

DILLON
CONSULTING

NATURAL FORCES DEVELOPMENTS LP

Vegetation and Lichen Surveys

Benjamins Mill Wind Project - Appendix E

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Introduction

The Proponent engaged the expertise of Dillon Consulting Ltd. (Dillon) to conduct biophysical surveys for the Benjamins Mill Wind Project (Project) including surveys to identify flora and fauna species that exist or that may exist throughout the Project site and throughout any other areas which may be impacted by the development. Dillon's qualified professionals (biologists and botanists, etc.) have been involved in several resource development projects in Atlantic Canada and have assisted many Proponents through the provincial environmental assessment processes.

This appendix details the methods and results of the baseline vegetation and lichens surveys that were conducted for the Project. As with all forms of infrastructure development, the conservation and preservation of native vegetation is an important consideration when siting and designing wind power projects. Field surveys to establish a botanical inventory were carried out in consultation with the Nova Scotia Department of Natural Resources and Renewables, Wildlife Division.

The Local Assessment Area (LAA) in which the surveys were carried out included 50 m on either side of roads required to access turbine sites during construction and operation and along powerline easements; as well as 150 m around turbine bases, substations and ancillary equipment.

For the purposes of this EA, the vegetation assessment included the following:

- **Vegetation surveys:** A survey of vegetation species present within the LAA by habitat type, along with their regional rarity ranking, that have the potential to be affected by the Project activities;
- **Lichen Surveys:** A survey of lichens present within the Local Assessment Area by habitat type, along with their regional rarity ranking, that have the potential to be affected by the Project activities;
- **Vegetation of Cultural or Traditional Importance:** Based on the available habitat present at the Project site, a list of vegetation species that are culturally significant from a Mi'kmaq knowledge/use perspective that have the potential to occur in the Project site, as identified by a Mi'kmaq First Nations community member.

To better understand the types and quality of habitat in the area of the proposed project, a baseline study of available vegetation and vegetation communities was conducted within the proposed Project area. The conservation ranks for species identified in the field are obtained from the Atlantic Canada Conservation Data Centre (ACDC) database. Those ranks (as of December 2021) are then used to assess the rarity of the species observed. This assessment identifies the potential for occurrences of vegetation species at risk or of conservation concern within the LAA of the proposed Project.

2.0 Desktop Survey

Prior to the onset of the field surveys, desktop surveys were conducted using the following resources:

- The proponent requested a search of the ACCDC for a list of rare flora within 100 km of the project area. The ACCDC Report is included in **Appendix L** of the main EA Registration Document;
- A non-exhaustive vegetation list of cultural importance for the Mi'kmaq bands in Nova Scotia was prepared by a Terrestrial Biologist from Maqamigew Anqotumeg. The list was established following a desktop analysis of the site and includes vegetation that are culturally significant to the Mi'kmaq bands Nova Scotia and are believed to likely be present within the Terrestrial LAA of the proposed Project. This report is included in this Appendix; and
- Available mapping was consulted to develop a list of terrestrial habitat types with the potential to be impacted by Project activities and was used to inform the field surveys.

3.0 Field Surveys

Following the desktop surveys, field vegetation and lichen surveys were completed to identify and target the major habitat types within terrestrial environment LAA. Targeted lichen surveys were conducted site wide in habitats with available epiphytic lichen habitat (e.g., forested wetlands with mature trees and upland habitats with mature hardwood trees) between April 27, 2021 and May 5, 2021 by a botanist experienced with lichen identification. Vegetation surveys were conducted between July 27, 2021 and August 7, 2021 on an incidental basis in concert with other targeted field surveys (i.e., wetlands, watercourses, and wildlife and wildlife habitat) throughout the growing season in 2021. Vegetation surveys consisted of random meander searches through major habitat types by experienced botanists.

It is noted that although the Proponent was supportive of engaging an indigenous monitor to complete a site walk-over to identify any culturally significant vegetation species that could be impacted by the project, a monitor could not be identified due to timing and Covid-19 health and safety considerations.

4.0 Results

The following habitat types were identified in the LAA: hardwood-dominant forests, conifer-dominant forests, mixed-wood forests, previously cut disturbed areas, bogs and fens, and swamps and marshes. Representative photos from the identified habitats are included in the Photo plate. The vegetation survey results are provided in Table E-1 by habitat type.

