

Magalia Forest Health Project Mitigated Negative Declaration



*Prepared by
Sierra Timber Services
1600 Feather River Blvd. Ste. B
Oroville, Ca
530-534-5229*



Table of Contents

1. PROJECT INFORMATION	2
DETERMINATION	8
2. POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST SETTING	9
4. ENVIRONMENTAL IMPACTS:	9
4.1 Aesthetic/Visual Resources:.....	9
4.2 Agriculture Resources:.....	10
4.3 Air Quality:	11
4.4 Biological Resources:.....	14
4.5 Cultural Resources:	17
4.5b Tribal Cultural Resources	19
4.6 Geologic Processes:	20
4.7 Greenhouse Gas Emissions:.....	22
4.8 Hazards and Hazardous Materials:	24
4.9 Hydrology and Water Quality	25
4.12 Noise:	26
4.15 Recreation.....	28
4.16 Transportation/Traffic:.....	28
4.18 Mandatory Findings of Significance (Section 15065):.....	29
5. MITIGATION MEASURES:.....	30
6. CONSULTED AGENCIES:.....	32
7. PROJECT SPONSOR(S) INCORPORATION OF MITIGATION INTO PROPOSED PROJECT:.....	33
Appendix A	34
Table 1.....	34
Table 2.....	37
Table 3.....	40
Magalia Forest Health Botanical Survey	41
Biological Setting	41
Study Methods	41
Results	47
Special Status Species.....	47
Sighted Species.....	48
Table 4.....	50
Table 5.....	51
CNPS Botanical Survey Guidelines	53
ENVIRONMENTAL REFERENCE MATERIAL	56
Mitigation Monitoring and Reporting Plan	58
Appendix B.....	58

1. PROJECT INFORMATION

Owner/Representative:

- Wood, Charles (Trustee)
- Terriere, Timothy J. and Bonnie J.
- Strauss, Marcus G.
- Klein, Don and Maria
- Paradise Irrigation District
- Paradise Pines Property Owners Association
- Paradise Unified School District

Lead Agency name and address:

**Butte County
7 County Center Drive
Oroville, Ca 95965**

Staff Contact: Pete Calarco, Assistant Director Butte County Department of Development Services, Callie-Jane DeAnda, Butte County Fire Safe Council

Project Name: Magalia Forest Health Project

Legal Description: The project site is located in portions of Sections 13, 14, 23, 24, 25, 26, 35, 36 Township 23N R3E All MDB&M.

Parcels

Paradise Unified School District

065-270-003-000

066-010-038-000

Paradise Pines Property Owners Association

064-010-032-000 064-440-020-000

064-040-042-000 064-470-001-000

064-060-014-000 064-490-043-000

064-090-015-000 064-540-044-000

064-160-001-000 064-580-031-000

064-170-028-000 064-600-001-000

064-200-020-000 064-640-005-000

064-250-029-000 064-780-015-000

064-270-044-000 066-010-003-000

064-290-005-000 066-010-008-000

064-290-006-000 066-140-028-000

064-290-010-000 066-150-040-000

064-400-064-000 066-210-044-000

064-430-008-000 066-250-019-000

064-440-020-000 066-250-026-000
064-470-001-000 066-280-006-000
064-490-043-000 066-300-026-000

Paradise Irrigation District

065-110-024-000 065-160-003-000
065-150-001-000 065-180-012-000
065-150-002-000 065-180-019-000
065-150-003-000 065-180-020-000
065-160-002-000 065-180-031-000
065-160-003-000 065-260-011-000

Wood

Terriere

066-010-015-000 066-010-016-000
066-010-017-000 **Klein**
066-010-018-000 066-010-019-000

Strauss

066-010-020-000

USGS 7.5' Quad Map: Paradise East.

Project Vicinity Map attached: Project Location Map attached:

Project Site Size: 1066 acres

Zoning: Timber Mountain, Timber production, Resource Conservation, Public, Residential.

Environmental Setting: This project is bounded by Coutolenc Road on the east and Nimshew Road on the west, on property owned by Paradise Irrigation District, Paradise Unified School District, Paradise Pines Property Owner's Association, and Charles Wood, Trustee, extending from Andover Drive in the south to just south of Steiffer Road off of the Skyway to the north. (See location map attached). Elevations range from 1900-2675 feet.

The environmental setting for this project includes Magalia reservoir with its federally protected wetland, and adjacent riparian habitat, being fed by Little Butte Creek. Proceeding up the ridge from Little Butte Creek, vegetation types are Fir/Oak/Cedar, Mixed Conifer and Serpentine endemics.

Paradise Pines subdivision and Greenbelts are located at the top of the ridge. Greenbelts in the Paradise Pines Property Owner's Association are Mixed Conifer and Fir/Live Oak/Cedar vegetation type. Middle Butte Creek is located on the western edge of Paradise Pines, with vegetation types of Mixed Conifer, Fir/Live Oak/Cedar and Ceanothus /Scrub on a volcanic rock outcrop. Slaughterhouse Ravine encompasses the western edge of the project, with Fir/Live Oak/Cedar and Mixed Conifer vegetation types.

Eight distinct vegetation types and plant species found within these vegetation types have been mapped on the project. Serpentine endemics, Riparian, Grey Pine/Oak, Fir/Live Oak/Cedar, Fir/Pine/Oak, Ceanothus/Scrub, Ponderosa Pine, and Mixed conifer.

Major tree species include Douglas Fir (*Pseudotsuga menziesii*), Ponderosa Pine (*Pinus ponderosa*), Incense Cedar (*Calocedrus decurrans*), Live Oak (*Quercus chrysolepis*), Black Oak (*Quercus kelloggii*), MacNab Cypress (*Hesperocyparis macnabiana*), and Foothill Pine (*Pinus sabiana*). Brush species include Buck Brush (*Ceanothus cuneatus*), California Bay Laurel (*Umbellularia californica*), Manzanita (*Arctostaphylos mewukka*), and Non-native Scotch Broom (*Cytisus scoparius*).

Project Description

Butte County Fire Safe Council's vision is to create communities that are resistant to the devastating impacts of wildland fires. The Fire Safe Council has been promoting Shaded Fuel Breaks as a deterrent to major wildfires in the Magalia/Paradise area since 1999 by writing proposals and gaining funding to facilitate the creation of fuel breaks. This Initial Study/Mitigated Neg Dec will cover 1066 acres, with the cooperation of 4 owners in Magalia. Several treatment units have been planned and are shown on the Planning Map, however, to improve operational flexibility this Initial Study/ Mitigated Neg Dec will be used as the environmental document for shaded fuel breaks in the project area for the next 10 years as funding/grants become available, therefore additional projects may take place anywhere within the project area not prohibited by the document.

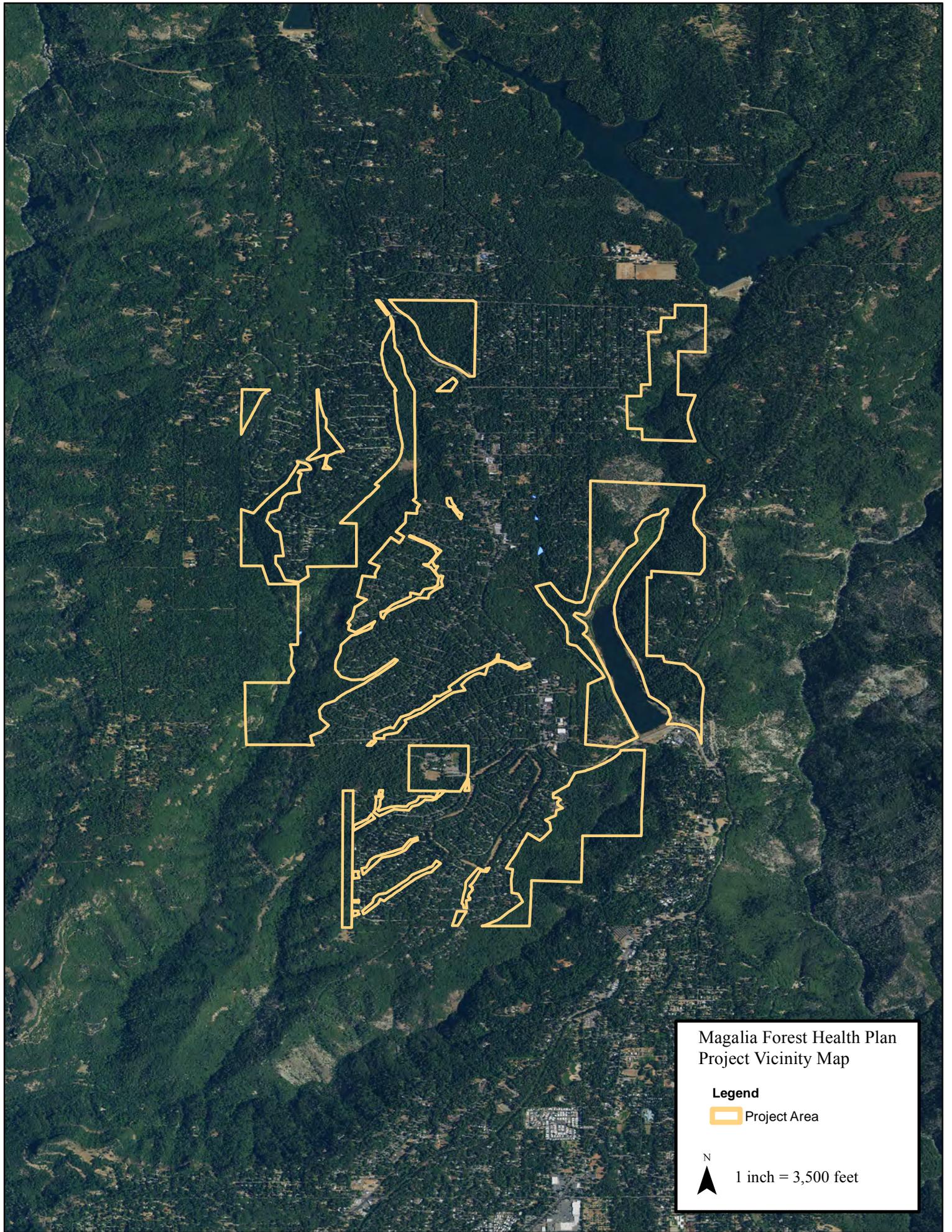
This project proposes the creation of shaded fuel breaks through the removal of brush and small trees up to 10" DBH, reducing understory fuels to reduce the vertical continuity of the forest stand structure. Large trees may be pruned up to 16', dead and down material, including both trees and shrubs, less than 10 inches in diameter will be removed. Treatment methods include hand cut and pile burning, hand cut and hand chip, mechanical treatment using a Skid Steer mounted Masticator, and understory prescribed burning activities. Prescribed burning activities will be used as a maintenance treatment after the initial treatment of hand cut or mechanical treatment, to further reduce fuel loads and control re-sprouting of vegetation, under the supervision of CALFIRE. No more than 50 acres a year will be treated with prescribed burning, with up to 500 acres treated over 10 years in the project area.

Fuel Break Treatment/Retrofitment Needed



Treated Fuel Break





Magalia Forest Health Plan
Project Vicinity Map

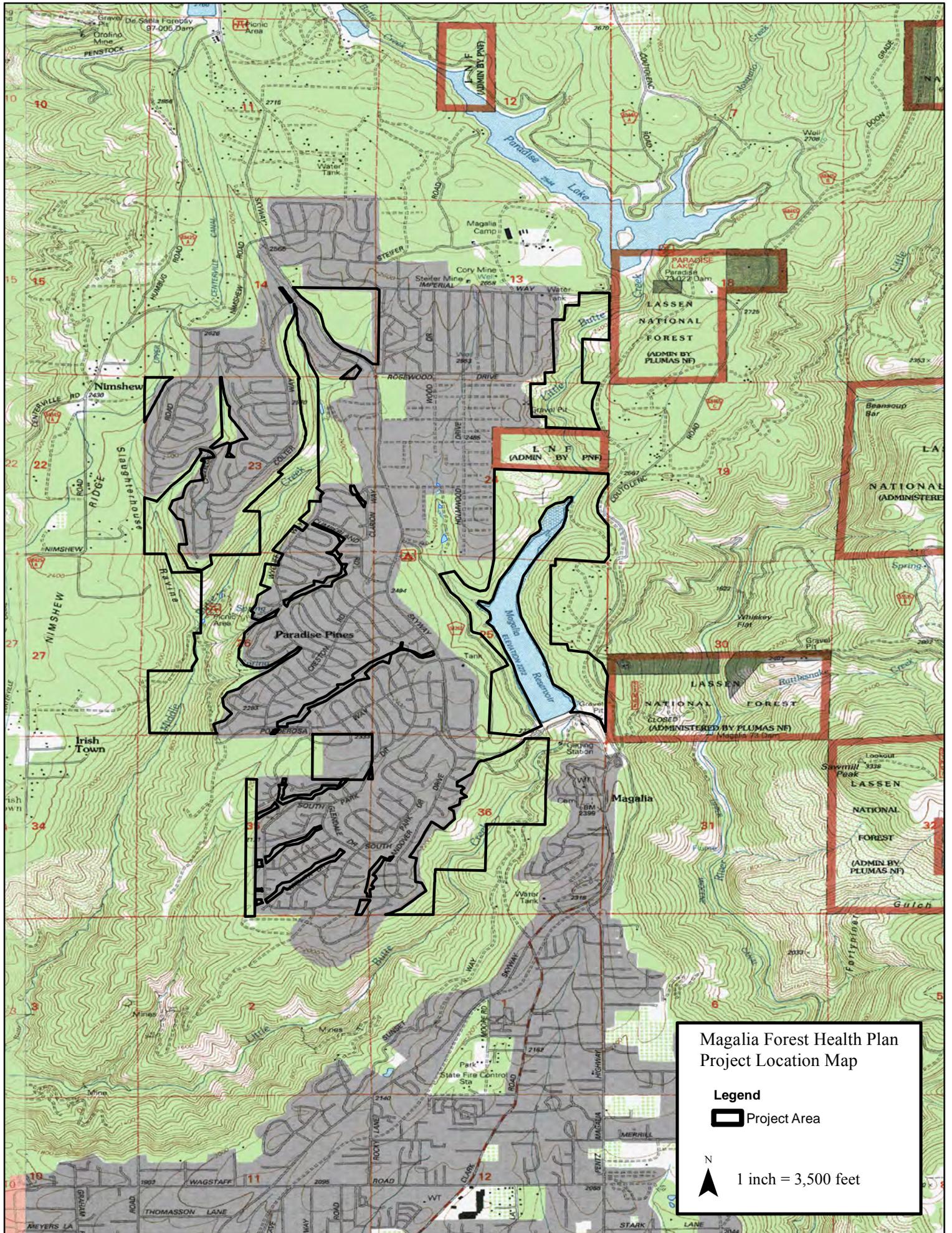
Legend

 Project Area

N



1 inch = 3,500 feet



Magalia Forest Health Plan
Project Location Map

Legend

 Project Area

N



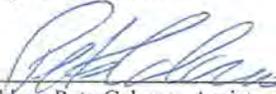
1 inch = 3,500 feet

DETERMINATION

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project COULD have a significant effect on the environment, there will NOT be a significant effect in this case because revisions have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project COULD have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Prepared by: Pete Sundahl

