviewed for their effects on a) increased volume in the current ten year planning period; b) lack of a significant decrease in volume in future planning periods (particularly the next several planning periods when the full force of the “aspen shortage” will be realized); and c) apparent impact on age class acreage levels.

Preferred scenarios showed little or no loss of volume in future decades, little negative impact on the ability to balance age classes over time (a plan goal for even-aged species), and produced an increase in current plan volume that appeared to be “real” (i.e., higher than the anticipated reduction of volume resulting from eventual field staff review for marketability).

Using these criteria, an alternative model scenario was developed for each subsection, with a resulting increase in volume of 4.4 percent.

13. Reductions in ruffed grouse populations will reduce hunting opportunity and economic benefits to local communities. The ruffed grouse is Minnesota's most popular game bird and generates \$50 – 100 million annually to the state's economy.

Response: The Department values and appreciates the importance of ruffed grouse and grouse hunting in the state. While individual species plans are not directly addressed within SFRMPs, the DNR Conservation Agenda provides the following target with respect to ruffed grouse:

“Provide an average annual harvest of 650,000 ruffed grouse. By promoting forest management practices that are ecologically sound and socially and economically beneficial to Minnesota citizens, DNR will provide abundant ruffed grouse habitat. DNR's SFRMP process will help ensure that early successional forest habitats used by ruffed grouse and other wildlife are adequately represented in appropriate landscapes (see Subsection Forest Resource Management Plans and DNR Timber Sales indicators).”

The Conservation Agenda can be found at <http://files.dnr.state.mn.us/aboutdnr/reports/conservationagenda/fisherieswildlife.pdf>

The North 4 SFRMP team believes the plan will contribute to the achievement of the long term grouse harvest goal for the following reasons:

- a. Early successional hardwood (e.g. aspen, balsam poplar, paper birch) treatment levels were set with the assistance of the Remsoft harvest-scheduling model using a goal to provide sustainable volume flow over time. This will lead to more consistent harvest levels in early successional hardwoods over time. Due to the current age class imbalance in early successional hardwood types, a suggestion of higher treatment levels in the short term would further exacerbate the age class imbalance and result in much less early successional habitat for grouse in future decades, potentially threatening the ability to achieve future grouse harvest goals.
 - b. The plan's short and long term goals will result in a younger average age of treatment in most early successional hardwood stands than has occurred in the past (see page 3.69 and Table 3.9d in the North 4 SFRMP), increasing the likelihood of successful high density regeneration favored by ruffed grouse for a portion of their habitat needs.
 - c. The plan's application of Maximum Rotation Ages helps insure that stands the State wishes to keep in early successional hardwood types can be successfully regenerated back to the desired type.
 - d. Plan goals to convert early successional hardwoods to other types do not imply wholesale conversion of individual species within the stand from one to another. As an example, see figure 3.1d on page 3.15 and figure 3.1e on page 3.16 in the plan, which show several typical scenarios where early successional hardwood are retained with a stand being converted to conifer. This retained early successional hardwood presence in converted stands will continue to provide habitat needs for ruffed grouse even as the cover type changes.
 - e. Even plan goals to manage stands as native plant communities will result in young forest and potentially a spatial mosaic of forest conditions more congruent with the range of natural variation under which ruffed grouse naturally occur.
14. *Use the concept of carbon sequestration to remove carbon dioxide...*It should be noted here that it is very clear in scientific literature that older forests store significantly more carbon than younger forests. Based on the plan, it appears that in upland forests, carbon storage potential will be limited by the short rotations and low areas of extended rotation forests.
15. In this plan 53 percent of the red pine type is planned for extended rotation forestry from 160 to 220 years old (page 4.46) . . . this is economically and professionally wrong. The ERF level must be reduced. Similar concern with jack pine stands (page 4.51). I recommend revision of the rotation age for red pine to 80 years.

Response: The North 4 SFRMP calls for increasing these species on the landscape – implementation of the plan’s goals will create increased opportunities for pine harvest in the long term. Red pine ERF levels are determined by a DNR process (see response to comment 34). It should also be noted that Native Plant Communities in which red pine is a good competitor are relatively rare in the North 4 subsections – especially rare are older growth stages of plant communities that include red pine.

Pine forests in the North 4 subsections over the age of 17 years were selected for examination. These stands will be entered at least every ten years and evaluated for thinning. In this way, they will produce a continuous stream of product until they are deemed ready for a final harvest. This management scheme will allow forest managers to achieve multiple SFRMP goals i.e., improving the health and productivity of pine stands, producing additional volume of timber from thinning entries, and producing a high quality final product in the form of saw logs.

In response to these comments, and under direction from DNR Division Directors, the Northeast Region Core Team undertook to identify a pool of red pine stands for final harvest during the current decade. The Core Team requested Forestry areas in the North 4 subsections to nominate an equal number of natural-origin and planted red pine stands they considered suitable for inclusion in a final harvest pool, for a total of approximately ten percent of each area’s red pine acreage. Of the 123 stands nominated, the **Core Team identified 33 stands (319 acres) to be assigned a field visit in May, 2010. These were offered at a special auction in May 2010.** The remaining stands needed further evaluation due to insufficient information, or potentially conflicting priorities, but the intent is to have a ten-year list of stands that amounts to between 3 and 5 percent of the red pine cover type available for final harvest. Due to the fact that the majority of the stands identified as appropriate by the field are natural-origin pine stands, the team would like to hold off on approving those for final harvest until they can be balanced with a number of planted stands proportional to the number of planted stands in the subsections. **Currently there are approximately 600 additional red pine acres in a pool for evaluation for final harvest; approximately equal numbers of natural and planted-origin acres are in the pool.**

Economic Concerns

16. The proposed plan does not consider the cost of the constraints placed on timber management. A net present value analysis shows that the proposed plan would return at NPV of \$35.1 million. A NPV of \$58.7 million is realized when the added constraints of the constraints were removed. A four percent discount rate was used for this analysis. Unrealized state revenues over the next ten years are estimated at \$29.2 million (2.9 million annually). The unrealized local and regional economic activity is estimated at approximately \$120 million, annually. In terms of jobs, we estimate 610 direct and indirect jobs will be unrealized, annually. The DNR must consider the added costs constraints are having on the timber program. The DNR should provide an economic analysis of the

proposed timber program and the cost the added constraints are having on state revenues and local and regional economies.

Using the 122,000-cord gain premise, MFI's present value (PV) and economic impact estimates are a reasonable representation of unrealized fiscal and economic impacts. MFI's PV estimates are the present value of unrealized gross timber revenues, not net, because the cost of selling timber was not subtracted. Of note, the MFI 305,000 cord alternative includes: (i) liquidation of all aspen, jack pine, and birch greater than age 70 and (ii) strict adherence to harvesting non-ERF stands at the stated "normal" rotation age. An estimated 40-50% of the difference between the MFI alternative and the DNR proposal would be a ONE-TIME GAIN, not repeatable in future planning cycles.

DNR Proposal: 183,000 cords offered per year

MFI Alternative: 305,000 cords offered per year

Difference = 122,000 cords per year or 1,220,000 cords for the 10-year planning period.