Table E-1: Baseline Botanical Inventory based on Habitat Type

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/ Disturbed	Bogs and Fens	Swamps and Marshes
Balsam Fir	<i>Abies balsamea</i>	S5		X	X	X	X		X
Striped Maple	<i>Acer pensylvanicum</i>	S5	X	X		X			
Red Maple	<i>Acer rubrum</i>	S5		X	X	X	X	X	X
Sugar Maple	<i>Acer saccharum</i>	S4S5	X	X		X			
Mountain Maple	<i>Acer spicatum</i>	S5		X		X			
Common Yarrow	<i>Achillea millefolium</i>	SNA	X				X		
Rough Bent Grass	<i>Agrostis scabra</i>	S5					X		
Speckled Alder	<i>Alnus incana</i>	S5					X		X
Smooth Serviceberry	<i>Amelanchier laevis</i>	S5			X	X			X
Pearly Everlasting	<i>Anaphalis margaritacea</i>	S5	X				X		
Shaggy Fringed Lichen	<i>Anaptychia palmulata</i>	S3S4				X			
Bristly Sarsaparilla	<i>Aralia hispida</i>	S5					X		
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	S5	X	X	X	X			X
Red Chokeberry	<i>Aronia arbutifolia</i>	S4			X				
Black Chokeberry	<i>Aronia melanocarpa</i>	S5						X	X
Branched Bartonian	<i>Bartonia paniculata</i>	S4S5						X	
Yellow Birch	<i>Betula alleghaniensis</i>	S5	X	X		X	X		
Paper Birch	<i>Betula papyrifera</i>	S5		X	X	X	X	X	
Gray Birch	<i>Betula populifolia</i>	S5				X	X		
Northern Shorthusk	<i>Brachyelytrum aristosum</i>	S5				X			
Bluejoint Reed Grass	<i>Calamagrostis canadensis</i>	S5						X	X
Pickering's Reed Grass	<i>Calamagrostis pickeringii</i>	S4S5							X
Tuberous Grass Pink	<i>Calopogon tuberosus</i>	S4						X	
Black Sedge	<i>Carex arctata</i>	S5		X					
Atlantic Sedge	<i>Carex atlantica</i>	S4						X	X
Fibrous-Root Sedge	<i>Carex communis</i>	S5					X		
Fringed Sedge	<i>Carex crinita</i>	S5				X	X		

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Star Sedge	<i>Carex echinata</i>	S5						X	X
Nodding Sedge	<i>Carex gynandra</i>	S5							X
Finely-Nerved Sedge	<i>Carex leptonevia</i>	S5		X					
Sallow Sedge	<i>Carex lurida</i>	S5					X		
Boreal Bog Sedge	<i>Carex magellanica</i>	S5						X	X
New England Sedge	<i>Carex novae-angliae</i>	S5		X		X			
Necklace Sedge	<i>Carex projecta</i>	S5					X		
Broom Sedge	<i>Carex scoparia</i>	S5					X		
Tussock Sedge	<i>Carex stricta</i>	S5							X
Three-seeded Sedge	<i>Carex trisperma</i>	S5				X			X
Black Knapweed	<i>Centaurea nigra</i>	SNA					X		
Leatherleaf	<i>Chamaedaphne calyculata</i>	S5					X	X	
Fireweed	<i>Chamaenerion angustifolium</i>	S5					X		
Bull Thistle	<i>Cirsium vulgare</i>	SNA					X		
Reindeer Lichen	<i>Cladonia sp.</i>	SNA				X			
Interrupted Fern	<i>Claytonia claytoniana</i>	S5				X			
Yellow Bluebead Lily	<i>Clintonia borealis</i>	S5		X		X			X
Blistered Tarpaper Lichen	<i>Collema nigrescens</i>	S3				X			
Tree Tarpaper Lichen	<i>Collema subflaccidum</i>	S5				X			
Sweet-fern	<i>Comptonia peregrina</i>	S5	X				X		
Goldthread	<i>Coptis trifolia</i>	S5	X			X			X
Bunchberry	<i>Cornus canadensis</i>	S5		X		X	X		X
Beaked Hazel	<i>Corylus cornuta</i>	S5	X			X			
Pink Lady's-Slipper	<i>Cypripedium acaule</i>	S5		X	X	X			
Poverty Oat Grass	<i>Danthonia spicata</i>	S5				X	X		
Queen Anne's Lace	<i>Daucus carota</i>	SNA					X		
Round-branched Tree-clubmoss	<i>Dendrolycopodium dendroideum</i>	S5				X			
Flat-branched Tree-clubmoss	<i>Dendrolycopodium obscurum</i>	S4S5				X			