8/2/2017
Date


Reviewed by: Pete Calarco, Assistant Director
Butte County Development Services

7/31/2017
Date

2. POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST SETTING

Environmental Factors Potentially Affected:

The environmental factors checked below could be potentially affected by this project; however, with the incorporation of mitigation measures, potentially significant project related impacts are reduce to a “less than significant” level (CEQA Guidelines 15382).

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> 4.1 Aesthetics | <input checked="" type="checkbox"/> 4.2 Agriculture/Forestry Resources | <input checked="" type="checkbox"/> 4.3 Air Quality |
| <input checked="" type="checkbox"/> 4.4 Biological Resources | <input checked="" type="checkbox"/> 4.5 Cultural Resources | <input checked="" type="checkbox"/> 4.6 Geological Processes |
| <input checked="" type="checkbox"/> 4.7 Greenhouse Gas Emissions | <input checked="" type="checkbox"/> 4.8 Hazards/Hazardous Material | <input checked="" type="checkbox"/> 4.9 Hydrology/Water Quality |
| <input type="checkbox"/> 4.10 Land Use | <input type="checkbox"/> 4.11 Mineral Resources | <input checked="" type="checkbox"/> 4.12 Noise |
| <input type="checkbox"/> 4.13 Housing | <input type="checkbox"/> 4.14 Public Services | <input checked="" type="checkbox"/> 4.15 Recreation |
| <input checked="" type="checkbox"/> 4.16 Transportation/Traffic | <input type="checkbox"/> 4.17 Utilities/Service Systems | <input type="checkbox"/> 4.18 Mandatory Findings of Significance |

4. ENVIRONMENTAL IMPACTS:

4.1 Aesthetic/Visual Resources:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Have a substantial adverse effect on a scenic vista?			X		
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X		
c. Substantially degrade the existing visual character or quality of the site and its surroundings?			X		
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X	

Setting:

Impact Discussion:

- a) Less Than Significant Impact.** The project would not significantly affect a scenic vista nor have a demonstrable negative aesthetic effect.
- b) Less Than Significant Impact.** No scenic resources have been identified to be on the project site, or in the surrounding area. Additionally, the project site is not located along a designated scenic vista or a state or county scenic highway area.
- c) Less than Significant Impact.** The project will be visible along portions of the Skyway and Coutolenc Road, thinning of the understory will not alter the aesthetics of the vicinity.
- d) No Impact.** The project would not create a new source of substantial light or glare.

Mitigation Measure: None required.

4.2 Agriculture Resources:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X	
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X	
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X	
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X	
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X	

a) **No Impact.** The project site is not designated as Important Farmland in the Farmland Mapping and Monitoring Program. Therefore, the proposed project would not result in the conversion of Important Farmland to a non-agricultural use.

b) **No Impact.** The project site is zoned primarily for residential, resource conservation, timber and public uses. The proposed project would not result in a change to the current zoning designation of the property.

c) **No Impact.** The proposed project would not conflict with, or cause the rezoning of, a timber resource zoning designation.

d) **No Impact.** No forest products will be sold as a result of this project so no Cal Fire permits are required. No loss of forest land or conversion of forest land to non-forest use will occur.

e) **No Impact.** No change in the existing environment will occur that would result in the conversion of forest land to non-forest use.

Mitigation Measure: None required.

4.3 Air Quality:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Conflict with or obstruct implementation of the applicable air quality plan?			X		
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X		
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X		
d. Expose sensitive receptors to substantial pollutant concentrations?		X			
e. Create objectionable odors affecting a substantial number of people?		X			

Impact Discussion:

The Magalia Forest Health Project is aimed at preventing the loss property, life, and natural resources that a catastrophic wildfire can incur. In looking at Air Quality and Greenhouse Gas emissions, a model of emissions if a wildfire occurred is included in this discussion. (See Consume 4.2 Total Emissions for unit Magalia, *below*), along with emissions for the project. (See Projected Emissions for Magalia Forest Health, *below*).

Consume 4.2 Emissions for Magalia Wildfire	
Pollutant	Emissions(Tons)
CH4 Emissions	236.65
CO Emissions	5121.42
CO2 Emissions	94488.15
NMHC Emissions	182.60
PM Emissions	933.86
PM10 Emissions	660.49
PM25 Emissions	603.57

According to the Consume4.2 model used, a wildfire in the Magalia area would emit 94,488 tons of CO2, 5121.4 tons CO, 660.4 tons PM10, 603.5 PM2.5 and 236.6 tons CH4. In comparison the Magalia Forest Health Project would emit 2172.3 CO2, 48.5 tons CO, 10.2 tons PM10, 8.9 tons PM2.5, and 3.6 tons CH4.

- a) **Less than significant Impact.** District Air Quality thresholds for PM<10 in both Construction Related and Operation Related categories are 80 lbs/ day. (*See Table ES-2*). Projected emissions from pile burning of the Magalia Forest Health Project for PM<10 are 23.23 lbs. /day significantly less than BCAQ Management District threshold, therefore the project would have a less than significant impact.
- b) **Less Than Significant Impact.** Operational criteria air pollutants are below the levels of significance, even under an “unmitigated” scenario, the proposed project would not violate any air quality standard or contribute substantially to an existing or project violation. Therefore, impacts are less than significant.
- c) **Less Than Significant Impact.** In Butte County, the State Designation of 24 hour PM10 is ‘Nonattainment’, however, pile burning PM10 emissions are far below the per day thresholds for both categories of construction and operation in Butte County.
- d) **Less Than Significant Impact with Mitigation.** Exposure to substantial pollutant concentrations may occur while pile burning is being done, implementation of **Mitigation Measure #1** will reduce impacts to a less than significant level.
- e) **Less Than Significant Impact with Mitigation.** Exposure to objectionable odors may occur while pile burning or prescribed burning is being done, implementation of **Mitigation Measure #1** will reduce impacts to less than significant level.

Butte County – State and Federal Ambient Air Quality Attainment Status:

Pollutant	State Designation	Federal Designation
1-hour ozone	Nonattainment	—
8-hour ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Attainment / Maintenance (Chico)
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
24-Hour PM10	Nonattainment	Attainment
24-Hour PM2.5	No Standard	Nonattainment
Annual PM10	Attainment	No Standard
Annual PM2.5	Nonattainment	Attainment

Source: Butte County AQMD, 2014

District Air Quality Thresholds of Significance.(Table ES-2)

Butte County Air Quality Management District CEQA Air Quality Handbook – October 23, 2014

Table ES-2. District Air Quality Thresholds of Significance for Criteria Air Pollutants and Recommended Thresholds for Greenhouse Gases and Toxic Air Contaminants.		
Pollutant	Construction-Related	Operational-Related
ROG	137 lbs/day, not to exceed 4.5 tons/year	25 lbs/day
NOx	137 lbs/day, not to exceed 4.5 tons/year	25 lbs/day
PM < 10 microns (PM ₁₀ or smaller)	80 lbs/day	80 lbs/day
Non-Stationary Source GHGs	Same as Operational Thresholds	No Adopted Threshold. Recommend compliance with Qualified Greenhouse Gas Reduction Strategy, Lead Agency's threshold, or consistency with goals of AB 32
Stationary Source GHGs	Same as Operational Thresholds	No Adopted Threshold. Recommend compliance with Qualified Greenhouse Gas Reduction Strategy, Lead Agency's threshold, or consistency with goals of AB 32
New Source Toxic Air Contaminant Risks and Hazards - Individual Project	Same as Recommended Operational Thresholds	No Adopted Threshold. Recommend mitigating below: Increased cancer risk of > 10 in one million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient Diesel PM _{2.5} increase > 0.3 ug/m ³ annual average Zone of Influence: 1,000-foot radius from parcel(s) of source or receptor
New Receptor Toxic Air Contaminant Risks and Hazards - Individual Project	Same as Recommended Operational Thresholds	No Adopted Threshold. Recommend mitigating below: Increased cancer risk of > 10 in one million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient Diesel PM _{2.5} increase > 0.3 ug/m ³ annual average Zone of Influence: 1,000-foot radius from parcel(s) of source or receptor
New Source Toxic Air Contaminant Risks and Hazards - Cumulative Impacts	Same as Operational Thresholds	No Adopted Threshold. Recommend mitigating below: Cancer Risk > 10 in a million from all local sources Non-Cancer Risk > 1.0 Hazard Index (from all local sources - chronic) Diesel PM _{2.5} > 0.8 ug/m ³ annual average Zone of Influence: 1,000-foot radius from parcel(s) of sources or receptors
New Receptor Toxic Air Contaminant Risks and Hazards - Cumulative Impacts	Same as Recommended Operational Thresholds	No Adopted Threshold. Recommend mitigating below: Increased cancer risk of > 10 in one million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient Diesel PM _{2.5} increase > 0.3 ug/m ³ annual average Zone of Influence: 1,000-foot radius from parcel(s) of sources or receptors

Mitigation Measure #1:

1. A Smoke Management Plan shall be submitted to the Butte County Air Quality Management District through Prescribed Fire Information Reporting System at least 14 days prior to ignition.
2. A Butte County Air Quality Management District Burn Permit shall be obtained prior to ignition.
3. Burns will be conducted in small units (<20 acres per day) and only on designated burn days and within the approved prescription.

4.4 Biological Resources:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X			
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X			
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 or the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means)?		X			
d. Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X			
e. Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy ordinance?				X	
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X	
g. A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened, or endangered species of animals?		X			
h. A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?		X			
i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?		X			
j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?				X	
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?		X			

Impact Discussion:

- a) Less Than Significant Impact with Mitigation Incorporated.** The project site contains habitats that support species that are endangered, threatened or species of special concern according to the California Department of Fish and Wildlife. *Carex xerophylla* (1B.2 on the Rare Plant ranking) has been identified in the serpentine outcrop near Magalia Reservoir and on PID property, on a serpentine outcrop in the northern portion of the project (*See Operations Map*). *Carex xerophylla* was found to be absent in recently burned ground in Pine Hill from a 2007 fire, indicating its sensitivity to fire (Zika, Janeway 2014). *Fritillaria eastwoodiae* (3.2 on the Rare Plant ranking) has been identified on a rock outcrop near Middle Butte Creek (*See Operations Map*). A 2009 study of Slapjack DFPZ unit 133 (Janeway, Christofferson 2009) showed that there was no statistical difference in basal leaves and flowering stems on *Fritillaria eastwoodiae* prior to prescribed burn and after prescribed burn when prescribed fires were conducted in the fall when there is sufficient moisture in the fuel. *Eriogonum umbellatum* var. *ahartii* has been identified in the northeastern portion of PID property next to USFS property and in PID property on the southern portion of the Serpentine outcrop (*see Operations Map*). Due to a lack of statistical data on the effect of fire on *Eriogonum umbellatum* var. *ahartii*, and because this is a special status plant, an assumption that it is sensitive to prescribed burn is made. Implementation of **Mitigation Measures #2, #3, #4, #7, and #8** will reduce potential impacts to a less than significant level.
- b) Less Than Significant Impact.** The project area shall exclude Federally Protected Wetland, at the upper end of Magalia Reservoir. (*See Watercourse Map for location.*) **See Mitigation Measure #6.**
- c) Less Than Significant Impact with Mitigation Incorporated.** The federally protected wetland area is excluded from the project. **See Mitigation Measure #6.**
- d) Less Than Significant Impact with Mitigation Incorporated.** No major migratory routes have been designated through the project site. The site may facilitate home range and dispersal movement of resident wildlife species, but does not serve as a designated wildlife movement corridor. Potential native wildlife nesting is discussed in **Mitigation #2, #4, and #5.**
- e) No Impact.** Butte County has not adopted a tree ordinance. Paradise Pines Tree Ordinance does not cover Greenbelts and common area.
- f) No Impact.** The Butte Regional Conservation Plan (BRCP) is a joint Habitat Conservation Plan (HCP)/National Community Conservation Plan (NCCP) that is for the western half of the Butte County, and is scheduled to be completed in 2017. The project site is not located within the proposed plan area of the BRCP.
- g) Less than significant impact with Mitigation Incorporated.** Watercourse and Lake Protection Zones established around the streams, ponds and reservoirs in the project area, *See Mitigation Measure #9, (see Operations Map)* along with the exclusion of sensitive areas Serpentine outcrop, *Mitigation #8, (see Operations Map)*, and *Mitigation #2 through #4*, prevents a reduction in numbers, restriction in range or an impact to critical habitat of any unique, rare, threatened, or endangered species of animals.
- h) Less Than Significant Impact with Mitigation Incorporated.** Mitigation measure # 13 will prevent wildlife from becoming entrapped during burning operations. The project will not reduce the diversity or numbers of animals on-site.
- i) Less Than Significant Impact with Mitigation Incorporated.** Watercourse and Lake Protection Zones established around streams, ponds and the reservoir, *Mitigation #9* along with *Mitigation #2 through Mitigation #5*, will prevent impact to or deterioration of fish or wildlife habitat. (*See Watercourse Map*).
- j) No Impact.** No barriers to movement of fish or wildlife will be introduced to the project area.
- k) Less Than Significant Impact with Mitigation Incorporated.** Lights and fencing are not being introduced in the project area. Noise and human presence are increasing during the project operations, however *Mitigation Measure #2 through #5 and #13* will prevent normal activities of wildlife from being hindered.