Reverse engineering the economic projections provided the following information:

MFI #s

1) Given: maximum unrealized state stumpage revenue = \$29.2 million or \$2.9 million annually, the average all-species all-products stumpage value ≈ \$24 per cord

2) Unrealized economic activity ≈ \$120 million annually or \$41 per \$1 stumpage

Minnesota DNR recognizes that value is also added to the forest resource by interests other than timber, e.g. ecotourism, recreation, hunting, emerging markets (carbon), and development of a third-party certified timber base.

17. More than 85 percent of the timberlands (615,000 acres) within the planning area are Permanent School Trust Lands. By State statute timber revenues collected through the management of these lands are to benefit the public schools of Minnesota. The DNR has a responsibility to maximize revenue from these lands while maintaining the integrity of forest resources. Assuming that 85 percent of the revenue will be generated by harvest on PSF lands we estimate that unrealized revenues to the PSF exceed \$2.5 million, annually. The DNR should manage PSF lands to generate revenue consistent with the Minnesota Forest Resources Council Voluntary Site-level Guidelines. Further, an assessment of added constraints must be performed that shows the impacts to PSF revenues and the rural schools of Minnesota.
18. The reduction in harvest from this region is also in direct violation of the DNR mandate to maximize return from school trust fund lands. Over the first decade the reductions will amount to \$30 million dollars. What analysis within the plan justifies this detriment?
19. Consider weighting the analysis to better incorporate economic criteria.

Response: The team set up the model used in planning to maximize volume outputs within the following predetermined constraints: rotation ages, extended rotation targets, and moving towards more balanced age classes. These constraints are used on all the timberlands covered in the planning area regardless of land status (Trust Fund, Acquired, etc). Removing or changing one or

more of these constraints could provide more volume for the forest products industry, generating more dollars for the Trust, only at the expense of other stakeholder interests, such as older forest habitats or maintaining a steady supply of resources. The team did however, attempt to place some ERF where it would provide multiple benefits (along streams and lakes, and clumped around designated old-growth forest), and where it would have the least volume impact e.g., by avoiding areas of very high site index aspen.

In developing a response to these concerns, the northeast region Core Team worked with the new DNR Forestry modeling specialist to evaluate a number of changes to the model constraints, in an effort to balance the expressed desire to find additional volume, while keeping impacts to future forest age classes within acceptable limits.

The Core Team was instructed to leave rotation ages and ERF ages and percentages unchanged. In its effort to identify additional timber volume, the model was run with various combinations of even flow, and age-class distribution constraints. Additional lowland black spruce acreage resulted from this exercise.

The North 4 team recognized that the planning area contains a high percentage of state land timber; that it contains a high percentage of state land aspen/balm of Gilead acres; that a number of industries rely on supply of timber from state land in the subsection; that a native plant community which is well suited to aspen (MHn44) is common within the subsections; that the subsections are heavily hunted for species which require multiple age classes of early successional forest (e.g. ruffed grouse, woodcock, deer); that hunting and income generated by activities related to hunting are important to the economy of the region; and that the Department's Strategic Agenda includes a goal of harvesting an average of 650,000 ruffed grouse annually.

These considerations influenced subsection goals for treatment of the aspen cover type (i.e., rotation ages, conversion out of the cover type); these goals are intended to reflect the importance and suitability of the aspen/BAM cover type to the economic and recreational needs of this region of the state.

Global Climate Change:

20. The NPC based approach is important for spatial patterns, but should also be included in the section describing species diversity.

Response: GDS 3-A on page 3.42 already includes the following language: "Use the NPC Field Guide, site index, soils data, and ECS Silvicultural Interpretations to aid in determining the *species composition and structure* most appropriate for the site [emphasis added]."

21. While invasive species are mentioned here, these are likely to be an increasing problem in this region. Greater attention could be given to planning for this threat.

Response: Division of Forestry personnel are required to adhere to Invasive Species Operations Order 113 Discipline Guidelines when undertaking forest management.

Issue G2 in the North 4 SFRMP addresses invasive species. The following general direction statements (GDSs) and strategies address this issue, however the North 4 team agrees that additional mention could be made in specific reference to climate change.

A new strategy (b) on structural diversity was added to GDS-7C, which addresses climate change. A monitoring goal (#40 – SFRMP Monitoring Plan) applies to invasive species – the priority of this goal will be reviewed in light of these comments. The Division of Forestry’s Invasive Species Guidelines

http://files.dnr.state.mn.us/assistance/backyard/treecare/forest_health/invasiveGuidelines.pdf also address this concern.

- a. GDS-1D (Patch Management) includes the following acknowledgement of the importance of this issue, “Mature and older growth stage large patches have benefits for some wildlife species (e.g., goshawk, red-shouldered hawks) and provide conditions that favor many native plant species over invasive and weedy plant species. “
- b. GDS-1E (Sites of biodiversity significance) also talks about the risk from road construction that permit entry of invasive species into previously unaffected sites, “Roads contribute to a decrease in interior forest conditions and an increase in terrestrial invasive species abundance. All efforts should be taken to minimize new road construction and enlarging existing roads/trails in MCBS sites.”
- c. GDS-3A (Species and structural diversity) advocates using the least intensive site preparation methods possible to ensure success with site preparation, because site preparation can create conditions favorable to invasive species and alter structural diversity in the ground layer. Striving to minimize site preparation intensity will minimize these threats.
- d. GDS-7A (limiting damage to forests from insects, disease, and exotic species) specifically mentions monitoring insect, disease, and harmful exotic species populations . . . and documenting their occurrence on state-managed lands. Adherence to Minnesota DNR Operational Order 113 (Invasive Species) to minimize the spread of invasive exotic species during forest management activities is also recommended in this GDS.
- e. GDS -7C (climate change) also mentions the importance of site-level management in reducing the likelihood if invasive species becoming established.

22. D. *Use the concept of carbon sequestration to remove carbon dioxide...*It should be noted here that it is very clear in scientific literature that older forests store significantly more carbon than younger forests. Based on the plan, it appears that in upland forests, carbon storage potential will be limited by the short rotations and low areas of extended rotation forests. Looking at the age distributions in the plan, it appears that future forests will store

less carbon than the current landscape. It should also be noted that dimensional lumber and other wood products used in construction can store carbon for significant time periods, while pulp and paper contribute little to carbon storage. Significant carbon is also lost back to the atmosphere through wood processing. It should be noted here that kinds of management and forest products produced do have an impact on carbon storage.

23. Approximately 60% of carbon in northern forests is in the forest floor and soil pools. I think it is important to mention to importance of below ground carbon pools and that literature indicates that these below ground and forest floor pools can be vulnerable to disturbances such as clear-cutting and severe fire. The significance of below ground carbon pools should included in this document.
24. Many useful forest management strategies are listed here that could enhance carbon storage.

Response: While older forests do store a greater amount of carbon than younger forests, we recognize that the rate at which young, rapidly growing forests sequester carbon is much faster, so our strategy of balancing age classes will accrue both kinds of carbon sequestration benefits.

25. DNR must base its decisions on solid field data and known science as well as economic and social considerations, when determining harvest timing and levels.