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Eastern Hay-Scented Fern	<i>Demnstaedtia punctilobula</i>	S5		X		X			X
Northern Panic Grass	<i>Dichanthelium boreale</i>	S5			X		X		
Northern Bush Honeysuckle	<i>Diervilla lonicera</i>	S5		X		X	X		
Southern Ground-cedar	<i>Diphasiastrum digitatum</i>	S5				X			
Hairy Flat-top White Aster	<i>Doellingeria umbellata</i>	S5			X		X	X	
Round-leaved Sundew	<i>Drosera rotundifolia</i>	S5							X
Crested Wood Fern	<i>Dryopteris cristata</i>	S5							X
Evergreen Wood Fern	<i>Dryopteris intermedia</i>	S5			X	X			X
Marginal Wood Fern	<i>Dryopteris marginalis</i>	S5				X			
Three-Way Sedge	<i>Dulichium arundinaceum</i>	S5						X	
Blunt Spikerush	<i>Eleocharis obtusa</i>	S5					X		
Trailing Arbutus	<i>Epigaea repens</i>	S5				X	X		
Marsh Willowherb	<i>Epilobium palustre</i>	S5					X		
Field Horsetail	<i>Equisetum arvense</i>	S5					X		
Water Horsetail	<i>Equisetum fluviatile</i>	S5							X
Annual Fleabane	<i>Erigeron annuus</i>	S4S5					X		
Rough Fleabane	<i>Erigeron strigosus</i>	S5					X		
Narrow-leaved Cottongrass	<i>Eriophorum angustifolium</i>	S5						X	
Tawny Cottongrass	<i>Eriophorum virginicum</i>	S5						X	X
Common Boneset	<i>Eupatorium perfoliatum</i>	S5							X
Common Eyebright	<i>Euphrasia nemorosa</i>	S5					X		
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	S5					X		
Spotted Joe Pye Weed	<i>Eutrochium maculatum</i>	S5					X		X
American Beech	<i>Fagus grandifolia</i>	S5	X	X		X			X
Eurasian Black Bindweed	<i>Fallopia convolvulus</i>	SNA		X			X		
Wild Strawberry	<i>Fragaria virginiana</i>	S5	X				X		
Glossy Buckthorn	<i>Frangula alnus</i>	SNA					X		
White Ash	<i>Fraxinus americana</i>	S5		X					
Creeping Snowberry	<i>Gaultheria hispida</i>	S5	X		X	X	X	X	X

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/ Disturbed	Bogs and Fens	Swamps and Marshes
Eastern Teaberry	<i>Gaultheria procumbens</i>	S5				X	X		
Black Huckleberry	<i>Gaylussacia baccata</i>	S5			X	X	X		
Northern Manna Grass	<i>Glyceria borealis</i>	S5							X
Canada Manna Grass	<i>Glyceria canadensis</i>	S5						X	
Fowl Manna Grass	<i>Glyceria striata</i>	S5						X	X
Marsh Cudweed	<i>Gnaphalium uliginosum</i>	SNA					X		
Common Oak Fern	<i>Gymnocarpium dryopteris</i>	S5				X			
American Witch-Hazel	<i>Hamamelis virginiana</i>	S5				X	X		X
Powdered Fringe Lichen	<i>Heterodermia speciosa</i>	S3				X			
Northern St John's-Wort	<i>Hypericum boreale</i>	S5					X		
Canada St John's-wort	<i>Hypericum canadense</i>	S5					X		
False St John's-wort	<i>Hypericum gentianoides</i>	SNA					X		
Common St. John's-wort	<i>Hypericum perforatum</i>	SNA					X		
Virginia St. John's-wort	<i>Hypericum virginicum</i>	S5						X	
Mountain Holly	<i>Ilex mucronata</i>	S5			X	X		X	X
Common Winterberry	<i>Ilex verticillata</i>	S5					X		X
Harlequin Blue Flag	<i>Iris versicolor</i>	S5	X				X		
Tansy Ragwort	<i>Jacobaea vulgaris</i>	SNA					X		
Narrow-Panicled Rush	<i>Juncus brevicaudatus</i>	S5					X		
Canada Rush	<i>Juncus canadensis</i>	S5					X		
Soft Rush	<i>Juncus effusus</i>	S5					X		
Brown-Fruited Rush	<i>Juncus pelocarpus</i>	S5					X		
Slender Rush	<i>Juncus tenuis</i>	S5					X		
Common Juniper	<i>Juniperus communis</i>	S5			X	X			
Sheep Laurel	<i>Kalmia angustifolia</i>	S5	X		X	X	X	X	X
Tall Blue Lettuce	<i>Lactuca biennis</i>	S5					X		
Acadian Jellyskin Lichen	<i>Leptogium acadiense</i>	S3S4				X			
Blue Jellyskin Lichen	<i>Leptogium cyanescens</i>	S5				X			
Short-bearded Jellyskin Lichen	<i>Leptogium laceroides</i>	S4				X			