Mitigation Measure #12:

1. Prescribed burning shall take place between September 1 and February 15th.

Mitigation Measure #2:

1. If operations take place during the critical period (March 15 to August 15), before operations begin a walking raptor survey shall be conducted for *Accipiter gentilis* (Northern Goshawk), and *Pandion haliaetus* (Osprey) nests.
2. If either *Acipiter gentilis* or *Pandion haliaetus* nest are found, a 5 acre 'no operations' buffer shall be created around the nest.
3. Operations may take place after the critical period in the 'no operation' buffer.

Mitigation Measure #3:

1. *Sambucas species* (Elderberry) shall not be cut down or removed from project area. *Sambucas species* (Elderberry) has not been found to date in project area, however potential habitat exists, any *Sambucas* (Elderberry) bushes within treatment area are protected during operations.

Mitigation Measure #4:

1. If operations are scheduled to occur during *Haliaeetus leucocephalus* (Bald Eagle) critical period (January 15 until August 15 or four weeks after fledging), before operations may begin a survey shall be conducted for *Haliaeetus leucocephalus* nest(s).
2. A known occurrence of a Bald Eagle nest occurs in the project area (*see Operation Map*). If operations take place during *Haliaeetus leucocephalus* (Bald Eagle) critical period (Jan. 15 to Aug. 15, or 4 weeks after fledgling), if the Bald Eagle nest is occupied, a 'no operations' buffer zone of 10 acres shall be created around the Bald Eagle nest.
3. Operations may take place after the critical period in the 'no operations' zone.

Mitigation Measure #5

1. If operations are scheduled to occur during critical nesting period of Migratory birds, before operations may begin a walking survey shall be conducted for nests. (See Table 4.)

Mitigation Measure #6:

1. The federally protected wetlands, (*See Operation Map*), shall not be in the project area.

Mitigation Measure #7:

1. Special Status plants (*Carex xerophila*, *Fritillaria eastwoodiae*, and *Eriogonum umbellatum var. ahartii*) have been found in the Serpentine outcrop and volcanic outcrop areas, (*see Operation Map*). Before operations may begin within these areas on any given year, a protocol botanical survey shall be conducted. (*See Appendix A for Protocol Survey Guidelines*.)
2. If any special status plants are located within the project area, a 25' equipment exclusion zone (EEZ) shall be established to protect the plants during the blooming period. No burn piles shall be located within the EEZ. Prescribed burning may occur where *Fritillaria eastwoodiae* has been found, in the fall.
3. Prescribed burning shall not take place where *Carex xerophila* or *Eriogonum umbellatum var. ahartii* have been found in the Serpentine outcrop and volcanic outcrop areas.

Mitigation Measure #8:

Water Class Characteristics: (*Adapted from California Department of Forestry and Fire Protection Regulations.*)

- **Water Class I:** Domestic supplies, including springs. Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning. (Middle Butte Creek, Little Butte Creek, Magalia Reservoir).
- **Water Class II:** Aquatic habitat for non-fish aquatic species is present year around.
- **Water Class III:** No Aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions (storm events).

1. Watercourse Protection Zone widths for mechanized treatment areas.

Watercourse Protection Zone Widths (Equipment)

Slope %	Class I	Class II	Class III
<30	75 ft.	50 ft.	25 ft.
30-50	100 ft.	75 ft.	50 ft.
>50	150 ft.	100 ft.	50 ft.

2. No prescribed burning or containment lines shall be done within the above protection zone widths.

3. Watercourse and Lake Protection Zone widths for hand treatment areas.

- For Class III watercourses there shall be no protection buffer for hand treatment.
- For Class I and II watercourses, there shall be a 25 ft. protection zone width.

4.5 Cultural Resources:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 156064.5?				X	
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X			

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X			
d. Disturb any human remains, including those interred outside of formal cemeteries?				X	

Impact Discussion:

Archaeological Inventory Summary of Project Findings:

This report details the results of an archaeological inventory survey of approximately 1,066 acres, comprising multiple parcels, greenbelt corridors and land areas located within the community of Magalia, in Butte County, California.

The proposed undertaking will involve a forest health plan, which could involve vegetation removal along multiple segments of forest within the approximately 1,066 acre project area.

Existing records at the North East Information Center document that approximately 20% of the present area of potential effects (APE) had been subjected to previous archaeological investigation, and that no prehistoric sites have been previously documented within the APE, while technically eleven (11) historic-era sites have been documented within the APE. As well, the present effort included an intensive-level pedestrian survey. Two prehistoric sites and two historic-era sites were identified and recorded within the APE. Both prehistoric sites have been recommended potentially eligible for inclusion on the California Register of Historic Resources (CRHR), while the remaining two historic-era sites have been recommended not eligible for inclusion in the CRHR, under any of the relevant criteria, and specifically due to the lack of necessary integrity required to meet the threshold of a significant historical resource.

An information request letter was delivered to the Native American Heritage Commission (NAHC) on January 30, 2017. The NAHC responded on February 8, 2017, indicating that, “A records search of the SLF was completed for the APE referenced above with negative results.”

Aside from the recommended treatment (avoidance) for two prehistoric sites recommended eligible for inclusion in the CRHR which have been documented within the APE, archaeological clearance is recommended for the remainder of the project/undertaking as presently proposed, although the following general provisions are considered appropriate:

1. **Consultation in the event of inadvertent discovery of cultural material:** The present evaluation and recommendations are based on the findings of an inventory-level surface survey only. There is always the possibility that important unidentified cultural materials could be encountered on or below the surface during the course of future development activities. This possibility is particularly relevant considering the constraints generally to archaeological field survey, and particularly where past ground disturbance activities (e.g., residential development, road construction, utility placement, tree removal, fuel reduction, etc.) have partially obscured historic ground surface visibility, as in the present case. In the event of an inadvertent discovery of previously unidentified cultural material, archaeological consultation should be sought immediately.

2. **Consultation in the event of inadvertent discovery of human remains:** In the event that human remains are inadvertently encountered during trenching or other ground disturbing activity or at any time subsequently, State law shall be followed, which includes, but is not limited to, immediately contacting the County Coroner's office upon any discovery of human remains.

Recommendations of Archaeologist:

The recommendation set forth in this report is that these two prehistoric resources (MFH 1 and MFH 2) should be identified on future project maps as sensitive areas which are to be avoided. Implementation of this recommendation would ensure that neither of these resources would be impacted during future vegetation management or other planned activities.

- a) **No Impact.** Historical resources have been determined by Archeologist Shawn Jensen to lack adequate integrity due to wholesale destruction, and/or substantial alteration, and are considered not significant. The project will not cause a substantial adverse change in the significance.
- b) **Less than significant with Mitigation Incorporated.** Prehistoric resources MFH 1 and MFH 2 (*see Sensitive Sites Map*). See Mitigation Measure #10, #14, #15. Based on the specific findings two significant historical resources are located within the present APE.
- c) **Less than significant with Mitigation Incorporated.** Prehistoric resources MFH 1 and MFH 2 (*see Sensitive Sites Map*). See Mitigation Measure #10, #14, #15.
- d) **No Impact.**

Mitigation Measure #10:

- 1. If operations will occur on parcels 064-270-044-000, 066-010-003-000 or 066-010-008-000,(Section 36 T23N R03E *see Sensitive Areas Map*) before operations can occur, a professional Archeologist shall review the operation proximity to sites MFH1 and MFH2 and flag site boundaries for ‘No Operations’ protection if necessary to prevent disturbance.

Mitigation Measure #14

- 1. In the event of an inadvertent discovery of previously unidentified cultural material, archaeological consultation shall be sought immediately.

Mitigation Measure #15

- 1. In the event that human remains are inadvertently encountered during trenching or other ground disturbing activity or at any time subsequently, operations shall cease, State law shall be followed, which includes, but is not limited to, immediately contacting the County Coroner’s office upon any discovery of human remains.

4.5b Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and this is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or		X			
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In apply the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X			

Impact Discussion:

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is

geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and this is:

a) Less Than Significant Impact with Mitigation. Two prehistoric sites and two historic-era sites were identified and recorded within the APE. Both prehistoric sites have been recommended potentially eligible for inclusion on the California Register of Historic Resources (CRHR), while the remaining two historic-era sites have been recommended not eligible for inclusion in the CRHR, under any of the relevant criteria, and specifically due to the lack of necessary integrity required to meet the threshold of a significant historical resource.

An information request letter was delivered to the Native American Heritage Commission (NAHC) on January 30, 2017. The NAHC responded on February 8, 2017, indicating that, “A records search of the SLF was completed for the APE referenced above with negative results.” See Mitigation Measure #10, #14, #15.

b) Less Than Significant Impact with Mitigation. See discussion above.

4.6 Geologic Processes:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
<p>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</p> <p>b) Strong seismic ground shaking?</p> <p>c) Seismic-related ground failure, including liquefaction?</p> <p>d) Landslides?</p>			X	X X X	
b. Result in substantial soil erosion or the loss of topsoil?			X		
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X		
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal system where sewers are not available for the disposal or waste water?				X	

Setting:

A wide variety of geologic conditions exist in the valley, foothill and mountain regions of Butte County with respect to seismic activity and various types of soil instability (landsliding, expansion, liquefaction, erosion, etc.). Thorough

summaries of the geologic and soil conditions in Butte County may be found in the 2007 Settings and Trends report prepared for the Butte County General Plan 2030 and are incorporated herein by reference.

County-wide maps regarding the relative hazards due to landslides, expansive soils, liquefaction, and faults are available with County GIS data and used as general references by Development Services, the County Building Division, Public Works, and Environmental Health when reviewing construction and land disturbing proposals requiring a permit.

Impact Discussion:

The Seismic Safety Element of the Butte County General Plan indicates that all of Butte County is in Moderate Earthquake Intensity Zone VIII. The site is not within an Alquist-Priolo Earthquake fault zone but is within an aftershock epicenter region (Butte County GIS Epicenter Regions theme). The only known active fault in Butte County is the Cleveland Hill fault zone, located approximately 30 miles southeast of the project site, where activity on August 1, 1975 resulted in the Oroville earthquake. This earthquake had a Richter magnitude of 5.7 and resulted in approximately 2.2 miles of ground rupture along the western flank of Cleveland Hill. In the northwest corner of Butte County near Chico there are a series of short, north-northwest trending faults similar to the Cleveland Hill fault. These faults appear to be an extension of the Bear Mountain Fault or Foothills Shear Zone. Minor seismic activity has occurred around these short faults; however, other geologic evidence indicates these faults are not active (Health and Safety Element, Butte County General Plan 2010). None of these faults have experienced any known movement during historical times. No impacts are anticipated since no rupture of a known earthquake fault exists in the project area.

Like most of central California, the site can be expected to be subjected to seismic ground shaking at some future time. Accordingly, all buildings and other improvements would be designed and installed in accordance with California Building Code requirements.

a1) Less Than Significant Impact. The site is not within an Alquist-Priolo Earthquake fault zone and is not within an aftershock epicenter region (Butte County GIS Epicenter Regions theme). The only known active fault in Butte County is the Cleveland Hill fault zone, located approximately 30 miles to the southeast of the project site, where activity on August 1, 1975, resulted in the Oroville earthquake. This earthquake had a Richter magnitude of 5.7 and resulted in approximately 2.2 miles of ground rupture along the western flank of Cleveland Hill.

a2) Less Than Significant Impact. Like most of central California, the site can be expected to be subjected to seismic ground shaking at some future time. However, active faults are relatively distant from the project site and ground shaking due to a seismic event is expected to have a lower intensity at the project site.

a3) Less Than Significant Impact. Liquefaction is a phenomenon where loose, saturated, granular soils lose their inherent shear strength due to excess water pressure that builds up during repeated movement from seismic activity. Factors that contribute to the potential for liquefaction include a low relative density of granular materials, a shallow groundwater table, and a long duration and high acceleration of seismic shaking. Liquefaction usually results in horizontal and vertical movements from lateral spreading of liquefied materials and post-earthquake settlement of liquefied materials. Liquefaction potential is greatest where the groundwater level is shallow, and submerged loose, fine sands occur within a depth of approximately 50 feet or less. The Butte County Health and Safety Element's Liquefaction Potential Map indicates that the site has a generally low potential for liquefaction.

a4.) Less Than Significant Impact. The project is located in a low to moderate landslide potential area. Best management practices implemented during the project, such as choice of silviculture in relation to slope factors, and lack of equipment disturbance on steep slopes would ensure a less than significant impact on potential for landslides on the project.

b) Less than Significant Impact. There is slight potential for soil erosion on the project site according to Figure HS-5, Erosion Potential Map of the Health and Safety Element of the County General Plan. Surface soil erosion and loss of topsoil has the potential to occur from disturbances associated with tree removal and fuel break projects, however, management practices implemented during the project, such as hand cutting and removal on slopes over 30%, and machine removal on slopes under 30% with 80% vegetative cover that is chipped and scattered would ensure the impact for erosion on the project is less than significant.

d) No Impact. The project will not cause nor be effected by soil expansion.

e) No Impact. Not applicable.