Response: The best available forest inventory and satellite imaging, wildlife population, and rare species data are used to develop the current forest management recommendations. The SFRMP team includes three foresters, two forest wildlife biologists, and a forest ecologist, and is supported by a forestry planner, a GIS specialist, and a modeling specialist.

Sustainability requires that timber harvest be balanced with the other forest benefits. The DNR does desire that Minnesota have a thriving forest-based industry while sustainably managing forests through a balanced approach that provides for a diversity of benefits (ecological, economic, and recreational) for current and future generations (DNR's *Strategic Conservation Agenda 2003–2007*). Based on the terminology used in the *Governor's Advisory Task Force on the Competitiveness of Minnesota's Primary Forest Products Industry (July 2003)* relating to the economic importance of the timber industry in Minnesota, Issue H.1 on page 2.11 of the North 4 SFRMP reads, "Establishing an appropriate timber harvest level will require the successful integration of economic, social, and ecological factors. Timber harvest provides forest products for society and jobs for those in forest-related industries. Demand for timber continues to grow in most parts of the state. Managing for sustainability requires that we balance timber harvest with other forest benefits. Sustainably managed forests can support a healthy and competitive timber industry, provide the diversity of habitats needed by plant and animal species, maintain water quality, and provide a wide array of recreational opportunities."

26. It may be time to move to volume rather than area control. . . .Volume control would better incorporate intermediate treatments (like thinning) and conversions through protective harvesting (such as releasing advanced cedar or white pine).

Response: Some stakeholders would like to see Minnesota DNR manage for numbers of acres in certain age classes, habitat types, or forest condition classes, especially as they pertain to wildlife habitat. DNR could not easily respond to questions such as, “How many acres of young aspen do you have for ruffed grouse and deer”, if management was strictly based on volume control. It seems there is value in both acreage and volume but neither one alone gives us all the answers

27. What is the reason for including diverse subsections in one plan? If the plans are for combined units, why not revert to administrative boundaries, watersheds or timbersheds to make them easier to implement and monitor?

Response: Subsections are combined to facilitate the process of planning, by saving time and money. However, the ecological distinctions that make subsections different from one another are retained as data analysis takes place for each individual subsection. When recommendations are formulated, they are tailored for specific subsections if the data warrant i.e., show that there are reasons to do so. It has been Department policy to move toward planning based on biological-ecological units for some time. SFRMP is a vegetation management plan; subsections “are defined using glacial deposition processes, surface bedrock formations, local climate, topographic relief, and the distribution of plants, especially trees. DNR website: <http://www.dnr.state.mn.us/ecs/index.html>

When programmed into the model, the constraints that really affected the model were provided as individual subsection data going into the model. The packaging of the report was combined for ease of reporting, after the modeling results were in hand.

28. The plan could use some clarification and better organization.

Response: This commenter further explained that the Executive Summary was difficult to read because there were a number of new terms and acronyms that required going to the glossary. He asked that the Executive Summary in particular be simplified to make it more reader-friendly.

The DNR SFRMP process has evolved over time in response to the needs of the public as well as internal stakeholders. This will continue, as SFRMP teams work to make plans meet the needs of users by making them more user-friendly and continuing to make use of web-delivered material to improve accessibility, flexibility, and search-ability, and to reduce the cost of delivery.

The Executive Summary was revised in light of these comments. The SFRMP Process Work Group is revising the SFRMP plan template to increase its readability and accessibility to all users.

Harvest “timing restrictions” in pine stands:

29. It appears that this plan would be placing harvest restrictions from March to August. This is not the time of the year to cancel harvesting. It is in fact the time of the year when the soils in this area can tolerate harvesting of timber. Restraints during this time frame would certainly show economic hardships.
30. The avoidance of pine slash and cut products from March to August go beyond sensibility . . . Please remove this excessive policy limitation from the plan.

Response: Seasonal harvest restrictions are implemented at the site level, and are done with consideration of the soils, ecology, access, and health of individual stands. The DNR Forest Health Unit provided some management recommendations for specific forest types that are being affected by disease organisms in the North 4 subsections. This is not a broad recommendation or a mandate; ultimately site-level prescriptions are the purview of the field forester responsible for administration of a particular site, with input from other divisions. Standard appraisal language does provide some restrictions on how slash is treated if a summer pine thinning takes place.

Mixed forests

31. Given these are public lands, I suggest a large portion use extended rotations and two-age forest management towards an end result of more mixed deciduous-coniferous forests. Spruce fir is a natural forest type in some of this area and there should be management to work with it. Any reforestation should be with mixed species appropriate for the site. White pine should be restored in mixed forests. Many stands can be diversified by planting small clumps. Upland cedar, northern hardwood and old red and white pine forests should be maintained.

Response: The process by which extended rotation forest (ERF) is applied, is described in GDS-1A. An interdisciplinary statewide working group (including representatives from the Divisions of Forestry, Fish and Wildlife, and Ecological Resources) determines the acreage to be given ERF status, and provides direction regarding harvest ages for ERF stands. The SFRMP team is then charged with implementing that direction. This direction considers a variety of factors, including historical age class distribution by cover type, fish and wildlife concerns, timber productivity, and economic concerns.

Final decisions on where to retain or increase mixed forest conditions are left to field staff following field evaluation of stands planned for treatment. Placing that field evaluation within the scope of the SFRMP process and other forest management direction such as third-party forest management certification, is a result of both SFRMP and Department direction, as is direction encouraging the development of more mixed forests.

The planning team recognized the significant acreage of mesic hardwood plant communities in the planning area and the potential for managing them for mixed forest conditions. Desires to move towards maintenance and increasing mixed deciduous-conifer stands are found in a number of strategies within the plan. For specific examples, see GDS- 1A strategies d and e, and GDS -1C, strategy b. The plan also proposes movement toward mixed deciduous-conifer stands during conversion activities. As an example, see figure 3.1d on page 3.15 and figure 3.1e on page 3.16 in the plan, showing several typical scenarios where hardwood presence is retained within a stand being converted to conifer.

The Department has made a commitment to apply Minnesota Forest Resources Council (FRC) voluntary site-level guidelines as a *minimum* standard on all timber sales, including the guideline for conifer retention and regeneration.

Both Department guidance and the SFRMPs direct resource managers to collect and incorporate knowledge of native plant communities (NPCs) into forest management actions. This strategy generally encourages forests of mixed deciduous-coniferous composition on appropriate locations. Finally, consideration and application of DNR ECS silvicultural interpretations (see http://www.dnr.state.mn.us/forestry/ecs_silv/interpretations.html) generally encourages forests of mixed deciduous-coniferous composition on appropriate locations.

32. Please see the following attached publication for further suggestions: *Multi-species planting and other practices to restore forest diversity in northeastern Minnesota* by R. Vora, S. Lerol, and N. Danz. *Ecological Restoration* 26(4):340-349.
33. Cedar should be protected from deer by not creating deer habitat adjacent or within it.

Response: Management direction for the cedar cover type can be found starting on page 4.76 of the plan. Very limited treatment levels for cedar are proposed within the plan. The Remsoft harvest scheduling model was programmed to exclude cedar stands. Cedar planned for limited treatment within the plan is located in lowland areas within the LittleFork area, where deer damage to cedar regeneration has not been a significant barrier to regeneration success.