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Oxeye Daisy	<i>Leucanthemum vulgare</i>	SNA					X		
Twinflower	<i>Linnaea borealis</i>	S5			X	X			X
Lungwort Lichen	<i>Lobaria pulmonaria</i>	S5				X			
Textured Lungwort Lichen	<i>Lobaria scrobiculata</i>	S5				X			
Canada Fly Honeysuckle	<i>Lonicera canadensis</i>	S5		X		X	X		
Garden Bird's-foot Trefoil	<i>Lotus corniculatus</i>	SNA					X		
Stiff Clubmoss	<i>Lycopodium annotinum</i>	S5		X		X			X
Running Clubmoss	<i>Lycopodium clavatum</i>	S5					X		
American Water Horehound	<i>Lycopus americanus</i>	S5							X
Northern Starflower	<i>Lysimachia borealis</i>	S5		X	X				X
Swamp Yellow Loosestrife	<i>Lysimachia terrestris</i>	S5							X
Wild Lily-of-The-Valley	<i>Maianthemum canadense</i>	S5		X		X	X		X
Large False Solomon's Seal	<i>Maianthemum racemosum</i>	S4S5		X		X			
Three-leaved False Soloman's Seal	<i>Maianthemum trifolium</i>	S5						X	X
Pineapple Weed	<i>Matricaria discoidea</i>	SNA					X		
Cucumber Root	<i>Medeola virginiana</i>	S5		X		X			X
American Cow Wheat	<i>Melampyrum lineare</i>	S5			X	X			
Abrading Camouflage Lichen	<i>Melanelixia subaurifera</i>	S5				X			
White Sweet-clover	<i>Melilotus albus</i>	SNA					X		
Partridgeberry	<i>Mitchella repens</i>	S5	X	X		X			X
Convulsion-Root	<i>Monotropa uniflora</i>	S5		X	X	X			X
Sweet Gale	<i>Myrica gale</i>	S5						X	
Tall Rattlesnakeroot	<i>Nabalus altissimus</i>	S5				X	X		
Three-leaved Rattlesnakeroot	<i>Nabalus trifoliolatus</i>	S5				X	X		
Whorled Wood Aster	<i>Oclemena acuminata</i>	S5			X	X	X		X
Bog Aster	<i>Oclemena nemoralis</i>	S5						X	X
Sensitive Fern	<i>Onoclea sensibilis</i>	S5					X		X
One-sided Wintergreen	<i>Orthilia secunda</i>	S5							X