Mitigation Measure: None required

4.7 Greenhouse Gas Emissions:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X		

Section 15183.5(b) of Title 14 of the California Code of Regulations states that a GHG Reduction Plan, or a Climate Action Plan, may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation provided the CAP does the following:

- A. Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
- B. Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
- C. Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
- D. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
- E. Establish a mechanism to monitor the plan’s progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
- F. Be adopted in a public process following environmental review.

A 2006 baseline GHG emission inventory was prepared for unincorporated Butte County. The inventory identified the sources and the amount of GHG emissions produced in the county. Within Butte County, the leading contributors of GHG emissions are agriculture (43%), transportation (29%), and residential energy (17%).

The Butte County Department of Development Services prepared a Climate Action Plan (CAP) for the unincorporated area of Butte County. The CAP is an implementation mechanism of the County’s General Plan adopted in 2010 and amended in 2012, providing goals, policies, and programs to reduce greenhouse gas (GHG) emissions, address climate change adaptation, and improve quality of life in the county. The CAP also supports statewide GHG emissions reduction goals identified in Assembly Bill (AB) 32 and Senate Bill (SB) 375. Measures and actions identified in the CAP lay the groundwork to achieve the adopted General Plan goals related to climate change, including reducing GHG emissions to 1990 levels by 2020. The County needs to reduce community emissions by 24% (240,370 MTCO_{2e}) below forecast levels to achieve a 15% reduction below baseline 2006 levels in 2020. Similarly, to be on a trajectory toward the EO S-3-05 goal for 2050, the County would need to reduce community emissions by 52%, to achieve a 42% reduction below baseline 2006 levels in 2030. Consistent with the General Plan, the primary focus of this CAP is to achieve a 2020 reduction goal.

Impact Discussion:

- a) **Less Than Significant Impact.** The proposed project would contribute to the existing greenhouse gas inventory for Butte County. Project operation would generate direct emissions through the burning of piled fuels,

operation of chain saws, equipment and vehicles. Greenhouse gas emissions were modeled using Piled Fuels Biomass and Emissions Calculator to determine the emissions of CO₂. However, in comparison to a catastrophic wildfire, CO₂ and CO emissions would be significantly less. (See tables below). Emissions of CO₂ for the project should be approximately 2171.80 tons CO₂, in comparison to a wildfire, which would emit 94,488.15 tons of CO₂. Project emissions will be .02 CO₂ of a wildfire. Emissions of CO for the project are expected to be 48.54 tons CO, while a wildfire is expected to emit 5121.42 tons of CO. Project emissions will be .009 CO of a wildfire

	Prescribed Fire Total Project	Hand Treatment	Mechanized Treatment	Wildfire
Pollutant	Emissions (Tons)	Emissions (Tons)	Emissions (Tons)	Emissions (Tons)
CH ₄ Emissions	81.4	3.67		236.65
CO Emissions	1650.1	48.54		5121.42
CO ₂ Emissions	22344.1	2162.7	9.55	94488.15
PM Emissions	289	14.28		933.86
PM ₁₀ Emissions	212.70	10.2		660.49
PM ₂₅ Emissions	196.70	8.97		603.57

Assumptions for Prescribed Burn for fuel consumption for equipment:

- 9 Fire Engine days, 6 Pickup Truck days and 3 Bulldozer days.
- Average 40 miles roundtrip per fire engine(360 miles), average 30 mile roundtrip per pickup truck(180 miles), average 30 miles roundtrip for bulldozer transport(90 miles).
- 80 gallons Drip Torch fuel (Half diesel, half gasoline)

Total CO₂ emissions for one year prescribed burn of 50 acres: **2234.41 tons CO₂**.

Total CO₂ emissions for project area (50 acres/year, 10 years to burn 500 acres): **22,344.1 tons CO₂**.

Total CO₂ emissions for project area should a wildfire burn: **94,488.15 tons CO₂**.

- b) **Less than Significant Impact.** The proposed project would emit significantly less than a wildfire, *(as shown above)* therefore, should contribute to the purpose of reducing the emissions of greenhouse gases.

4.8 Hazards and Hazardous Materials:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Create a significant hazard to the public or the environment through the routine transport use, or disposal of hazardous materials?				X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X			
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed schools?		X			
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X	
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X	
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X	
h. Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?		X			

a) No Impact.

b) Less Than Significant Impact With Mitigation. Project operation would involve the routine transportation, use, or disposal of gasoline, oil and diesel used in the power equipment and as a fuel for torches. Operations will follow all applicable state and federal laws. All personnel will wear the appropriate personal protection equipment. Equipment used on this project will not be serviced in locations where grease, oil, or fuel could pass into a watercourse. *(See Mitigation Measure #9)* Less than significant impacts with mitigation.

c) Less Than Significant Impact With Mitigation. Project operation would involve the routine transportation, use, or disposal of gasoline, oil and diesel used in the power equipment and as a fuel for torches. Operations will follow all applicable state and federal laws. All personnel will wear the appropriate personal

protection equipment. Equipment used on this project will not be serviced in locations where grease, oil, or fuel could pass into a watercourse. (See Mitigation Measure #9) Less than significant impacts with mitigation.

d) **No Impact.**

e) **No Impact.**

f) **No Impact.**

g) **No Impact.**

h) **Less Than Significant with Mitigation Incorporated.** Project operation of the prescribed burn involves a chance of escape. Personnel carrying out the burn shall be trained with prescribed burning and shall take all safety precautions necessary to avoid an escaped fire (see Mitigation Measure #11).

Mitigation Measure #11:

1. CALFIRE shall be responsible for overseeing burn operations, ensuring personnel are properly trained and that adequate resources are present to prevent escaped fire.

Mitigation Measure #9:

1. Personnel shall wear appropriate personal protection equipment. Equipment used on this project shall not be serviced in locations where grease, oil, or fuel could pass into a watercourse. Operations shall follow all applicable state and federal laws.

4.9 Hydrology and Water Quality

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Violate any water quality standards or waste discharge requirements?				X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing land uses or planned uses for which permits have been granted)?				X	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?		X			
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		X			

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				X	
f. Otherwise substantially degrade water quality?				X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X	
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X	
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X	
j. Inundation by seiche, tsunami, or mudflow?				X	

- a) **No Impact.**
- b) **No Impact.**
- c) **Less Than Significant with Mitigation Incorporated.** The proposed project would involve mechanized treatment areas with a Skid Steer mounted Masticator that will cause some soil disturbance. None off the operations proposed will result in enough soil disturbance to alter the drainage pattern of the site. During operations the masticator will be producing and spreading wood chips over the area on which it is operating, which will reduce the likelihood of erosion occurring. This combined with the watercourse buffers laid out in *Mitigation Measure # 9* will prevent substantial erosion or siltation on or off site.
- d) **Less Than Significant with Mitigation Incorporated.** The proposed project would involve mechanized treatment areas with a Skid Steer mounted Masticator that will cause some soil disturbance. None off the operations proposed will result in enough soil disturbance to alter the drainage pattern of the site. Water yields may increase from the project area may increase slightly due to the removal of smaller diameter vegetation during fuels reduction work however these increases will not be large enough to cause flooding. This combined with the watercourse buffers laid out in (*Mitigation Measure # 9*) will prevent the proposed project from causing any flooding on or off site.
- e) **No Impact.**
- f) **No Impact.**
- g) **No Impact.**
- h) **No Impact.**
- i) **No Impact.**
- j) **No Impact.**

4.12 Noise:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other			X		

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
agencies?					
b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			X		
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X		
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X	
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X	

Impact Discussion:

- a) **Less Than Significant Impact.** Noise levels contributed by the proposed project would include chain saw noise and machine mastication noise. The project area is next to an existing road right of way where vehicle noise is a regular and normal occurrence. Potential noise impacts are less than significant.
- b) **Less Than Significant Impact.** The proposed project would involve temporary sources of ground borne vibration and ground borne noise during operation from the machine mastication equipment. Operation of this equipment would generate localized ground borne vibration and ground borne noise that could be perceptible at residences or other sensitive uses in the immediate vicinity of the project site. However, since the duration of impact would be brief and is expected to occur during less sensitive daytime hours (i.e., between 7:00 a.m. and 7:00 p.m.), the impact from machine mastication ground borne vibration and ground borne noise would be less than significant.
- c) **No Impact.** Ambient noise will not permanently increase.
- d) **Less Than Significant Impact.** The temporary or periodic noise sources that would be introduced to the existing noise environment by the proposed project would be noises associated with chain saws, mastication machinery and vehicles. Temporary and periodic increases in noise would be less than significant.
- e) **No Impact.** The project is not located within an airport land use plan.
- f) **No Impact.** No known private airstrips have been identified within the vicinity of the project site

4.15 Recreation

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X	
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X	

Impact Discussion:

- a) **No Impact.** The project will not increase the use of neighborhood or regional parks or other recreational facilities.
- b) **No Impact.** The project area is currently used for recreation by local residents, portions of the project area will be closed to recreation while work is occurring but will be re-opened as soon as work is finished.

4.16 Transportation/Traffic:

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X		
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X	
e. Result in inadequate emergency access?				X	

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
f. Conflict with accepted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X	

Impact Discussion:

- a) **Less than Significant Impact.** The project is accessed by gated service roads. During the project the only traffic will be the crew vehicles at the beginning and end of each day. Less than significant impacts to the normal traffic pattern will occur.
- b) **No Impact.** The project will not conflict with an applicable congestion management program.
- c) **No Impact.** The project is not near an airport.
- d) **No Impact.** The project will not make any changes to roads.
- e) **No Impact.** The project will not affect emergency access.
- f) **No Impact.** The project will not affect transit policies, plans or programs.

4.18 Mandatory Findings of Significance (Section 15065):

Would the proposal:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Reviewed Under Previous Document
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X			
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects)?			X		
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X		

Impact Discussion:

- a) **Less Than Significant Impact With Mitigation Incorporated.** With the implementation of mitigation measures included in the Initial Study, the proposed project would not degrade the quality of the environment; result in an adverse impact on fish, wildlife, or plant species including special status species, or prehistoric or historic cultural resources.
- b) **Less Than Significant Impact.** Individual impacts are limited with this project and cumulatively are not considerable when viewed in connection to past or future projects.
- c) **Less Than Significant Impact.** The Magalia Forest Health Project does not have environmental effects which will cause substantial adverse effects on human beings.

5. MITIGATION MEASURES:

Mitigation Measure #1:

- 1. A Smoke Management Plan shall be submitted to the Butte County Air Quality Management District through Prescribed Fire Information Reporting System at least 14 days prior to ignition.
- 2. A Butte County Air Quality Management District Burn Permit shall be obtained prior to ignition.
- 3. Burns will be conducted in small units (<20 acres per day) and only on designated burn days and within the approved prescription.

Mitigation Measure #2:

- 1. If operations take place during the critical period (March 15 to August 15), before operations begin a walking raptor survey shall be conducted for *Accipiter gentilis* (Northern Goshawk), and *Pandion haliaetus* (Osprey) nests.
- 2. If either *Accipiter gentilis* or *Pandion haliaetus* nest are found, a 5 acre ‘no operations’ buffer shall be created around the nest.
- 3. Operations may take place after the critical period in the ‘no operation’ buffer.

Mitigation Measure #3:

- 1. *Sambucas species* (Elderberry) shall not be cut down or removed from project area.

Mitigation Measure #4:

- 1. An occupied *Haliaeetus leucoccephalus* nest has been located within the project area (see operations map)
- 2. If operations take place during *Haliaeetus leucocephalus* (Bald Eagle) critical period (Jan. 15 to Aug. 15, or four weeks after fledging), before operations may begin a survey shall be conducted for *Haliaeetus leucoccephalus* nests.
- 3. If an *Haliaeetus leucocephalus* nest(s) is found a 10 acre ‘no operations’ buffer zone shall be created around the nest.
- 4. Operations may take place in the ‘no operations’ buffer zone after the critical period.

Mitigation Measure #5

- 1. If operations are scheduled to occur during February 15 to August 30 (critical nesting period of Migratory birds), before operations may begin a walking survey shall be conducted for nests. (See Table 4.) No operations shall take place within 250’ of any nesting migratory bird.