When stands within areas where deer damage might be expected are proposed for management on DNR lands, protection strategies can be applied to better facilitate cedar regeneration success.

Connectivity

34. Habitat fragmentation should be minimized.
35. *Maintain connectivity that permits the migration of plants and animals...*These patch management methods look like promising strategies. It would be very helpful to see some of the output from REMSOFT to see how connectivity might be enhanced using these strategies.

Response: There is broad consensus among scientists that managed forest landscapes are more fragmented and contain fewer large patches currently, than landscapes where spatial patterns are determined primarily by natural disturbance and physical factors. It is estimated that the average overall patch size has declined nearly 50 percent since the 1930s in northeastern and north-central Minnesota (Northern Superior Uplands and Drift and Lakes Plains sections). Stand selection and treatment as part of the SRFMP process can significantly reduce forest habitat fragmentation and maintain and promote larger patches over time. The best available information on natural spatial patterns in these subsections was used as a guide to understanding the distribution of patch sizes, cover-type groupings, and age classes for patch management on state lands. GDS-1D of the North 4 SFRMP states:

“Patch management in these subsections maintains existing large patches and increases the average patch size on state lands over time, with consideration of natural spatial patterns.”

The North 4 SFRMP team invested considerable resources in the development of its patch management plan, with a focus on large current and future patches, and the management of designated patches to increase components of older forest growth stages. Fifty-three designated patches were identified in this plan; current forest inventory indicates there are 4 class one patches in the North 4 now. Implementation of this plan will result in 11 such patches at the end of the planning period. The North 4 SFRMP team also programmed its harvest-scheduling model to select ERF along rivers and stream (riparian areas), which has the effect of maintaining more contiguous forest cover along these travel lanes, due to less frequent entries for management. The model was also programmed to select whole stands, and blocks of several stands, as a way of minimizing further fragmentation.

Although this plan considered management activities on other ownerships, patch management primarily focuses on identifying opportunities that exist on state land.

36. Generally, do not increase opportunities for motorized access. Construction of new roads should be minimized and new roads should be blocked and made unusable as soon as logging is completed. Look at opportunities to decrease road densities.

Response: GDS-10 and related strategies on page 3.80 state, “ Forest access routes are well planned and there is a high level of collaboration with federal, private, and local units of government to share access and minimize new construction”. A comprehensive transportation plan is beyond the scope of the SFRMP (see previous plan comments), however strategies listed under GDS-10 include five that are related to other General Direction Statements; these apply to forest roads throughout their planning, development, and disposition phases.

It should also be noted that Minnesota DNR maintains a separate planning process for Off Highway Vehicle (OHV) trail designation and use.

Structural Diversity

37. Create structural diversity in red pine plantations by thinning to varied densities, including some wide spacing and leaving un-thinned islands. Retain reserve islands in all clear cuts where opening widths exceed 600 feet.
38. As noted in this document, the Native Plant Community classification and associated silvicultural information can be used to increase compositional and structural diversity. However, given the desired regulated age distribution with much of the upland forest less than 45 years in age, it's difficult to see how applying this ecological information will have a significant impact unless more patches are allowed to progress beyond commercial rotation ages.

Response: DNR resource managers are using NPC silvics in young age-classes to guide species diversity, abundance, planting densities, and to identify appropriate places to convert to other forest types (and to which type). Furthermore, the North 4 SFRMP team has broadened the definition of what is counted as a conversion to include efforts that move a stand toward a relative increase in a species; actual conversion to a different cover type may take more than one rotation period to become a reality. There will be direction to move stands toward greater agreement with NPC diversity over time. In aspen that has not been identified for conversion, the North 4 team has provided direction that encourages to leaving components of older growth stages (reserves, coarse woody debris, etc.) in aspen stands.

Red pine management strategies listed in the North 4 SFRMP that are intended to enhance structural diversity include:

- a. Variable density thinning and/or variable retention thinning or other techniques as appropriate to meet stand objectives. Thinning will maintain (especially in natural-origin stands) or increase within-stand diversity, while retaining NP as the main cover type by the following methods:
 - i. Reserve from harvest individual trees or patches of other species appropriate to the site, where possible.
 - ii. Consider creating or maintaining variable densities within stands when thinning.
 - iii. Protect advance regeneration of desirable understory species, where possible.
 - iv. Higher stand densities (basal area) are recommended along stand edges exposed to wind and along high visual quality corridors, such as major roads and lakes.
 - v. Consider under-planting tolerant species, where seed sources or advance regeneration for these are lacking. For species suggestions, refer to the *NPC Field Guide* and associated Silvicultural Interpretations.

39. While there is a lot of information here on forest patch size distribution, the tables presented here are very difficult to interpret (*Patch Management (GDS-1D)*). As a reviewer, I want to understand how the proposed plan would affect patch size variability across the

four subsections. Does the average patch size and standard deviation increase across the four subsections? Does the distribution shift from smaller to larger patches? It is very difficult to determine the outcome here. Graphs showing current and future patch size distributions along with estimates of variability would be a big help. The following publication has estimates of pre-European patch size distribution for three of the four subsections.

White, M.A., and Host, G.E. 2008. Disturbance frequency and patch structure from pre-European settlement to present in the Mixed Forest Province of Minnesota, USA. *Canadian Journal of Forest Research* 38: 2212–2226

Response: The North 4 SFRMP only addresses vegetation management on State-administered land, therefore conclusions cannot be drawn on a landscape basis. An analysis of the “public” land base might provide a more realistic picture, but is beyond the scope of this process. Some of the designated patches in the North 4 SFRMP were selected with adjacency to large patches of land in other public ownerships in mind i.e., opportunities for future collaboration. This work has the potential to lead to increasing numbers of larger patches in some cases.

The short answer to this question is that mean patch size will increase across the North 4 subsections following plan direction to create a number of large patches where none currently exist. The Remsoft harvest-scheduling model was programmed to select stands for the 10 year examination list in blocks of several stands when possible. This will have the effect of maintaining or increasing patch size over time.

Future SFRMPs will have a simplified patch management narrative, and the majority of tables will be moved to the Appendices to enhance readability.

40. *Forest management on state lands attempts to mitigate global climate change effects on forest lands (GDS-7C)*

- *a. Maintaining or increasing species diversity* is listed as key strategy. However, the significance of structural diversity is not discussed as a strategy. We believe that increasing structural diversity goes hand in hand with compositional diversity as an adaptation strategy to maintain diverse, functioning forests. Please consider including structural diversity/complexity in this section.

41. It appears that achieving significant changes in composition and structural diversity would require a greater shift to uneven age management than is indicated in this plan.

42. Place a greater emphasis on alternative silvicultural methods rather than clearcuts and short rotations in aspen.

Response: As time passes, plans are showing more emphasis on uneven-age management, but that change will happen over time, and must be balanced with timber interests, who prefer shorter rotations and even-age management. Aspen is a highly successful species in a number of native

plant communities, and there is no plan to eliminate that important resource. However, see response to comments 14-15, above, which addresses retention of components of older growth stages in prime aspen production areas.