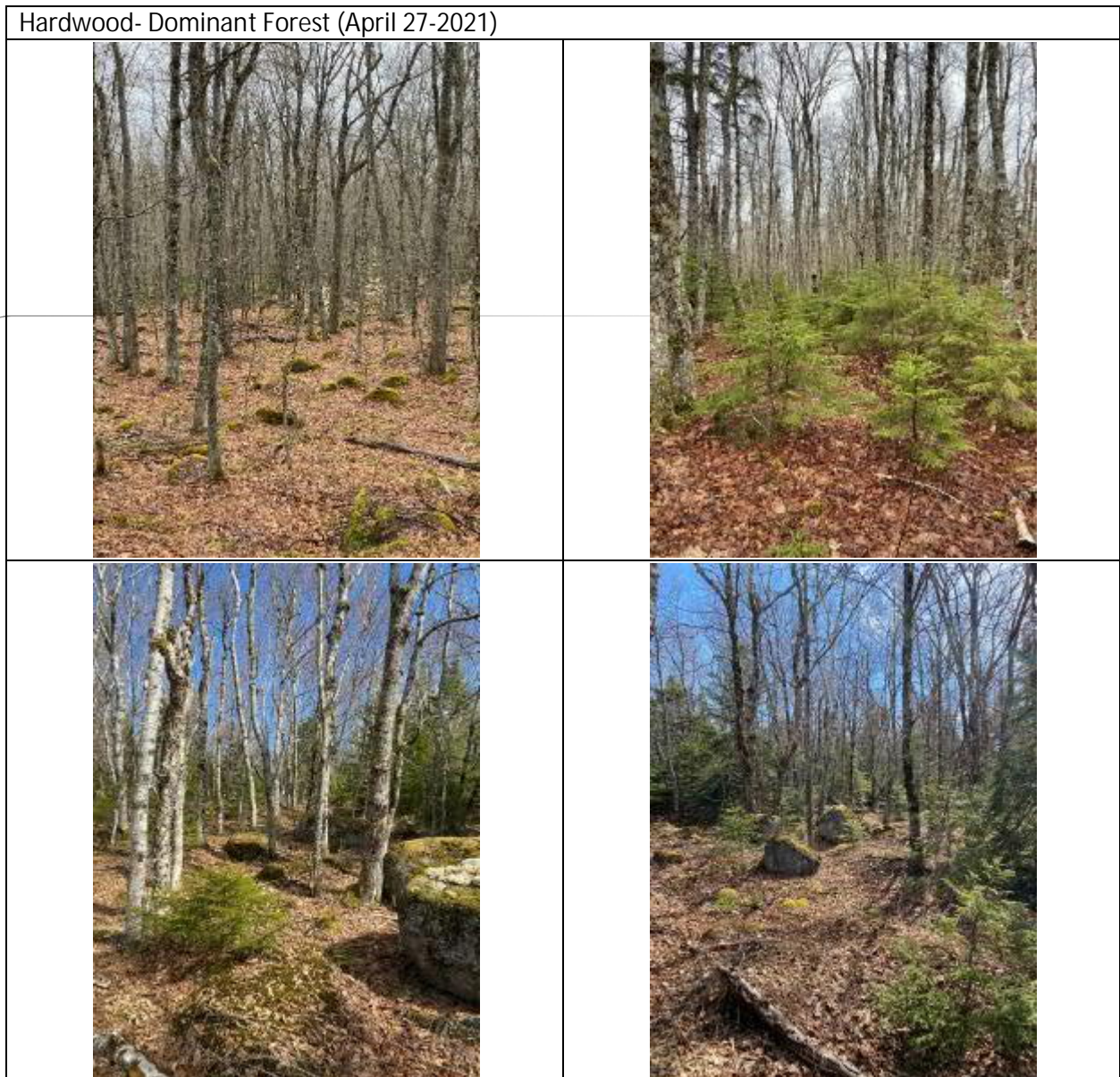
Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Royal Fern	<i>Osmunda regalis</i>	S5						X	X
Cinnamon Fern	<i>Osmundastrum cinnamomeum</i>	S5				X	X	X	X
Common Wood Sorrel	<i>Oxalis montana</i>	S5				X			
Schweinitz's Groundsel	<i>Packera schweinitziana</i>	S4					X		
Mealy-rimmed Shingle Lichen	<i>Pannaria conoplea</i>	S4				X			
New York Fern	<i>Parathelypteris noveboracensis</i>	S5		X					X
Spotted Lady's-thumb	<i>Persicaria maculosa</i>	SNA					X		
Stout Smartweed	<i>Persicaria robustior</i>	S4							X
Arrow-leaved Smartweed	<i>Persicaria sagittata</i>	S5					X		
Northern Sweet Coltsfoot	<i>Petasites frigidus</i>	S4							X
Mealy Shadow Lichen	<i>Phaeophyscia orbicularis</i>	S4?				X			
Northern Beech Fern	<i>Phegopteris connectilis</i>	S5		X		X			
A Frost Lichen	<i>Physconia grumosa</i>	S4				X			
White Spruce	<i>Picea glauca</i>	S5		X		X	X		
Black Spruce	<i>Picea mariana</i>	S5			X	X		X	X
Red Spruce	<i>Picea rubens</i>	S5	X	X		X	X		
Mouse-ear Hawkweed	<i>Pilosella officinarum</i>	SNA					X		
Tall Hawkweed	<i>Pilosella piloselloides</i>	SNA					X		
Eastern White Pine	<i>Pinus strobus</i>	S5	X	X		X	X		X
Common Plantain	<i>Plantago major</i>	SNA	X				X		
Club Spur Orchid	<i>Platanthera clavellata</i>	S5					X		
Ragged Fringed Orchid	<i>Platanthera lacera</i>	S4S5							X
Rock Polypody	<i>Polypodium virginianum</i>	S5		X		X			
White Poplar	<i>Populus alba</i>	SNA					X		
Large-toothed Aspen	<i>Populus grandidentata</i>	S5				X			
Trembling Aspen	<i>Populus tremuloides</i>	S5				X	X		
Rough Cinquefoil	<i>Potentilla norvegica</i>	S5					X		
Old Field Cinquefoil	<i>Potentilla simplex</i>	S5					X		

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Pin Cherry	<i>Prunus pensylvanica</i>	S5	X	X	X		X		
Black Cherry	<i>Prunus serotina</i>	S5				X			
Yellow Specklebelly Lichen	<i>Pseudocyphellaria holarctica</i>	S5				X			
Bracken Fern	<i>Pteridium aquilinum</i>	S5			X	X	X		
Rough Specklebacked Lichen	<i>Punctelia rudecta</i>	S5				X			
Shinleaf	<i>Pyrola elliptica</i>	S5		X					
Mustard Lichen	<i>Pyxine soledata</i>	S5				X			
Northern Red Oak	<i>Quercus rubra</i>	S5				X	X		
Tiny Allseed	<i>Radiola linoides</i>	SNA					X		
Rhodora	<i>Rhododendron canadense</i>	S5			X	X		X	
Common Labrador Tea	<i>Rhododendron groenlandicum</i>	S5					X	X	
White Beakrush	<i>Rhynchospora alba</i>	S5						X	
Brown Beakrush	<i>Rhynchospora fusca</i>	S4					X		
Multiflora Rose	<i>Rosa multiflora</i>	SNA					X		
Shining Rose	<i>Rosa nitida</i>	S4S5							X
Alleghaney Blackberry	<i>Rubus allegheniensis</i>	S5	X				X		
Bristly Dewberry	<i>Rubus hispidus</i>	S5					X	X	X
Red Raspberry	<i>Rubus idaeus</i>	S5	X	X			X		X
Dwarf Red Raspberry	<i>Rubus pubescens</i>	S5	X	X					
Dewdrop	<i>Rubus repens</i>	S4S5				X			X
Black-Eyed Susan	<i>Rudbeckia hirta</i>	SNA					X		
Bebb's Willow	<i>Salix bebbiana</i>	S5					X		
Pussy Willow	<i>Salix discolor</i>	S5					X		
Red Elderberry	<i>Sambucus racemosa</i>	S5	X	X					
Northern Pitcher Plant	<i>Sarracenia purpurea</i>	S5						X	X
Common Woolly Bulrush	<i>Scirpus cyperinus</i>	S5					X		
Frosted Glass-whiskers	<i>Sclerophora peronella</i> <i>Atlantic pop.</i>	S1? SARA SC				X			