Mitigation Measure #6:

1. No operations shall take place within the federally protected wetlands, (*See Operations Map*).

Mitigation Measure #7:

1. Special Status plants have been found in the Serpentine outcrop and Volcanic outcrop areas, (*Carex xerophila, Fritillaria eastwoodiae, and Eriogonum umbellatum var. ahartii see Operation Map*).
2. Before operations may take place within the Serpentine or Volcanic Outcrop areas each year, a protocol botanical survey shall be conducted in the Serpentine/Volcanic outcrop. (*See Operations Map*).
3. If any special status plants are located within the project area, a 25' equipment exclusion zone (EEZ) shall be established to protect the plants during the blooming period. No burn piles shall be located within the EEZ.
4. Prescribed burning may occur where *Fritillaria eastwoodiae* has been found, in the fall.
5. Prescribed burning shall not take place where *Carex xerophila* or *Eriogonum umbellatum var. ahartii* have been found in the Serpentine outcrop and volcanic outcrop areas.

Mitigation Measure #8:

1. Watercourse and Lake Protection Zone widths for mechanized and prescribed fire treatment areas.

Watercourse Protection Zone Widths (Equipment)

Slope %	Class I	Class II	Class III
<30	75 ft.	50 ft.	25 ft.
30-50	100 ft.	75 ft.	50 ft.
>50	150 ft.	100 ft.	50 ft.

1. Watercourse and Lake Protection Zone widths for hand treatment areas.
 - For Class III watercourses there shall be no protection buffer for hand treatment.
 - For Class I and II watercourses, there shall be a 25 ft. protection zone width.

Mitigation Measure #9:

1. Personnel shall wear appropriate personal protection equipment. Equipment used on this project shall not be serviced in locations where grease, oil, or fuel could pass into a watercourse. Operations shall follow all applicable state and federal laws.

Mitigation Measure #10:

1. If operations will occur on parcels 064-270-044-000, 066-010-003-000 or 066-010-008-000,(Section 36 T23N R03E *see Sensitive Areas Map*) before operations can occur, a professional Archeologist

shall review the operation proximity to sites MFH1 and MFH2 and flag site boundaries for 'No Operations' protection if necessary to prevent disturbance.

Mitigation Measure #11:

1. CALFIRE shall be responsible for overseeing burn operations, ensuring personnel are properly trained and that adequate resources are present to prevent escaped fire.

Mitigation Measure #12:

1. Prescribed burning shall take place between September 1 and February 15th.

Mitigation Measure # 13:

1. Trees of value to wildlife shall be protected by removing fuels from underneath the drip line or other effective means during prescribed burns. Trees of value to wildlife are defined as trees exhibiting any of the following characteristics: forked tops, nests mistletoe clumps, cavities, large oaks.
2. Firing operations shall start in one side of the prescribed burn unit and proceed at a slow enough rate that wildlife does not become trapped.

Mitigation Measure #14

1. In the event of an inadvertent discovery of previously unidentified cultural material, archaeological consultation should be sought immediately.

Mitigation Measure #15

1. In the event that human remains are inadvertently encountered during trenching or other ground disturbing activity or at any time subsequently, operations shall cease, State law shall be followed, which includes, but is not limited to, immediately contacting the County Coroner's office upon any discovery of human remains.

6. CONSULTED AGENCIES:

- | | | |
|---|---|--|
| <input type="checkbox"/> Environmental Health | <input type="checkbox"/> Public Works | <input type="checkbox"/> Building Manager |
| <input type="checkbox"/> BCAG | <input type="checkbox"/> County Counsel | <input type="checkbox"/> LAFCo |
| <input type="checkbox"/> Assessor | <input type="checkbox"/> Development Services | <input type="checkbox"/> Chico Unified School District |
| <input checked="" type="checkbox"/> Air Quality Management District | <input type="checkbox"/> City of Chico | <input type="checkbox"/> Sheriff |
| <input type="checkbox"/> City of Gridley | <input type="checkbox"/> City of Oroville | <input type="checkbox"/> Town of Paradise |
| <input checked="" type="checkbox"/> CALFIRE | <input type="checkbox"/> Caltrans (Traffic) | <input type="checkbox"/> CA Central Reg. Water Quality |
| <input type="checkbox"/> Department of Conservation | <input checked="" type="checkbox"/> CA Dept. of Fish and Wildlife | <input type="checkbox"/> Highway Patrol |
| <input type="checkbox"/> Army Corps of Engineers | <input type="checkbox"/> U.S. Fish & Wildlife Service | <input type="checkbox"/> Agricultural Commissioner |
| <input type="checkbox"/> Butte Co. Farm Bureau | <input type="checkbox"/> Chico Unified School Dist. | <input type="checkbox"/> Chico Recreation & Park Dist. |
| <input type="checkbox"/> Pacific Bell | <input type="checkbox"/> California Water Company | <input type="checkbox"/> LOAPUD |
| <input type="checkbox"/> PG&E | <input type="checkbox"/> | <input type="checkbox"/> |

7. PROJECT SPONSOR(S) INCORPORATION OF MITIGATION INTO PROPOSED PROJECT:

I/We have reviewed the Initial Study for the Magalia Forest Health Project application and particularly the mitigation measures identified herein. I/We hereby modify the applications on file with the Butte County Planning Department to include and incorporate all mitigations set forth in this Initial Study.

Sponsor/Project Agent

Date

Sponsor/Project Agent

Date

Appendix A

Scoping for the Magalia Forest Health Project for the possible presence of listed and non-listed vertebrate species was done by a search of the California Natural Diversity Data Base (CNDDDB) and the California Native Plant Society (CNPS). A search of nine USGS 7.5-min quad; Paradise East (592D) 3912175m Cherokee (576A) 3912165, Hamlin Canyon (576B) 3912166, KimsheW Point (591B) 3912184, Pulga (591C) 3912174, Berry Creek (575B) 3912164, Stirling City (592A) 3912185, Cohasset (592B) 3912186, Paradise West (592C) 3912176 revealed the following plant and animal species that have potential habitat in the project area.

Table 1.

Magalia Forest Health- CNDDDB Non-Plant Species

Species with strikethrough are excluded from discussion, explanation given in Reason Species with ~~strikethrough~~ are excluded from discussion, explanation given in Reason column.

Scientific Name	Common Name	FedList	CallList	Habitat in Assessment Area?	Exclude from consideration?	Reason	Mitigation	Notes
Accipiter gentilis	northern goshawk	None	CDFW SSC	Yes			Survey area prior to ops should they take place during critical period (March 15-Aug 15th) Create buffer zone of 5 acres around nest sites.	
Agelaius tricolor	tricolored blackbird	None	Candidate Threatened	Yes	Yes	Adequate habitat for feeding is not within 5 kilometers		Nests over or near water,wetlands. Requires forage within 5 kilometers of nesting site.

Antrozous pallidus	pallid bat	None	CDFW SSC	Yes			None	Roosts in buildings, no abandoned buildings in project, traffic from fuel break activities will not impact.
Aplodontia rufa californica	Sierra Nevada mountain beaver	None	CDFW SSC	Yes	Yes	Preferred forbs and ferns for food not available in abundance.	WLPZ protects	Requires food supply of forbes, ferns
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Threatened	None	Yes			No Elderberry shrub removal	
Emys marmorata	western pond turtle	None	CDFW SSC	Yes			WLPZ protects	
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	No	Yes	Protected ledges and cliffs not present.		Protected ledges and cliffs not present.
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	Yes			Buffer nest, no operations permitted within buffer zone during critical period(Jan. 15th to Aug. 15th or four weeks after fledgling)	
Lasionycteris noctivagans	silver-haired bat	None	None	Yes				Roosts in buildings, tree hollows, rock crevices, will snags be retained?
Lasiurus blossevillii	western red bat	None	CDFW SSC	Yes				Roosts in trees, will snags be retained?

Laterallus jamaicensis coturniculus	California black rail	None	Threatened	Yes			Look for reeds/juncus at least 3 feet tall during survey. WLPZ protects	Steve Cordes-Reeds or Juncus at least 3 feet tall needed for nesting.
Lepidurus packardi	vernal pool tadpole shrimp	Endangered	None	No	Yes	Vernal Pools not present		
Mylopharodon conocephalus	hardhead	None	CDFW SSC	Yes			WLPZ protects	
Myotis thysanodes	fringed myotis	None	None	Yes			None	Roosts in buildings abandoned buildings not present. Traffic from fuel break activities will not impact.
Myotis yumanensis	Yuma myotis	None	None	Yes			None	Roosts in buildings abandoned buildings not present. Traffic from fuel break activities will not impact.
Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	Threatened	None	Yes			WLPZ protects	
Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	Yes			WLPZ protects	
Pandion haliaetus	osprey	None	None	Yes			Survey area prior to ops should they take place during critical period (March 15-May 1 for active nests, March 15-Aug.	Large trees, snags, dead topped trees, cliffs near water for nests.

						15 for occupied nests.) Create buffer zone of 5 acres around nest sites.	
Phrynosoma blainvillii	Blainville's horned lizard	None	CDFW SSC	Yes		Exclude Serpentine outcrop.	Serpentine outcrop is potential habitat. Area will be excluded from project.
Rana boylei	foothill yellow-legged frog	None	CDFW SSC	Yes		WLPZ protects	Closely restricted to water.
Rana cascadae	Cascades frog	None	CDFW SSC	Yes		WLPZ protects	Closely restricted to water.
Rana draytonii	California red-legged frog	Threatened	CDFW SSC	Yes			See worksheet

Table 2.

Magalia Forest Health (580 m – 815 m)							
Plant Species							
Species with strikethrough are excluded from discussion, explanation given in Reason column.							
Scientific Name	Common Name	Elevation High (meters)	Elevation Low (meters)	Communities	Exclude	Reason	Plant ranking
Agrostis hendersonii	Henderson's bent grass	305	70	Valley grassland, vernal pools.	Yes	Elevation, vernal pools	3.2

<i>Allium jepsonii</i>	Jepson's onion	1320	300	Serpentinite or volcanic chaparral, cismontane woodland, lower montane forest.				1B.2
<i>Cardamine pachystigma</i> var. <i>dissectifolia</i>	dissected-leaved toothwort	2100	255	Usually serpentinite, chaparral, lower montane coniferous forest				1B.2
<i>Carex xerophila</i>	chaparral sedge	770	440	Serpentinite, gabbroic, chaparral, cismontane woodland lower montane coniferous forest.				1B.2
<i>Castilleja rubicundula</i> var. <i>rubicundula</i>	pink creamsacs	910	20	Serpentinite, chaparral, cismontane woodland, meadows and seeps, calley, foothill grassland.				1B.2
<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>	white-stemmed clarkia	1085	245	Sometimes Serpentinite, chaparral, cismontane woodland.				1B.2
<i>Clarkia mildrediae</i> ssp. <i>mildrediae</i>	Mildred's clarkia	1710	245	Sandy, usually granitic, cismontane woodland, lower montane coniferous forest.				1B.3
<i>Clarkia mosquinii</i>	Mosquin's clarkia	1490	185	Rocky roadsides, cosmontane woodland, lower montane coniferous forest.				1B.1
<i>Eremogone cliftonii</i>	Clifton's eremogone	2080	455	Openings, usually granitic, chaparral, lower montane coniferous forest, upper montane coniferous forest.				1B.3
<i>Eriogonum umbellatum</i> var. <i>ahartii</i>	Ahart's buckwheat	2000	400	Serpentinite, slopes, openings. Chaparral, cismontane woodland.				1B.2
<i>Euphorbia hooveri</i>	Hoover's spurge	250	25	Vernal Pools	Yes	Elevation		1B.2
<i>Frangula purshiana</i> ssp. <i>ultramafica</i>	Caribou coffeeberry	1930	825	Serpentinite, chaparral, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.	Yes	Elevation		1B.2
<i>Fritillaria eastwoodiae</i>	Butte County fritillary	1500	50	Sometimes sepentinite, chaparral, cismontane woodland, lower montane coniferous forest openings.				3.2
<i>Fritillaria pluriflora</i>	adobe-lily	705	60	Often adobe, chaparral, cismontane woodland, valley, foothill grassland.				1B.2
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose mallow	120	0	Often in riprap on sides of levees, marshes and swamps.	Yes	Elevation		1B.2
<i>Imperata brevifolia</i>	California satintail	1215	0	Chaparral, meadows and seeps, riparian scrub				2B.1
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	1250	35	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland vernal pools.				1B.1

<i>Layia septentrionalis</i>	Colusa layia	1095	100	Sandy serpentinite, chaparral, cismontane woodland, valley and foothill grassland.				1B.2
<i>Lewisia cantelovii</i>	Cantelow's lewisia	1370	330	Granitic, sometimes serpentinite seeps, broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest.				1B.2
<i>Monardella venosa</i>	veiny monardella	410	60		Yes	Elevation		1B.1
<i>Orcuttia pilosa</i>	hairy Orcutt grass	200	46	Vernal pools	Yes	Elevation, vernal pools		1B.1
<i>Packera eurycephala</i> var. <i>lewisrosei</i>	Lewis Rose's ragwort	1890	274	Serpentinite, chaparral, cismontane woodland, lower montane coniferous forest.				1B.2
<i>Penstemon personatus</i>	closed throated beardtongue	2120	1065	Metavolcanic chaparral, lower montane coniferous forest, upper montane coniferous forest.	Yes	Elevation		1B.2
<i>Poa sierrae</i>	Sierra blue grass	1500	365	Openings, lower montane coniferous forest.				1B.3
<i>Rhynchospora californica</i>	California beaked-rush	1010	45	Bogs and fens, lower montane coniferous forest, meadow and seeps, marshes and swamps.	Yes	Bogs, Fens, marshes		1B.1
<i>Rhynchospora capitellata</i>	brownish beaked-rush	2000	45	Lower montane coniferous forest, meadow and seeps, marshes and swamps, upper montane coniferous forest.	Yes	Bogs Fens, Marshes		2B.2
<i>Rupertia hallii</i>	Hall's rupertia	2250	545	Roadsides, sometimes openings, cismontane woodland, lower montane coniferous forest.				1B.2
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	650	0	Marshes and swamps.				1B.2
<i>Sedum albomarginatum</i>	Feather River stonecrop	1950	260	Serpentinite, chaparral, lower montane coniferous forest.				1B.2
<i>Sidalcea robusta</i>	Butte County checkerbloom	1600	90	Chaparral, cismontane woodland.				1B.2
<i>Tuctoria greenei</i>	Greene's tuctoria	1070	30	Vernal Pools.	Yes	Vernal pools.		1B.1

Bloom Months for Special Status Plants

Table 3.