Work in designated patches in the North 4 subsections can be seen as an effort to balance timber interests and retention of a mixed residual forest – the economic benefits of that strategy have yet to be determined.

A strategy addressing structural diversity has been added to GDS-7C (page 3.65)

Rare Species Habitat

43. Habitat should be maintained for goshawk (survey) and other rare species. Existing nesting sites should be protected, including adequate foraging habitat.

Response: A GIS shapefile for goshawk nesting areas that was considered in locating ERF, EILC, and large patches. Statewide goshawk considerations are relevant to forest management and will continue to be considered during forest management activities. DNR Ecological Resources Division not only has an opportunity every year to review annual stand exam lists for relationship to critical goshawk habitat areas, but also reviews any added, unplanned stands for possible unintended effects on such areas. The SFRMP has a two-pronged approach – both protecting existing breeding territories and creating new habitat through large patches located in goshawk landscapes.

44. Where the county biological survey has not been completed, please check with Minnesota DNR County Biological Survey for their inventory of high quality ecological sites. Maintain all old growth.

Response: DNR Ecological Resources Division reviews all stands on annual stand exam lists as well as any unplanned stands proposed for treatment. High priorities for review are MCBS Sites of High and Outstanding Biodiversity Significance and Natural Heritage data that include records for high quality native plant communities. To the degree staffing allows, Ecological Resources personnel typically field visit stands within MCBS sites together with DNR foresters and wildlife biologists to work out a management approach to sustain or enhance the values that contribute to its biodiversity significance. High and outstanding biodiversity sites were used to designate EILC stands (see page 7.12 of the North 4 SFRMP). Designation of high conservation value forests (not a part of this plan) will also make use of these data and raise the bar on our approach by requiring us to “maintain or enhance” the values that make these areas HCVF.

All designated old-growth stands are protected, and the Department has a process for nominating additional stands as they are discovered in the course of field work. In addition, designated old-growth stands have an Old Forest Management Complex plan developed that includes management

strategies for stands that surround the designated old-growth, as a way of protecting their old-growth forest properties.

45. Reductions in golden-winged warbler populations will further threaten the continued viability of this already seriously imperiled species – the forests of northern Minnesota support 42% of the global population of this species.
46. In February 2007, the American Bird Conservancy identified “Early Successional Deciduous Forests in the Eastern United States” as one of our nation’s 20 most imperiled bird habitats. Minnesota plays a key role in sustaining these habitats. The projected loss of these habitats as outlined in the North 4 SFRMP will only exacerbate nationwide efforts to stem the population declines of those species dependent upon these habitats.

Response: Resource managers share the concern for golden-winged warblers and their habitat. The North 4 SFRMP team believes that stability over time of golden winged warbler (GWW) populations --as well as other species which require early-successional hardwood habitat --will be enhanced by actions recommended in this plan. Little or no management in golden-winged warbler lowland shrub habitat is prescribed in this plan.

The application of the Remsoft harvest-scheduling model results to treatment levels within the plan—designed to optimize volume flow over time—has also helped plan for a sustainable supply of early-successional habitat over time.

47. If you consider the new demand for woody biomass that will inevitably take place with Governor Pawlenty’s mandate of 25 percent renewable energy by 2025 . . . while leftover slash and tops can fill some of that future demand, that material will not be able to produce the quality of woody biomass fuels that will be needed for energy production. Those quality fuels can only come from clean round wood sources. Proposed harvest rates for the future should be increased, not decreased.
48. There should be an allowable cut for white cedar on state land. This would reduce the current pressure on county land. There is a net growing stock of 12,080,000 cords (2005 figures from the U of MN information Cooperative), 57 percent of this is on state-administered land and the mills that use it are in the North 4.

Response: DNR is currently using 14 percent of merchantable roundwood volume as an estimate of available tops and limbs. Under the scenario proposed in the draft North 4 plan, $183,000 \text{ cords} * 0.14 = 25,500 \text{ cord equivalents}$ would be made available annually, or 255,000 cord equivalents of tops and limbs over the 10-year planning period. Note that an additional 6-10 percent live cull and dead $\geq 5"$ DBH wood is also available, at least 11,000 cords annually or 110,000 cord equivalents over the 10-year planning period. Total cord equivalents of biomass material not merchantable for other products is at least 36,500 cord equivalents annually or 365,000 cord equivalents for the planning period. In FY09, approximately 25,000 cord equivalents of tops and limbs were harvested from state lands. [Prepared by Don Deckard, Forest Economist, Oct 16, 2009]

The North 4 SFRMP management direction for the white cedar cover type (starting on page 4.75) stresses cedar's value for wildlife habitat and biodiversity. Difficulties in successfully regenerating upland cedar, coupled with a desire to retain acres within the cover type suggested that the responsible course of action is to limit harvest levels. A limited harvest of predominantly lowland white cedar within the Littlefork area – designed to continue past harvest levels of cedar within that area – was approved based on experience with more success in cedar regeneration within lowland stands in that area. DNR Divisions will continue to work in a coordinated manner to practice a limited cedar harvest and investigate ways to improve cedar regeneration methods.

49. Practicing ERF in short-lived pioneer species like jack pine has led to its demise.

Response: Extended rotation forests are intended to provide a suite of “old forest” characteristics on the landscape in the context of a productive, working forest. This is in contrast to old-growth forests, SNAs, and other reserved forest land areas where harvest is not an explicit part of the management plan. Because some kind of harvest will be conducted in ERF areas at some time, a forest with this designation can be any age at a given time; the final harvest merely being delayed to provide more old forest “services” to the landscape. Early successional species such as aspen, jack pine, and birch are critically important for designation as ERF because they are typically managed through even-age harvests, and the typical rotation ages are short (40-60 years). With continuous improvement in data collection and increasing understanding of ecological systems, DNR personnel anticipate being able to refine the designation of ERF areas in future planning periods.

ERF and SFRMP policy provide protection against unintentional loss of a cover type due to age-related mortality in these ways:

- a. By ERF policy, stands chose for ERF designation are to be those that can withstand the extra time before final harvest and still be successfully regenerated back to type;
- b. The plan has protections that guard against holding stands past an age at which they can be successfully regenerated, when the intention is to retain the same cover type.