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
		COSEWIC SC							
Autumn Hawkbit	<i>Scorzoneroides autumnalis</i>	SNA					X		
Mountain Blue-eyed-grass	<i>Sisyrinchium montanum</i>	S5					X		
White Goldenrod	<i>Solidago bicolor</i>	S5					X		
Canada Goldenrod	<i>Solidago canadensis</i>	S4S5					X		
Downy Goldenrod	<i>Solidago puberula</i>	S5					X		
Rough-stemmed Goldenrod	<i>Solidago rugosa</i>	S5					X		X
American Mountain Ash	<i>Sorbus americana</i>	S5	X		X	X	X		
American Burreed	<i>Sparganium americanum</i>	S5							X
Narrow-leaved Burreed	<i>Sparganium angustifolium</i>	S5							X
Green-fruited Burreed	<i>Sparganium emersum</i>	S5						X	
White Meadowsweet	<i>Spiraea alba</i>	S5					X		X
Steeplebush	<i>Spiraea tomentosa</i>	S5					X		
Rose Twisted-stalk	<i>Streptopus lanceolatus</i>	S5		X		X			
Calico Aster	<i>Symphotrichum lateriflorum</i>	S5		X			X		
New York Aster	<i>Symphotrichum novi-belgii</i>	S5					X		
Purple-stemmed Aster	<i>Symphotrichum puniceum</i>	S5							X
Common Dandelion	<i>Taraxacum officinale</i>	SNA					X		
Canada Yew	<i>Taxus canadensis</i>	S4S5							X
Eastern Marsh Fern	<i>Thelypteris palustris</i>	S5						X	X
Rabbit's-foot Clover	<i>Trifolium arvense</i>	SNA					X		
Yellow Clover	<i>Trifolium aureum</i>	SNA					X		
White Clover	<i>Trifolium repens</i>	SNA					X		
Painted Trillium	<i>Trillium undulatum</i>	S5		X	X	X			X
Eastern Hemlock	<i>Tsuga canadensis</i>	S4S5				X			
Broad-leaved Cattail	<i>Typha latifolia</i>	S5					X		
Rocktripe Lichen	<i>Umbilicaria</i> sp.	SNA				X			

Common Name	Scientific Name	Status and S-Rank	Culturally Significant *	Hardwood-Dominant Forest	Conifer-Dominant Forest	Mixed-wood Forest	Cut/Disturbed	Bogs and Fens	Swamps and Marshes
Late Lowbush Blueberry	<i>Vaccinium angustifolium</i>	S5	X		X		X		
Velvet-leaved Blueberry	<i>Vaccinium myrtilloides</i>	S5	X		X	X	X		X
Small Cranberry	<i>Vaccinium oxycoccos</i>	S5						X	X
Common Speedwell	<i>Veronica officinalis</i>	SNA			X		X		
Hobblebush	<i>Viburnum lantanoides</i>	S4S5		X		X			
Northern Wild Raisin	<i>Viburnum nudum</i>	S5	X			X	X		X
Tufted Vetch	<i>Vicia cracca</i>	SNA					X		
* Based on a list of vegetation of cultural importance for the Mi'kmaq Nation of Nova Scotia, provided by L. Vicaire of Maqamigew Anqotumeg.									
Surveys Conducted by C. Pepper: July 27-August 7 2021 and T. Neily: April-May 2021									

Photo Plate



Conifer- Dominant Forest (April 27, 2021)





Cut/Disturbed (May 5, 2021)





Swamps and Marshes





Glossy Buckthorn
(July 23, 2021)



Frosted Glass-whiskers
(November 13, 2021)



Blistered Tarpaper Lichen
(May 5, 2021)



Shaggy Fringed Lichen
(April 27, 2021)



**Powdered Fringe Lichen with Lungwort
(April 27, 2021)**



**Acadian Jellyskin Lichen
(November 13, 2021)**

November 10, 2021

Attention: Regan Kelly

SUBJECT: Mi'kmaq vegetation list in support of Benjamin Mills and Westchester Wind Farm