Scientific Name	Common Name	March	April	May	June	July	August	Sept.
<i>Allium jepsonii</i>	Jepson's onion		x	x	x	x	x	
<i>Cardamine pachystigma</i> var. <i>dissectifolia</i>	dissected-leaved toothwort	x	x	x				
<i>Carex xerophila</i>	chaparral sedge	x	x	x	x			
<i>Castilleja rubicundula</i> var. <i>rubicundula</i>	pink creamsacs		x	x	x			
<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>	white-stemmed clarkia			x	x	x		
<i>Clarkia mildrediae</i> ssp. <i>mildrediae</i>	Mildred's clarkia			x	x	x	x	
<i>Clarkia mosquinii</i>	Mosquin's clarkia			x	x	x	x	x
<i>Eremogone cliftonii</i>	Clifton's eremogone		x	x	x	x	x	x
<i>Eriogonum umbellatum</i> var. <i>ahartii</i>	Ahart's buckwheat				x	x	x	x
<i>Fritillaria eastwoodiae</i>	Butte County fritillary	x	x	x	x			
<i>Fritillaria pluriflora</i>	adobe-lily	x	x					
<i>Imperata brevifolia</i>	California satintail	x	x	x				x
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	x	x	x	x			
<i>Layia septentrionalis</i>	Colusa layia		x	x				
<i>Lewisia cantelovii</i>	Cantelow's lewisia			x	x	x	x	x
<i>Packera eurycephala</i> var. <i>lewisrosei</i>	Lewis Rose's ragwort	x	x	x	x	x	x	x
<i>Poa sierrae</i>	Sierra blue grass		x	x	x	x		
<i>Rhynchospora californica</i>	California beaked-rush			x	x	x		
<i>Rhynchospora capitellata</i>	brownish beaked-rush					x	x	
<i>Rupertia hallii</i>	Hall's rupertia				x	x	x	x
<i>Sedum albomarginatum</i>	Feather River stonecrop			x	x			
<i>Sidalcea robusta</i>	Butte County checkerbloom		x	x	x			

Magalia Forest Health Botanical Survey

Biological Setting

The project is located in portions of Sections 13, 14,23,24,25,26,35,36 Township 23N R3E MDB&M. The project area is 1066 acres, bounded on the east by Coutolenc Road and on the west by Nimshew Road. Elevations range from 1900-2675 feet.

On the eastern portion of the project is Magalia Reservoir with its Federally Protected Wetland and adjacent riparian habitat fed by Little Butte Creek. East of the Reservoir, is Fir/Cedar/Oak complex that progresses into a Mixed Conifer vegetation as you travel north. On the western side of the Reservoir is Grey Pine/ Oak complex with Manzanita underbrush, transitioning into Mixed Conifer with Bay Laurel underbrush as you travel north. North of the Reservoir is a Serpentine outcrop that continues into Forest Service property that has McNabb Cypress, *Carex xerophylla*, *Eriogonum umbellatum* var. *ahart*, Manzanita, some Grey Pine and Cedar. Above the Forest Service property on the east of the project are Fir/Cedar/Oak complex on the west of Little Butte Creek and Mixed Conifer on the east of Little Butte Creek, with Serpentine outcrops on both sides of Little Butte Creek in the northern most portion.

Below Magalia Reservoir, traveling south down Little Butte Creek just south of Skyway is Fir/Cedar/Oak complex, and Mixed Conifer complex on the east side of Little Butte Creek. On the west side of Little Butte Creek is Fir/Pine/Oak complex with an outcrop of Manzanita/Scrub. As you travel up Middle Butte Creek there is Fir/Cedar/Oak complex with Riparian vegetation along the creek and *Ceanothus*/Scrub openings in three locations approximately 1/3 of the way up the ravine. Continuing north, the Fir/Cedar/Oak vegetation changes at a volcanic outcrop bordered by Manzanita. A Mixed Conifer complex vegetation type continues north in the ravine with riparian vegetation along the Middle Butte Creek.

Slaughterhouse Ravine has a Fir/Cedar/Oak complex on the southern side, progressing into Mixed Conifer vegetation as you travel north. (*See Vegetation Map*)

Study Methods

Botanical surveys were conducted in accordance with *CNPS Botanical Survey Guidelines*. Botanical Surveys were conducted 3/1/2017, 4/5/2017, 4/21/2017, 6/12/2017, and 6/13/2017.

Visits were timed to match the bloom period of potential special status species.

Specifically the following CNPS protocol were implemented:

- Those conducting botanical surveys must possess the following qualifications:
 - Experience conducting floristic field surveys.

- Knowledge of plant taxonomy and plant community ecology and classification.
- Familiarity with the plants of the area, including special status and locally significant plants.
- The surveys were conducted in the field at the proper times of year when special status and locally significant plants are both evident and identifiable.
- Nearby accessible occurrences of the plants (reference sites) were observed to determine that the plants are identifiable at the time of survey.
- The surveys were floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. A sufficient number of visits spaced throughout the growing season is necessary to prepare an accurate inventory of all plants that exist on the site. A complete list of plants observed on the site is included in this botanical survey report.
- The surveys were conducted in a manner consistent with conservation ethics. Collections of listed species, or suspected rare, threatened, or endangered species were made only when such actions did not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. Photography was used to document plant identification and habitat whenever possible, but especially when the listed plant population could not withstand collection of voucher specimens.
- The surveys were conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.
- The surveys were well documented. If a listed plant or rare plant community was located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5-minute topographic map with the occurrence mapped, was completed and submitted to the Natural Diversity Database.

Prior to field surveys, a nine-quad search was conducted using the CNPS Rare Plant database and CNDDDB database. A list of potential special status plants and their CNPS listing status is found below in Table 1.

Table 1.

Magalia Forest Health 580m-815m							
Scientific Name	Common Name	Elevation High (meters)	Elevation Low (meters)	Communities	Exclude	Reason	Plant ranking
<i>Agrostis hendersonii</i>	Henderson's bent grass	305	70	Valley grassland, vernal pools.	Yes	Elevation, vernal pools	3.2
<i>Allium jepsonii</i>	Jepson's onion	1320	300	Serpentinite or volcanic chaparral, cismontane woodland, lower montane forest.			1B.2
<i>Cardamine pachystigma</i> var. <i>dissectifolia</i>	dissected-leaved toothwort	2100	255	Usually serpentinite, chaparral, lower montane coniferous forest			1B.2
<i>Carex xerophila</i>	chaparral sedge	770	440	Serpentinite, gabbroic, chaparral, cismontane woodland lower montane coniferous forest.			1B.2
<i>Castilleja rubicundula</i> var. <i>rubicundula</i>	pink creamsacs	910	20	Serpentinite, chaparral, cismontane woodland, meadows and seeps, calley, foothill grassland.			1B.2
<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>	white-stemmed clarkia	1085	245	Sometimes Serpentinite, chaparral, cismontane woodland.			1B.2

Clarkia mildrediae ssp. mildrediae	Mildred's clarkia	1710	245	Sandy, usually granitic, cismontane woodland, lower montane coniferous forest.			1B.3
Clarkia mosquinii	Mosquin's clarkia	1490	185	Rocky roadsides, cosmontane woodland, lower montane coniferous forest.			1B.1
Eremogone cliftonii	Clifton's eremogone	2080	455	Openings, usually granitic, chaparral, lower montane coniferous forest, upper montane coniferous forest.			1B.3
Eriogonum umbellatum var. ahartii	Ahart's buckwheat	2000	400	Serpentine, slopes, openings. Chaparral, cismontane woodland.			1B.2
Euphorbia hooveri	Hoover's spurge	250	25	Vernal Pools	Yes	Elevation	1B.2
Frangula purshiana ssp. ultramafica	Caribou coffeeberry	1930	825	Serpentine, chaparral, lower montane coniferous forest, meadows and seeps, upper montane coniferous forest.	Yes	Elevation	1B.2
Fritillaria eastwoodiae	Butte County fritillary	1500	50	Sometimes serpentine, chaparral, cismontane woodland, lower montane coniferous forest openings.			3.2
Fritillaria pluriflora	adobe-lily	705	60	Often adobe, chaparral, cismontane woodland, valley, foothill grassland.			1B.2

<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose- mallow	120	0	Often in riprap on sides of levees, marshes and swamps.	Yes	Elevation	1B.2
<i>Imperata brevifolia</i>	California satintail	1215	0	Chaparral, meadows and seeps, riparian scrub			2B.1
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	1250	35	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland vernal pools.			1B.1
<i>Layia septentrionalis</i>	Colusa layia	1095	100	Sandy serpentine, chaparral, cismontane woodland, valley and foothill grassland.			1B.2
<i>Lewisia cantelovii</i>	Cantelow's lewisia	1370	330	Granitic, sometimes serpentine seeps, broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest.			1B.2
<i>Monardella venosa</i>	veiny monardella	410	60		Yes	Elevation	1B.1
<i>Orcuttia pilosa</i>	hairy Orcutt grass	200	46	Vernal pools	Yes	Elevation, vernal pools	1B.1
<i>Packera eurycephala</i> var. <i>lewisrosei</i>	Lewis Rose's ragwort	1890	274	Serpentine, chaparral, cismontane woodland, lower montane coniferous forest.			1B.2
<i>Penstemon personatus</i>	closed- throated beardtongue	2120	106 5	Metavolcanic chaparral, lower montane	Yes	Elevation	1B.2

				coniferous forest, upper montane coniferous forest.			
<i>Poa sierrae</i>	Sierra blue grass	1500	365	Openings, lower montane coniferous forest.			1B.3
<i>Rhynchospora californica</i>	California beaked-rush	1010	45	Bogs and fens, lower montane coniferous forest, meadow and seeps, marshes and swamps.	Yes	Bogs, Fens, marshes	1B.1
<i>Rhynchospora capitellata</i>	brownish beaked-rush	2000	45	Lower montane coniferous forest, meadow and seeps, marshes and swamps, upper montane coniferous forest.	Yes	Bogs Fens, Marshes	2B.2
<i>Rupertia hallii</i>	Hall's rupertia	2250	545	Roadsides, sometimes openings, cismontane woodland, lower montane coniferous forest.			1B.2
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	650	0	Marshes and swamps.			1B.2
<i>Sedum albomarginatum</i>	Feather River stonecrop	1950	260	Serpentinite, chaparral, lower montane coniferous forest.			1B.2
<i>Sidalcea robusta</i>	Butte County checkerbloom	1600	90	Chaparral, cismontane woodland.			1B.2
<i>Tuctoria greenei</i>	Greene's tuctoria	1070	30	Vernal Pools.	Yes	Vernal pools.	1B.1

Results

Special Status Species

The following special status species were observed in the project area: (*See Table 2 below*)



Table 2.

Scientific Name	Common Name	CNPS Ranking
<i>Fritillaria eastwoodiae</i>	Butte County Fritillary	3.2
<i>Eriogonum umbellatum</i> var. <i>ahartii</i>	Ahart's Buckwheat	1B.2
<i>Carex xerophila</i>	Chaparral sedge	1B.2
<i>Mimulus glaucescens</i>	Shieldbracted Monkeyflower	4.3

Carex xerophila, *Eriogonum umbellatum* var. *ahartii* and *Fritillaria eastwoodiae* were located in the Serpentine outcrops on the eastern side of the project. *Fritillaria eastwoodiae* was also located on the volcanic outcrop located on Middle Butte Creek. For both *Carex xerophila* and *Eriogonum umbellatum* var. *ahartii*, the symbology used on the map corresponds to populations of plants, while in the case of *Fritillaria eastwoodiae*, the symbology used on the map correlates to individual plants. (*See Botanical Survey Map*).

- A substantially large population of *Carex xerophila* was observed on the Serpentine outcrop growing underneath MacNabb Cypress, northwest of Magalia Reservoir. As you travel south on the serpentine outcrop, the population decreases as the MacNabb Cypress becomes more sporadic, until, on the east and south edges of the outcrop, there are only some outliers of *Carex* that can be found growing along a road cut and under some Cedar and Pine. Plants have been flagged with ‘Special Treatment’ flagging and located on the Botanical Survey Map.
- *Eriogonum umbellatum* var. *ahartii* was observed on the southern end of the same Serpentine outcrop as the *Carex* just northwest of Magalia Reservoir and on the Serpentine outcrop on the east and west side of Little Butte Creek in the northern portion of the project. In all areas, *Eriogonum* was observed growing in full sun, in an area of Manzanita, Ceanothus and Grey Pine. Plants were flagged with ‘Special Treatment’ flagging and located on the Botanical Survey Map.