Prescribed Fire:

50. Your mention of the use of fire in mature pine stands is of concern and I recommend we minimize its use.























Response: Fire is an important factor in the retention of fire-dependent forest communities on the landscape. Careful use of prescribed fire use can aid pine regeneration success through reduction in duff layer depth, elimination of heavy shrub competition, preparation of mineral-soil seedbed, and (in the case of jack pine) can help open cones to facilitate natural seeding. The Department is sensitive to concerns that prescribed fire in mature pine stands may lead to damage to timber quality. This issue is considered during development of prescriptions for planned burns, and in some cases actions may be taken to lighten fuel loads around mature trees to minimize the intensity

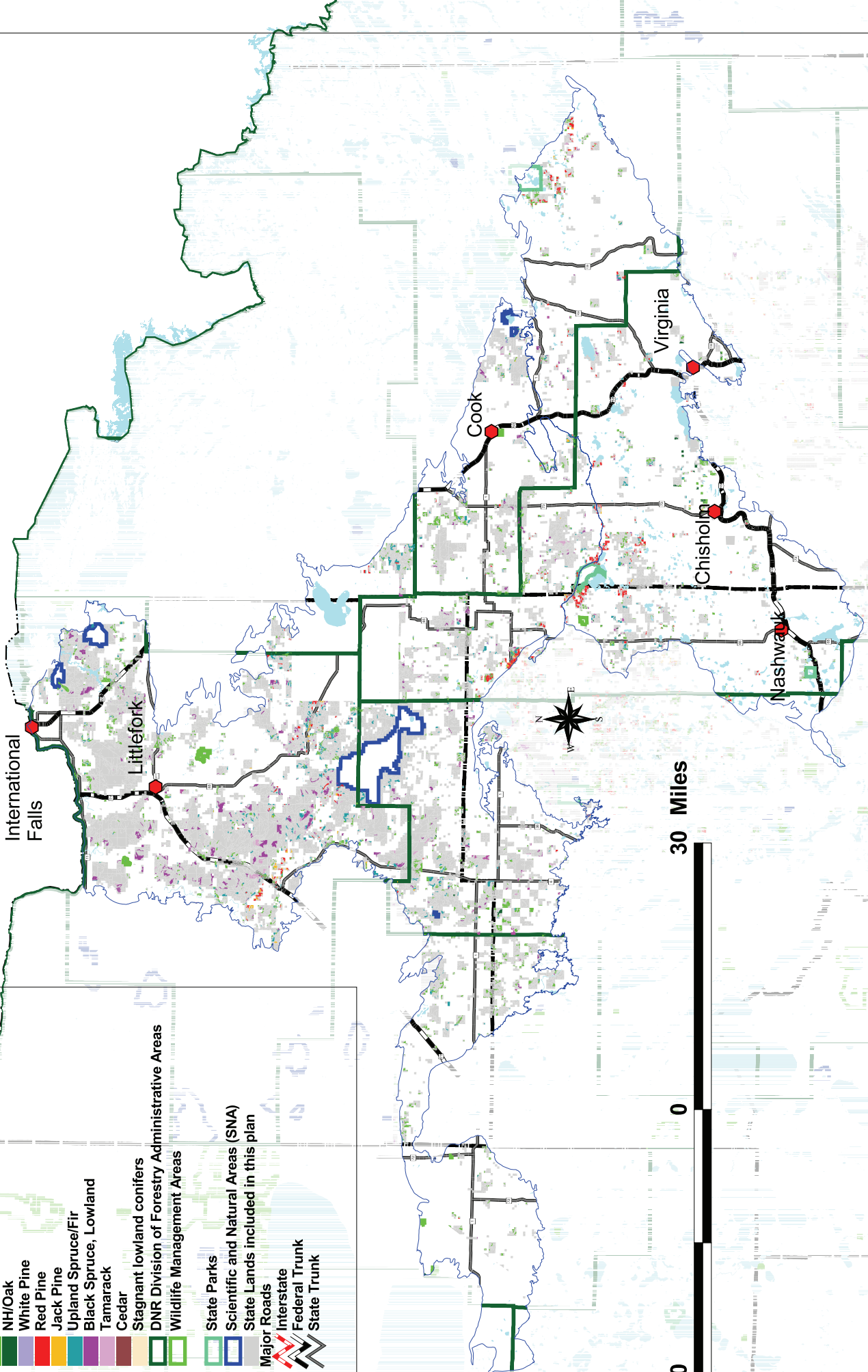
of fire burning near pine trees. Due to variations in fuel density across burn sites, some scarring may still occur; this contributes to within-stand diversity and structural diversity, which are important elements of biological diversity associated with fire-dependent native plant communities. The DNR will continue to monitor the concern and adjust prescriptions and/or fuel reduction efforts as necessary.

Language regarding the use of prescribed fire has been added to the white pine management recommendations (page 4.40) so that the management recommendations for both of these fire-dependent cover types are consistent.

Littlefork-Vermilion and Nashwaug Uplands SFRMP Cover Types on Stand Exam List 01/02/09





















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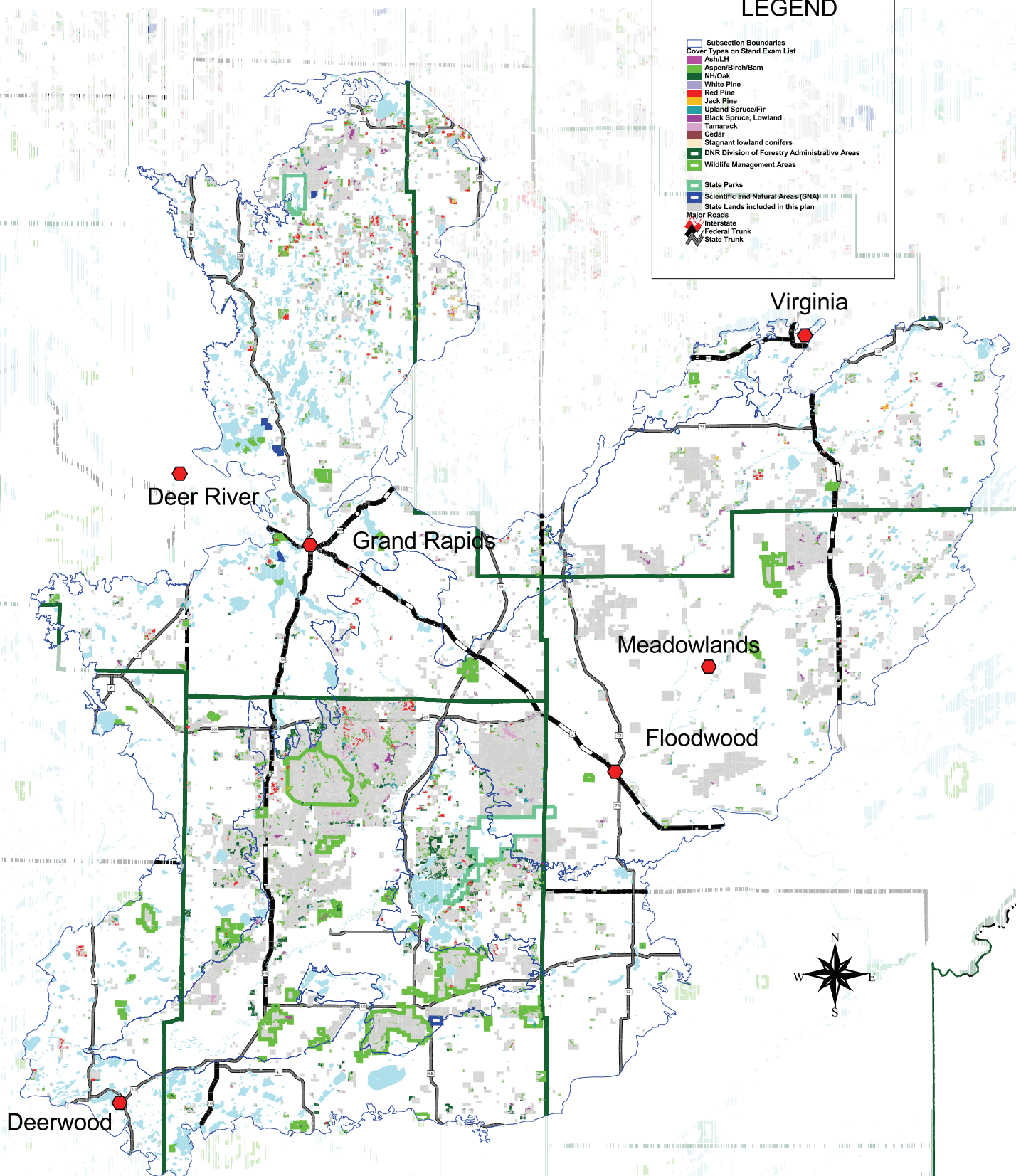
-  Subsection Boundaries
-  Cover Types on Stand Exam List
-  Ash/LH
-  Aspen/Birch/Bam
-  NH/Oak
-  White Pine
-  Red Pine
-  Jack Pine
-  Upland Spruce/Fir
-  Black Spruce, Lowland
-  Tamarack
-  Cedar
-  Stagnant lowland conifers
-  DNR Division of Forestry Administrative Areas
-  Wildlife Management Areas
-  State Parks
-  Scientific and Natural Areas (SNA)
-  State Lands included in this plan
-  Major Roads
-  Interstate
-  Federal Trunk
-  State Trunk