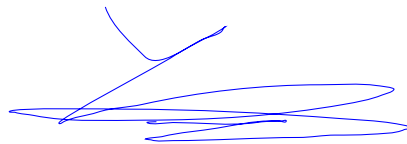
Dear Regan,

As per requested, Maqamigew Anqotumeg has provided Dillon Consulting a vegetation list in support of the Benjamin Mills and Westchester Wind Farm. A vegetation list of cultural importance for the Mi'kmaq Nation of Nova Scotia. A list established from a desktop analysis of the Site Plans (Figure 1 and Figure 2) provided by Dillon Consulting, including a review of the wetlands assessment completed by Strum Environmental in May 2012 for the Westchester Wind Power Project. The provided vegetation list in Table 1 refers to the areas inside of the Site Plans of Figures 1 and 2 only. The flora present in Table 1 are culturally significant to the Mi'kmaq Nation of Nova Scotia for herbal medicine and foraging and are believed to likely be present within the Site Plans of Benjamin Mills and Westchester Wind Farms. A field survey of the Site Plans should be cross referenced with the list provided by Maqamigew Anqotumeg in order to provide an accurate portrayal of the culturally significant flora within each Site Plans.

Thank you for providing Maqamigew Anqotumeg the opportunity to provide Dillon Consulting with this vegetation list and have endeavored to be thorough in our desktop analysis of the Site Plans for Benjamin Mills and Westchester Wind Farms. Should you have any questions, would like to clarify anything with this list or require any additional information, please do not hesitate to contact the undersign.