- *Fritillaria eastwoodiae* was observed on the Serpentine outcrop on the eastern side of Little Butte Creek and also on the volcanic outcrop on Middle Butte Creek. Plants were observed to grow under or near Manzanita in the volcanic outcrop, and near Ceanothus or Manzanita on the Serpentine outcrop. Plants have been flagged with ‘Special Treatment’ flagging and located on the Botanical Survey Map.

All of the above special status plants have been flagged with ‘Special Treatment’ and operations will not occur near them, therefore, no additional evaluation of impacts is needed.



- *Mimulus glaucescens* was observed in the Serpentine outcrop on the east and west side of Little Butte Creek, the Serpentine outcrop located northwest of Magalia Reservoir, and the Serpentine outcrop just east of Magalia Reservoir. *Mimulus* was observed growing in Class III streams, and in moist swales or depressions on both sides of Little Butte Creek. (See *Botanical Survey Map*). *Mimulus glaucescens* is ranked 4.3 by CNPS (*Limited Distribution, not very threatened in California*). Approximately 400 + plants were observed in the four locations, areas that have been flagged as ‘Special Treatment’ due to the special status plants found in these locations. (See *above table 1*). CNPS recommends that California Rare Plant Rank 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA. Since these have been found in areas of special status plants and are flagged as ‘Special Treatment’, non- operation, no additional evaluation of impact is needed.

Sighted Species

Magalia Forest Health	
Scientific Name	Common Name
<i>Acer macrophyllum</i>	Big Leafed Maple
<i>Adenocaulon bicolor</i>	Trail Plant
<i>Arctostaphylos mewukka</i>	Indian manzanita
<i>Asarum hartwegii</i>	Wild Ginger
<i>Calocedrus decurrens</i>	Incense Cedar
<i>Calochortus monophyllus</i>	Yellow Star Tulip
<i>Ceanothus cordulatus</i>	Mountain Whitethorn
<i>Ceanothus cuneatus</i>	Buck Brush
<i>Chlorogalum pomeridianum</i>	Soap Plant
<i>Cornus nuttalii</i>	Pacific dogwood
<i>Cynoglossum grande</i>	Houndstongue
<i>Cytisus scoparius</i>	Scotch Broom

Dicentra formosa	Bleeding Heart
Eriodictyon californicum	California yerba santa
Erythronium multiscapideum	Sierra fawn lily
Hesperocyparis macnabiana	MacNab Cypress
Mimulus kelloggii	Kellogg's Monkeyflower
Pinus ponderosa	Ponderosa Pine
Pinus sabiana	Grey Pine
Pseudotsuga menziesii	Douglas Fir
Pyrola picta	White veined wintergreen
Quercus kelloggii	California Black Oak
Ribes sp.	Gooseberry
Rubrus laciniatus	Cut-leaved blackberry
Rubus ursinus	California blackberry
Symphoricarpos mollis	Snowberry
Torreya californica	California Nutmeg
Toxidendron diversilobum	Poison Oak
Umbellularia claifornica	California Bay



Botanical Survey conducted by:

*Cheryl Ballantyne, Bachelors of Science in Plant Science, UC Davis 1989.
32 years' experience keying plant species in Butte, Lassen and Plumas Counties.
Seasonal volunteer Chico State Herbarium, database, annotation of species.*

Reference

California Native Plant Society (CNPS.org). 2017 Inventory of Rare and Endangered Plants. Version 8. Accessed database: March 13, 2017.

California Natural Diversity Data Base (CNDDB). Rarefind. Accessed database: March 13, 2017.

Reference Sight Visit:

Cardamine pachystigma var dissectifolia, Carex xerophila and Fritillaria eastwoodiae: 0.1 mile north of junction of Coutolenc Rd. and Skyway on USFS property. Visited 3/1/17, 3/14/17 and 4/1/17.

Chico State Herbarium:

Fritillaria eastwoodiae. Visited 2/10/2017

Mimulus glaucescens and Mimulus guttatus. Visited 6/2/2017.

Table 4.

Nesting Period and Habitat for Migratory Birds		
Name of Migratory bird species	Months	Habitat
Black-chinned Sparrow	April-Mid-August	Concealed in dense foliage of a shrub, often Ceanothus, manzanita scrub.
Brewer's Sparrow	May- August	Concealed in shrubs.
Burrowing Owl	March-August	Old burrow of squirrel or other mammal.
California Spotted Owl	March-June	Tree or snag cavity from 30-180 ft. above ground.
Calliope Hummingbird	May- August	Nests in Pine or montane riparian tree.
Costa's Hummingbird	April-July	Concealed in shrub of trees about 5 ft. above ground.
Flammulated Owl	May-August	Nests in cavity or woodpecker hole in oak or pine.
Fox Sparrow	Mid-May-August	Ground or dense shrub.
Green-tailed Towhee	April-August	Concealed in low shrub within 28" of ground.
Lewis's Woodpecker	May-July	Snag/dead part of live tree.
Loggerhead Shrike	March-May	Branches of tree/shrub
Long Billed Curlew	April-August	Wet meadow
Nuttall's Woodpecker	March-July	Dead tree, alder (Riparian)
Oak Titmouse	March-July	Nests in woodpecker hole, cavity or nest box.
Olive Sided Flycatcher	June	Nest in confer 5-70 ft. above ground
Rufous Crowned Sparrow	Mid-March-Mid-June.	Concealed on ground at base of shrub.
Short Eared Owl	March-July	Dry ground in vegetation
Snowy Plover	April-August	Shallow depressions in soil.
Swainson's Hawk	March-August	Nests on a platform of sticks and bark in a tree bush or utility pole 4-100 ft. above ground.
Western Grebe	April-August	Tules or cattails near open water.
White-Headed Woodpecker	Mid-April-August	Open conifer habitats, cavity in large snag or stump 6-50 ft. above ground.
Williamson's Sapsucker	May-July	Trees
Willow Flycatcher	June	Fork of Willow or shrub
Yellow-billed Magpie	Late Feb to Mid-July	Nest 30-80 ft. above ground, bulky nest of twigs.

Table 5.

California Red-legged Frog (<i>Rana aurora draytonii</i>) Habitat Assessment Worksheet										
Watercourse Type	All				Streams				Calm Waterbodies	
Water Course Segment *	Range (Current) (Historic) (Outside)	Stream Classification	<4,200' elevation	Non-native predators present	Stream gradient s >4%	Slack water areas	>20" in depth during high water	Impacted by spring snow melt	Greater than 20" in depth	At least 500sq ft in size
# 1	Current	Class 1	Yes		Yes					
# 2	Current	Class 1	Yes		Yes					
# 3	Current	Class 1	Yes		Yes					
# 4	Current	Class 1	Yes		Yes					
# 5	Current	Class 3	Yes		Yes					
# 6	Current	Class 3	Yes		Yes					
# 7	Current	Class 3	Yes		Yes					
# 8	Current	Class 3	Yes		Yes					
# 9	Current	Class 3	Yes		Yes					
# 10	Current	Class 3	Yes		Yes					
# 11	Current	Class 3	Yes		Yes					
# 12	Current	Class 1	Yes		Yes					
# 13	Current	Class 1	Yes		Yes					
# 14	Current	Class 1	Yes		Yes					
# 15	Current	Class 3	Yes		Yes					
# 16	Current	Class 3	Yes		Yes					
	Rock Substrate Present	Emergent Vegetation Present	Scrub-Shrub Present	Submerged Vegetation Present	Dense Shrubby Riparian Vegetation		Non-Native Predators Present	Possible Habitat for RLF	Greater than 20" in depth	At least 500 sq. ft. in size
P1	Yes	Some	No	No	No		No	No	Yes	Yes
P2	No	No	No	No	No		No	No	Yes	Yes
P3	No	No	No	No	No		No	No	Yes	Yes
P4	No	No	No	No	No		No	No	Yes	Yes
Magalia Reservoir		No	No	No	Yes		Yes	No	Yes	Yes

(See Operations Map for stream segments and ponds)

Essential Aquatic Habitat Elements for California Red-legged Frog:

Range: Within the Current or Historic Range as mapped by Cal-Fire.

Stream Classification: Class 1, Class 2 or Class 3a. Class 3a watercourses may have intermittent water past late July, Class 3b watercourses do not.

Less than 4,200 feet elevation: Only two occurrences of the CRF in the Sierras are above 3,500 ft. Of these two only one occurrence is within the last 50 years. This site is at about 4,200 ft and is at an old mill pond at least 1.25 acres in size. Of the 980 occurrences state wide listed in the California Natural Diversity Database only 5(0.5%) are above 3,500 feet.

No Non-Native Predators Present: The presence of non-native predators in smaller water bodies often leads to extirpations of CRLF and make the habitat unsuitable. CRLF larvae are especially vulnerable to fish predation immediately after hatching when the non-feeding larvae are relatively immobile. Bull frogs, mosquito fish and bass are common non-native predators of CRF. (USFWS 2002).

Stream Gradients less than 4%: Streams with less than 4% gradient are considered to provide suitable breeding habitat. (US Forest Service, 2002)

Slack Water Areas Present: Calm slack water areas in streams that are at least 20" in depth are part CRLF habitat. During high flow events CRLF typically need quiet water refugia within a ¼ mile. (USFWS 2002).

Greater than 20" in depth during High Water: Stream with less than 20" in depth during high water typical will not have sufficient slack water areas during high flow events and may not have sufficient water depth for breeding habitat later in the spring.

Not Impacted by Spring Snow Melt: Streams that increase in flow from snow melts in late spring do not provide breeding habitat because they lack slack water and maintain stream temperatures that are to cold for successful CRLF reproduction. Early Northern red-legged frog embryos require water temperatures between 48 and 70 degrees Fahrenheit. Study plots in the Pescadero Marsh showed the CRLF tadpoles preferred water temperatures between 60 and 75 degrees Fahrenheit. Egg masses are attached to braces such as twigs or reeds where they float on the water. High flows during snow melt may detach the egg masses or the eggs may desiccate as receding levels leave them out of the water. (USFWS 2002)

Calm Water Bodies that are greater than 20 inches in depth: Breeding habitat is typically greater than 2 feet in depth, still or slow moving water, and has dense shrubby riparian vegetation. (USFWS 2002).

Calm Water bodies that are over 500sq. feet in size: Pond areas in the Sierras that are known to support breeding populations of CLRF range from 500sq. feet to 16,000 sq. feet.

CNPS Botanical Survey Guidelines

CALIFORNIA NATIVE PLANT SOCIETY

December 9, 1983

Revised June 2, 2001

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how surveys should be conducted, and what information should be contained in the survey report. The California Native Plant Society recommends that lead agencies not accept the results of surveys unless they are conducted and reported according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all botanical resources, including special status plants (rare, threatened, and endangered plants) and plant (vegetation) communities. Special status plants are not limited to those that have been listed by state and federal agencies but include any plants that, based on all available data, can be shown to be rare, threatened, or endangered under the following definitions: A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare plant (vegetation) communities are those communities that are of highly limited distribution. These communities may or may not contain special status plants. The most current version of the California Natural Diversity Database's *List of California Terrestrial Natural Communities* should be used as a guide to the names and status of communities. Consistent with the California Native Plant Society's goal of preserving plant biodiversity on a regional and local scale, and with California Environmental Quality Act environmental impact assessment criteria, surveys should also assess impacts to locally significant plants. Both plants and plant communities can be considered significant if their local occurrence is on the outer limits of known distribution, a range extension, a rediscovery, or rare or uncommon in a local context (such as within a county or region). Lead agencies should address impacts to these locally unique botanical resources regardless of their status elsewhere in the state.

2. Botanical surveys must be conducted to determine if, or to the extent that, special status or locally significant plants and plant communities will be affected by a proposed project when any natural vegetation occurs on the site and the project has the potential for direct or indirect effects on vegetation.

3. Those conducting botanical surveys must possess the following qualifications:

- a. Experience conducting floristic field surveys;
- b. Knowledge of plant taxonomy and plant community ecology and classification;
- c. Familiarity with the plants of the area, including special status and locally significant plants;

- d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- e. Experience with analyzing impacts of a project on native plants and communities.

4. Botanical surveys should be conducted in a manner that will locate any special status or locally significant plants or plant communities that may be present. Specifically, botanical surveys should be:

- a. Conducted in the field at the proper times of year when special status and locally significant plants are both evident and identifiable. When special status plants are known to occur in the type(s) of habitat

present in the project area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the plants are identifiable at the time of survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to species, subspecies, or variety as applicable. In order to properly characterize the site, a complete list of plants observed on the site shall be included in every botanical survey report. In addition, a sufficient number of visits spaced throughout the growing season is necessary to prepare an accurate inventory of all plants that exist on the site. The number of visits and the timing between visits must be determined by geographic location, the plant communities present, and the weather patterns of the year(s) in which the surveys are conducted.

c. Conducted in a manner that is consistent with conservation ethics and accepted plant collection and documentation techniques^{4,5}. Collections (voucher specimens) of special status and locally significant plants should be made, unless such actions would jeopardize the continued existence of the population. A single sheet should be collected and deposited at a recognized public herbarium for future reference. All collections shall be made in accordance with applicable state and federal permit requirements. Photography may be used to document plant identification only when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas. All habitats within the project site must be surveyed thoroughly in order to properly inventory and document the plants present. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity.

e. Well documented. When a special status plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5-minute topographic map with the occurrence mapped, shall be completed, included within the survey report, and separately submitted to the California Natural Diversity Database. Population boundaries should be mapped as accurately as possible. The number of individuals in each population should be counted or estimated, as appropriate.