St. Louis Moraines and Tamarack Lowlands SFRMP Cover Types on Stand Exam List 01/02/09

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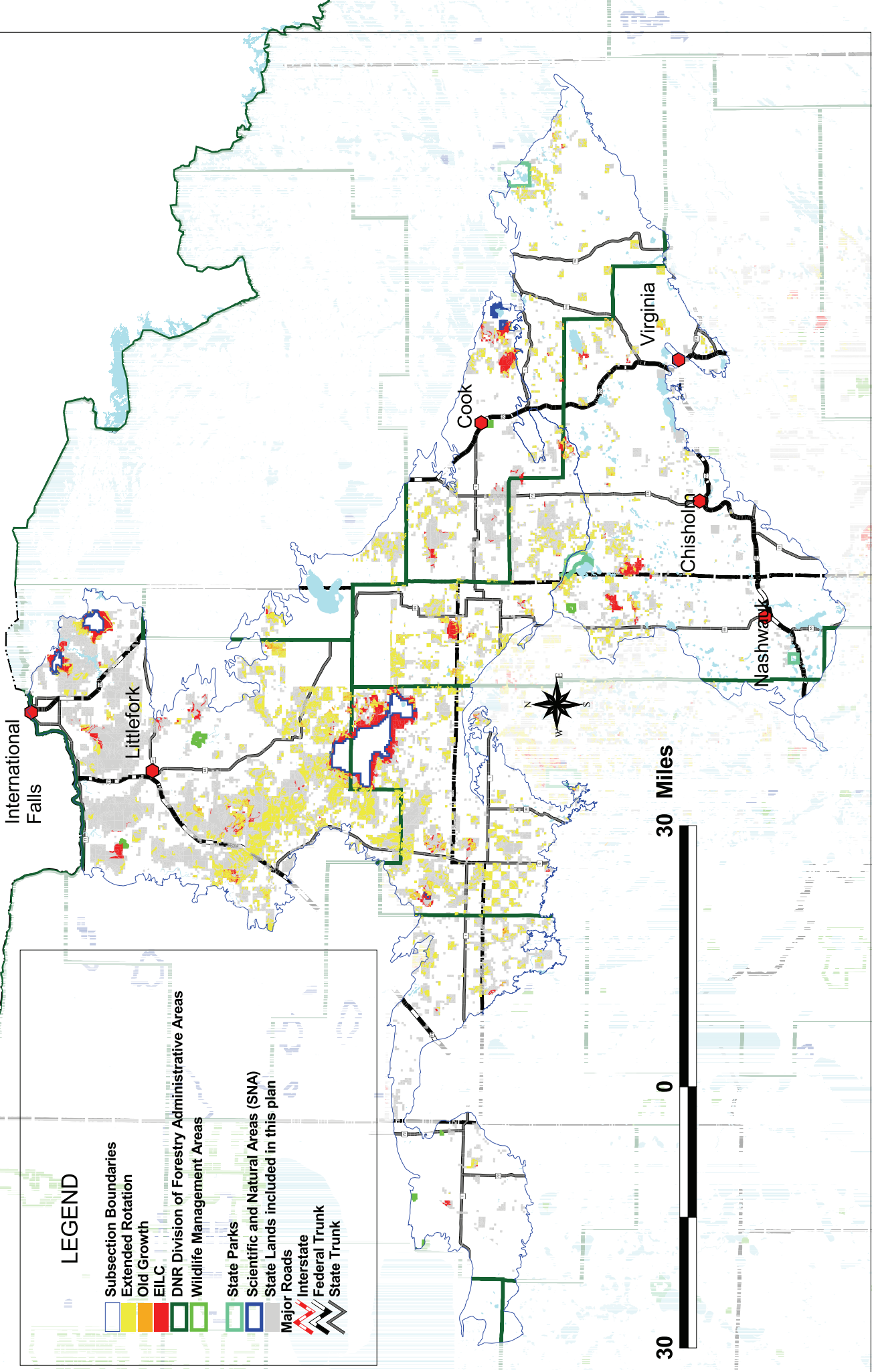
-  Subsection Boundaries
- Cover Types on Stand Exam List**
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-  Aspen/Birch/Bam
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Littlefork-Vermilion and Nashwauk Uplands SFRMP Old Growth, EILC and ERF Stands

01/02/09



LEGEND

- Subsection Boundaries
- Extended Rotation
- Old Growth
- EILC
- DNR Division of Forestry Administrative Areas
- Wildlife Management Areas
- State Parks
- Scientific and Natural Areas (SNA)
- State Lands included in this plan
- Major Roads
- Interstate
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- State Trunk