Regards,

Maqamigew Anqotumeg

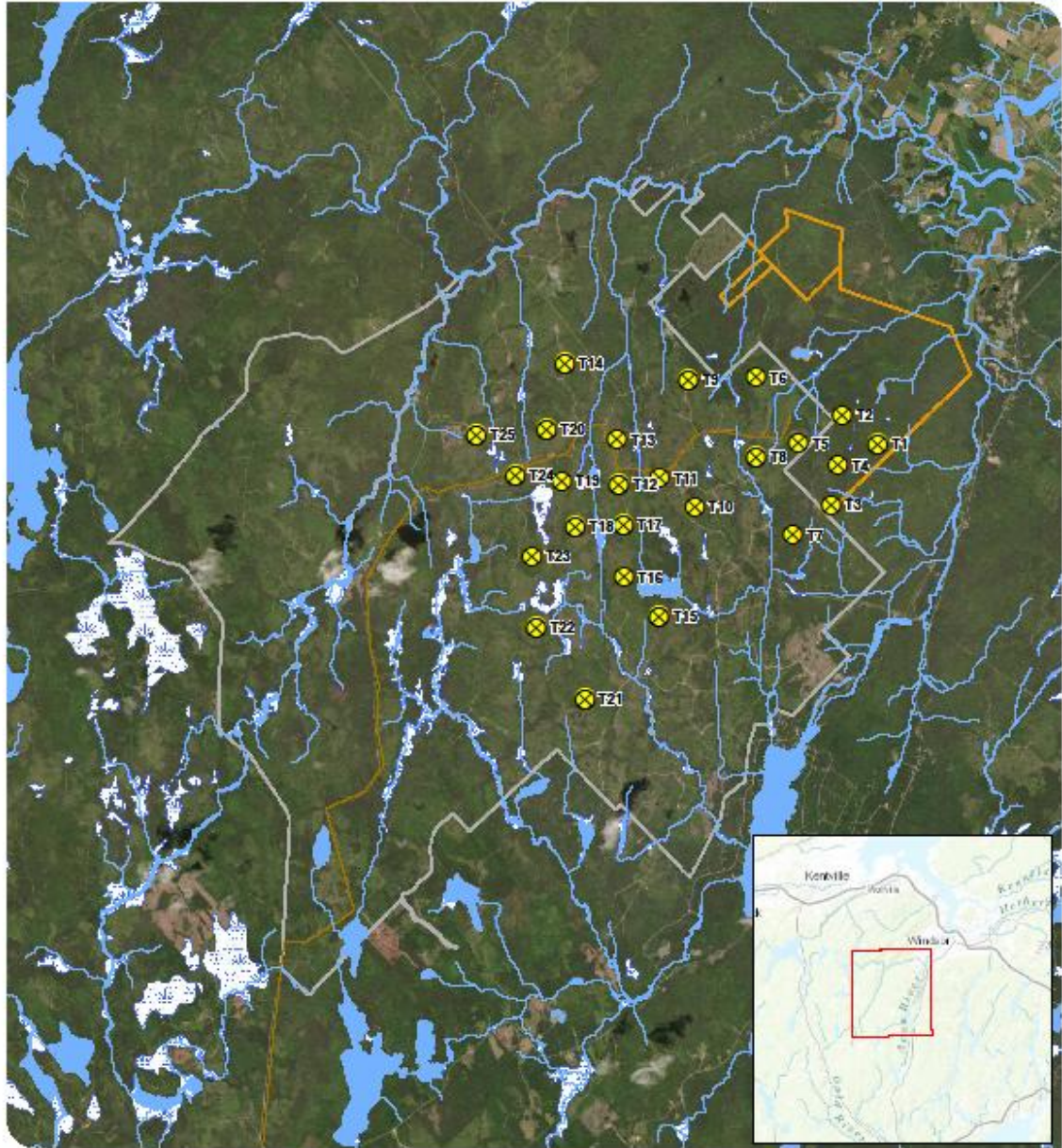


Lyle Vicaire, Terrestrial Biologist, MSc

Owner and Operator, Maqamigew Anqotumeg



Figure 1 – Benjamin Mills Site Plan



Natural Forces Developments LP
Benjamin Mills Wind Farm
Baseline Biophysical Surveys

Site Plan
FIGURE #1

⊗ Turbine Locations
— Existing Site Access

▭ Crown Land
▭ Wagner Land

— Watercourse
— Open Water
— Wetland



MAP DRAWING INFORMATION:
DATA PROVIDED BY: Natural Forces LP, GeoNova
MAP CREATED BY: SSM
MAP CHECKED BY: KR
MAP PROJECTION: NAD 1983 UTM Zone 20N

200 0 200 400 600
Meters
SCALE 1:60,000



PROJECT 21-072

Date: 2011/05/14



Table 1 – Culturally significant flora to the Mi'kmaq Nation likely within the Site Plans of Benjamin Mills and Westchester Wind Farms

English Name	Scientific Name	Mi'kmaq Name
American Beech	<i>Fagus grandifolia</i>	<i>Suomusi</i>
American Larch	<i>Larix laricina</i>	<i>Ap'tamkiejit</i>
American Mountain-Ash	<i>Sorbus americana</i>	<i>Epsimusi</i>
American Red Raspberry	<i>Rubus idaeus</i>	<i>Klitaw</i>
Beaked Hazelnut	<i>Corylus cornuta</i>	<i>Mlipkanjmusi</i>
blackberry sp.	<i>Rubus</i>	<i>Ajioqjimanaqsi</i>
Bristly Black Currant	<i>Ribes lacustre</i>	<i>Misseminaqsi</i>
Choke Cherry	<i>Prunus virginiana</i>	<i>Elwimanaqsi</i>
Common Yarrow	<i>Achillea millefolium</i>	NA
Creeping Snowberry	<i>Gaultheria hispidula</i>	<i>Kna'ji'</i>
Dwarf Red Raspberry	<i>Rubus pubescens</i>	<i>Katomin</i>
Eastern White Pine	<i>Pinus strobus</i>	<i>Kuow</i>
Pin Cherry	<i>Prunus pensylvanica</i>	<i>Maskwe'simanaqsi</i>
Goldthread	<i>Coptis trifolia</i>	<i>Wisawkweskl</i>
Green Alder	<i>Alnus viridis</i>	<i>Tupsi</i>
Indian-Tobacco	<i>Lobelia inflata</i>	<i>Tmawey</i>
Large-Leaved Avens	<i>Geum macrophyllum</i>	NA
Blueberry species	<i>Vaccinium sp</i>	<i>Pkwiman</i>
Marsh Blue Violet	<i>Viola cucullate</i>	NA
Common Plantain	<i>Plantago major</i>	<i>Wijikanipkl</i>
Northern Blueflag	<i>Iris versicolor</i>	NA
Northern Wild Raisin	<i>Viburnum nudum</i>	<i>Skinaqanmusi</i>
Old Witch Panic-Grass	<i>Panicum capillare</i>	NA
Wintergreen	<i>Mitchella repens</i>	<i>Ka'qaujumnaqsi</i>
Pearly Everlasting	<i>Anaphalis margaritacea</i>	<i>Wapwasuek</i>
Red Clover	<i>Trifolium pratense</i>	NA
Elderberry	<i>Sambucus sp</i>	<i>Pukulu'skwimanaqsi</i>
Red Spruce	<i>Picea rubens</i>	<i>Mekwe'k kawatkw</i>
Sheep-Laurel	<i>Kalmia angustifolia</i>	NA
Skunk Currant	<i>Ribes glandulosum</i>	NA
Striped Maple	<i>Acer pensylvanicum</i>	<i>Wapog</i>
Sugar Maple	<i>Acer saccharum</i>	<i>Snaweyey</i>
Swamp Red Currant	<i>Ribes triste</i>	NA
Sweet Fern	<i>Comptonia peregrina</i>	NA
Tall Butter-Cup	<i>Ranunculus acris</i>	NA
Virginia Strawberry	<i>Fragaria virginiana</i>	<i>Atuomkominaqsi</i>
Wild Sarsaparilla	<i>Aralia nudicaulis</i>	<i>Wopapa'kjukal</i>
Yellow Birch	<i>Betula alleghaniensis</i>	<i>Nimnoqn</i>