5. Complete reports of botanical surveys shall be included with all environmental assessment documents, including Negative Declarations and Mitigated Negative Declarations, Timber Harvesting Plans, Environmental Impact Reports, and Environmental Impact Statements. Survey reports shall contain the following information:

a. Project location and description, including:

- 1) A detailed map of the location and footprint of the proposed project.
- 2) A detailed description of the proposed project, including one-time activities and ongoing activities that may affect botanical resources.
- 3) A description of the general biological setting of the project area.

b. Methods, including:

- 1) Survey methods for each of the habitats present, and rationale for the methods used.
- 2) Description of reference site(s) visited and phenological development of the target special status plants, with an assessment of any conditions differing from the project site that may affect their identification.
- 3) Dates of surveys and rationale for timing and intervals; names of personnel conducting the surveys; and total hours spent in the field for each surveyor on each date.
- 4) Location of deposited voucher specimens and herbaria visited.

c. Results, including:

- 1) A description and map of the vegetation communities on the project site. The current standard for vegetation classification, *A Manual of California Vegetation*⁶, should be used as a basis for the habitat descriptions and the vegetation map. If another vegetation classification system is used, the report must reference the system and provide the reason for its use.
- 2) A description of the phenology of each of the plant communities at the time of each survey date.
- 3) A list of all plants observed on the project site using accepted scientific nomenclature, along with any special status designation. The reference(s) used for scientific nomenclature shall be cited.

4) Written description and detailed map(s) showing the location of each special status or locally significant plant found, the size of each population, and method used to estimate or census the population.

5) Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms and accompanying maps.

d. Discussion, including:

1) Any factors that may have affected the results of the surveys (*e.g.*, drought, human disturbance, recent fire).

2) Discussion of any special local or range-wide significance of any plant population or community on the site.

3) An assessment of potential impacts. This shall include a map showing the distribution of special status and locally significant plants and communities on the site in relation to the proposed activities. Direct, indirect, and cumulative impacts to the plants and communities shall be discussed.

4) Recommended measures to avoid and/or minimize direct, indirect, and cumulative impacts.

e. References cited and persons contacted.

f. Qualifications of field personnel including any special experience with the habitats and special status plants present on the site.

ENVIRONMENTAL REFERENCE MATERIAL

1. Butte County. *General Plan 2030 Draft Environmental Impact Report*.
2. Butte County. *General Plan.2030 Environmental Impact Report*. Oroville, CA. April 8, 2010.
3. Butte County. *General Plan 2030*. Oroville, CA. October 26, 2010.
4. Butte County Regional Conservation Plan. Available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline>. March 14,2017.
5. Butte County. *Butte County Airport Land Use Compatibility Plan*. Butte County Airport Land Use Commission. Adopted on December 20, 2000.
6. California Forest Practice Rules 2016. Title 14, California Code of Regulations, pg. 110, *Peregrine Falcon*.
7. Ecological Reserves. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=123969&inline>. Accessed #/9/2017
8. Butte County Noise Control Ordinance (Ordinance No. 4053). Adopted on March 26, 2013. Available at http://www.municode.com/library/ca/butte_county/codes
9. Butte County. *Zoning Ordinance*. Adopted November 6, 2012. Available at <http://www.buttegeneralplan.net/>
10. Expansive Soils. Butte County. *General Plan 2030*. Oroville, Ca. Accessed 3/9/2017.
11. California Scenic Highways. Available at www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways. Accessed March 7, 2017.
12. California Department of Conservation. Fault-Rupture Hazard Zones in California. Altquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps. Special Publication 42. Interim Revision. 2007.
13. California Department of Conservation. *Fault Activity Map of California*. Available at maps.conservation.cgs/fam/
14. California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*.
15. California Department of Conservation. *California Important Farmland Finder*. Available at maps.Conservation.ca.gov/ciff/ciff.html
16. California Department of Fish and Wildlife. 2016. *California Natural Diversity Database*. Accessed via RareFind 5.
17. California Native Plant Society. Rare Plant Program. 2016. *Inventory of Rare and Endangered Plants* (online edition, v8-02) Sacramento, CA. Available at <http://www.rareplants.cnps.org>
18. California Dept. Fish and Wildlife. *Tricolored Blackbird Nesting Requirements*. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10506>. Accessed 3/14/2017.
19. California Herps. Blaineville's Lizard. <http://www.californiaherps.com/lizards/pages/p.blainvillii.html>. Accessed 3/14/2017.
20. California Dept. Fish and Wildlife. *Cascade Frog*. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1498&inline=1>. Accessed 3/14/2017.
21. Canadian Journal of Zoology. *Aplodontia rufa*. <http://www.nrcresearchpress.com/doi/abs/10.1139/Z07-007#.WMgnlvJSJ4Q>. Accessed 3/14/2017.
22. Butte Regional Conservation Plan. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=68626&inline>. Accessed 3/14/2017.

23. Greenhouse Gas Emissions, Piled Fuels Calculator. <https://depts.washington.edu/nwfire/piles/index.php?> Accessed 3/22/2017.
24. Burn pile CO2 Emissions. <https://www.fs.fed.us/pnw/fera/research/smoke/piles.shtml>. Accessed 3/24/2017.
25. Estimating Carbon Stocks. <https://www.nrs.fs.fed.us/pub/2394>. Accessed 3/27/2017.
26. United States Fish and Wildlife Service. *Federally protected wetlands*. Accessed 3/9/2017. Available at <https://www.fws.gov/wetlands/Data/Mapper.html>.
27. Migratory Bird Species. *IPAC*, accessed 4/3/2017. Available at: <https://ecos.fws.gov/ipac/location/ASVKXM5YOFFTHAQR2TRSTJ5EMY/resources#migratory-birds>.
28. Migratory bird monitoring histogram. Accessed 4/3/2017, available at: <http://data.prbo.org/cadc2/index.php?page=142>.
29. Spotted owl overwintering area. Accessed 4/3/2017 available at: <https://map.dfg.ca.gov/bios/?bookmark=327>.
30. Definition of Water course class. California Forest Practice Rules 2016, Title 14, California Code of Regulations, pg 74.
31. Butte County Air Quality, Air Quality Standards Butte County Attainment Status. Available at: <https://bcaqmd.org/planning/air-quality-standards-air-pollutants/>. Accessed on 4/17/2017.
32. California Native Plant Society, Botanical Survey Guidelines. Available at: http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf. Accessed on 5/16/2017.
33. Butte County Fritillary Slapjack DFPZ Prescribed Fire Study, Feather River Ranger District, Plumas National Forest. Lawrence Janeway and Chris Christofferson. 2009.
34. *Carex xerophila*, A New Sedge from Chaparral of Northern California. Madrono. Vol. 61 No. 3, pg 302. Peter Zika, Lawrence Janeway, Barbara Wilson.

Mitigation Monitoring and Reporting Plan

Appendix B

Magalia Forest Health

CEQA Lead Agency:

Butte County
7 County Center Drive
Oroville, Ca 95965

Prepared by

Sierra Timber Services
1600 Feather River Blvd. Ste. B
Oroville, Ca
530-534-5229



The Mitigation Monitoring and Reporting Plan (MMRP) has been prepared in conformance with Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. The MMRP ensures implementation of the measures being imposed to mitigate or avoid potentially significant impacts identified in the Mitigated Negative Declaration (MND).

As discussed in the MND, impact areas requiring mitigation are:

- Air Quality
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials

The following table list impacts, mitigation measures, responsible and monitoring parties, and the timing the measures are to be implemented.

Impact	Mitigation Measure	Responsible/ Monitoring Party	Monitoring Action or Implementation Stage
Air Quality			
4.3(d) Exposure to substantial pollutant concentrations may occur while pile burning is being done.	<i>(Mitigation Measure #1)</i> A smoke management plan shall be submitted to the Butte County Air Quality Management District through Prescribed Fire Information Reporting System	Butte County Fire Safe Council	14 days prior to ignition of piles.
	A Butte County Air Quality Management District Burn Permit shall be obtained.	Butte County Fire Safe Council	14 days prior to ignition of piles.
	Burns will be conducted in small units (<20 acres per day)	Butte County Fire Safe Council	During operations
Biological Resources			
4.4(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<i>(Mitigation Measure #2)</i> If operations take place during the critical period (March 15 to August 15), before operations begin a walking raptor survey shall be conducted for <i>Accipiter gentilis</i> (Northern Goshawk), and <i>Pandion haliaetus</i> (Osprey) nests. If either <i>Accipiter gentilis</i> or <i>Pandion haliaetus</i> nest are found, a 5 acre 'no operations' buffer shall be created around the nest.	Butte County Fire Safe Council	Prior to the beginning of operations each season

<p>4.4(g) A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened, or endangered species of animals?</p>	<p><i>(Mitigation Measure #3)</i> <i>Sambucus species</i> (Elderberry) shall not be cut down or removed from project area. <i>Sambucus species</i> (Elderberry) has not been found to date in project area, however potential habitat exists. Any <i>Sambucus sp.</i> (Elderberry) within treatment area shall be protected during operations.</p>	<p>Butte County Fire Safe Council</p>	<p>Prior to the beginning of operations each season</p>
	<p><i>(Mitigation Measure #4)</i> If operations take place during <i>Haliaeetus leucocephalus</i> (Bald Eagle) critical period (Jan. 15 to Aug. 15, or 4 weeks after fledgling), if the Bald Eagle nest is occupied, a ‘no operations’ buffer zone of 10 acres shall be created around the Bald Eagle nest. (see Operation Map). If operations are scheduled to occur during <i>Haliaeetus leucocephalus</i> (Bald Eagle) critical period (January 15 until August 15 or four weeks after fledging), before operations may begin a survey shall be conducted for <i>Haliaeetus leucocephalus</i> (Bald Eagle) nest(s). If a <i>Haliaeetus leucocephalus</i> (Bald eagle) nest(s) is found a 10 acre ‘no operations’ buffer zone shall be created around the nest.</p>	<p>Butte County Fire Safe Council</p>	<p>Prior to the beginning of operations each season</p>

<p>4.4(h) A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?</p>	<p>(Mitigation Measure # 13)</p> <p>Trees of value to wildlife shall be protected by removing fuels from underneath the drip line or other effective means during prescribed burns. Trees of value to wildlife are defined as trees exhibiting any of the following characteristics: forked tops, nests mistletoe clumps, cavities, large oaks.</p> <p>Firing operations shall start in one side of the prescribed burn unit and proceed at a slow enough rate that wildlife does not become trapped.</p>	<p>Butte County Fire Safe Council</p>	<p>During Operations</p>
<p>4.4(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>	<p>(Mitigation Measure #6) The federally protected wetlands, (See Operation Map), shall not be in the project area</p>	<p>Butte County Fire Safe Council</p>	<p>Area excluded, no monitoring needed.</p>
<p>4.4(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 or the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means)?</p>	<p>(Mitigation Measure #6) The federally protected wetlands, (See Operation Map), shall not be in the project area</p>	<p>Butte County Fire Safe Council</p>	<p>Area excluded, no monitoring needed.</p>
<p>4.4 (d)Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p>	<p>(Mitigation Measure #5) If operations are scheduled to occur during critical nesting period of Migratory birds, before operations may begin a walking survey shall be conducted for nests. (See Table 4.) No operations shall take place within 250' of any nesting migratory bird.</p>	<p>Butte County Fire Safe Council</p>	<p>Prior to the beginning of operations each season</p>

4.4 (i) A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?	(Mitigation Measure #8) Hand Treatment Areas. For Class I and II Watercourses there shall be a 25 ft. protection zone width.	Butte County Fire Safe Council	Prior to the beginning of operations
	(Mitigation Measure#8) Mechanized Treatment Areas and Prescribed Burn area. For < 30% Slope; Class I - 75 ft. Class II - 50 ft. Class III - 25 ft. For 30-50 % slope; Class I - 100 ft, Class II - 75 ft., Class III - 50 ft. For > 50% Slope; Class I - 150 ft., Class II - 100 ft. Class III - 50 ft.	Butte County Fire Safe Council	Prior to the beginning of operations
Cultural Resources			
4.5(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	(Mitigation Measure #10) If operations will occur on parcels 064-270-044-000, 066-010-003-000 or 066-010-008-000, (Section 36 T23N R03E.)	Butte County Fire Safe Council	Prior to operations occurring in these parcels.
	(Mitigation Measure #14) In the event of an inadvertent discovery of preciously unidentified cultural material, archaeological consultation should be sought immediately.	Butte County Fire Safe Council	During Operations
	(Mitigation #15) In the event that human remains are inadvertently encountered during trenching or other ground disturbing activity or at any time subsequently, operations shall cease, State law shall be followed, which includes, but is not limited to, immediately contacting the County Coroner's office upon	Butte County Fire Safe Council	During Operations

	any discovery of human remains.		
4.5(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<i>(Mitigation Measure #10)</i> If operations will occur on parcels 064-270-044-000, 066-010-003-000 or 066-010-008-000,(Section 36 T23N R03E.) before operations can occur, a professional Archeologist shall review site boundaries and flag MFH 1 and MFH 2 for ‘No Operations’ protection.	Butte County Fire Safe Council	Prior to operations occurring in these parcels.
Hazard and Hazardous Material			
4.8(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<i>(Mitigation Measure #9)</i> Equipment used on this project shall not be serviced in locations where grease, oil, or fuel could pass into a watercourse. Operations shall follow all applicable state and federal laws.	Butte County Fire Safe Council	Prior to the beginning of operations.
(h.)Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<i>(Mitigation Measure #11)</i> CALFIRE shall be responsible for overseeing burn operations, ensuring personnel are properly trained and that adequate resources are present to prevent escaped fire.	Butte County Fire Safe Council	During operations.