30 Miles

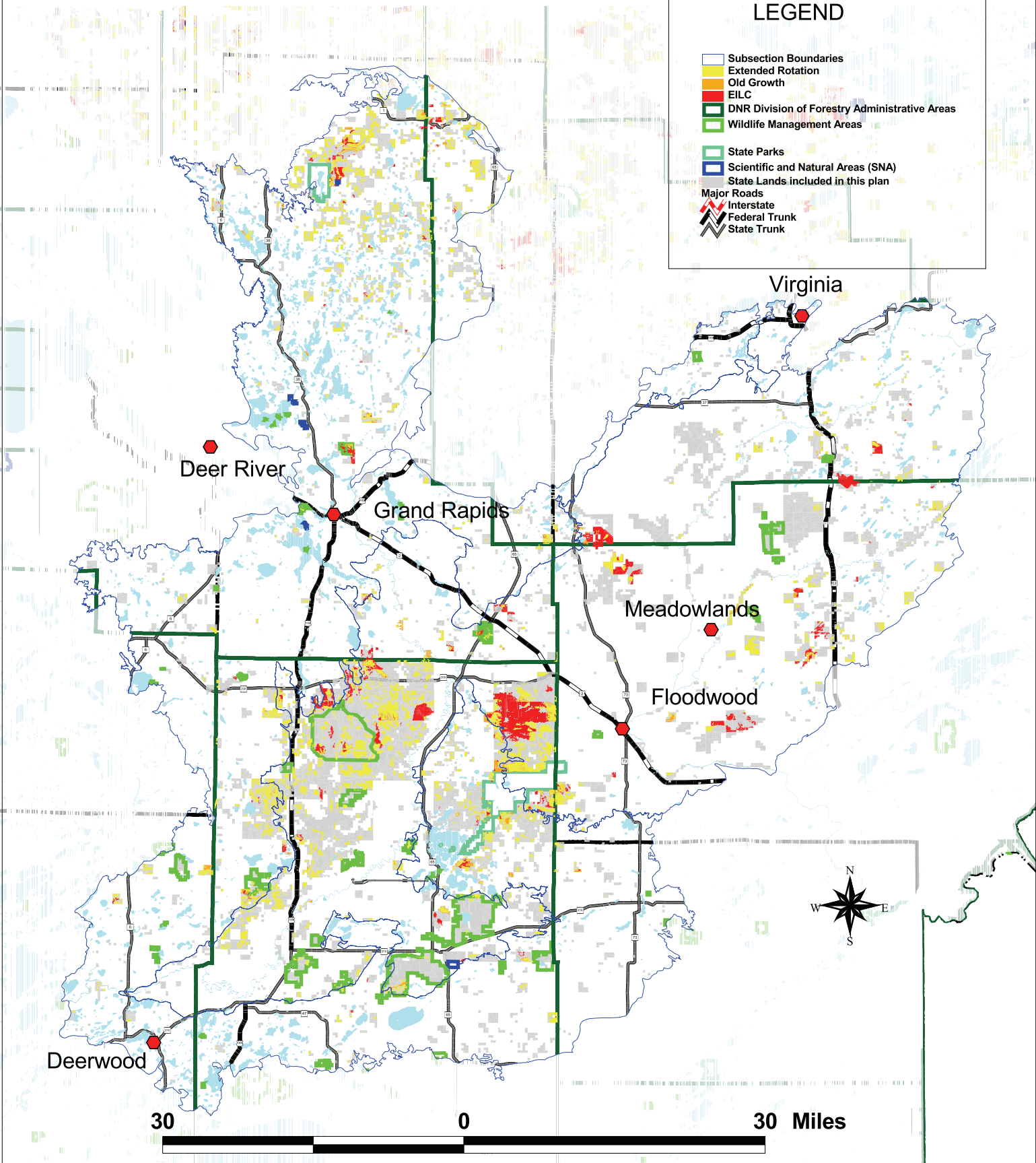
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St. Louis Moraines and Tamarack Lowlands SFRMP Old Growth, EILC, and ERF Stands 01/02/09

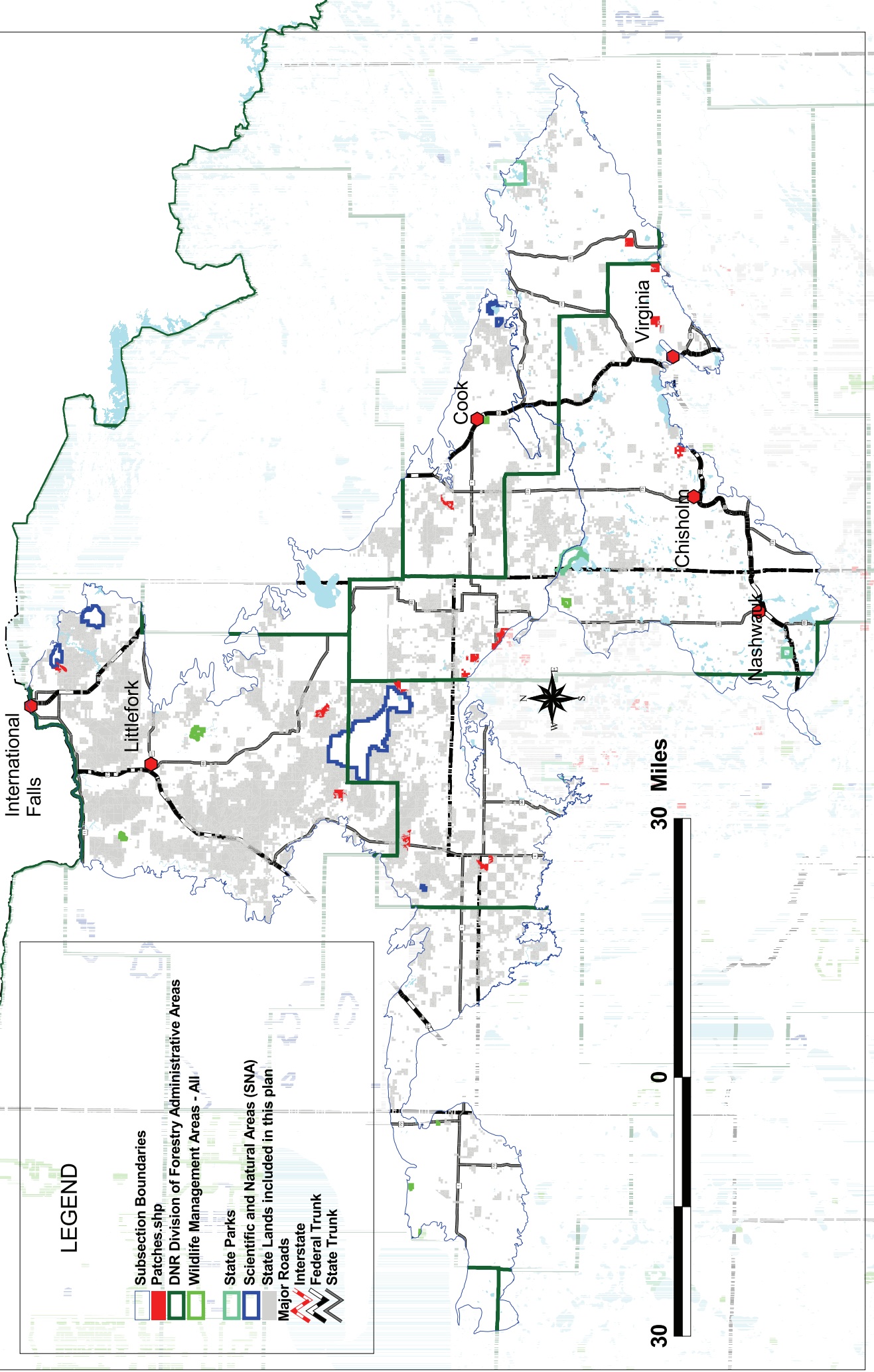
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- Subsection Boundaries
- Extended Rotation
- Old Growth
- EILC
- DNR Division of Forestry Administrative Areas
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Littlefork-Vermilion and Nashwaug Uplands SFRMP Patches

01/02/09



St. Louis Moraines and Tamarack Lowlands SFRMP Patches 01/02/09

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- Subsection Boundaries
- Patches.shp
- DNR Division of Forestry Administrative Areas
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