Draft Mitigated Negative Declaration
for the proposed
BLUEBERRY HILL TIMBERLAND CONVERSION
(part of Cal fire Timber Harvest Plan 2-16-010-YUB)
Yuba County, California
State Clearinghouse Number: 2016102069

Prepared for:

The California Department of Forestry and Fire Protection (CAL FIRE)
The Lead Agency Pursuant to Section 21082.1 of the
California Environmental Quality Act (CEQA)

CAL FIRE Resource Management – Environmental Protection Program
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April 25, 2017

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MITIGATED NEGATIVE DECLARATION

Introduction and Regulatory Context

Stage of CEQA Document Development

☐ **Administrative Draft.** This CEQA document is in preparation by California Department of Forestry and Fire Protection (CAL FIRE) staff.

☒ **Public Document.** A Notice of Preparation (NOP) was been filed by CAL FIRE at the State Clearinghouse on November 1, 2016 and is being circulated for a 30-day agency and public review period. The public review period ends on November 30, 2016. Instructions for submitting written comments are provided on Pages 50-51 of this document.

☐ **Final CEQA Document.** This Final CEQA document contains the changes made by the Department following consideration of comments received during the public and agency review period. The changes are displayed in strike-out text for deletions and underlined text for insertions. The CEQA administrative record supporting this document is on file, and available for review, at CAL FIRE's Sacramento Headquarters, Environmental Protection Program, which is located in the Natural Resources Building, 1416 Ninth Street, 15th Floor, Sacramento, California.

Introduction

This Draft Mitigated Negative Declaration (MND) describes the environmental impact analysis conducted for the proposed project. This document has been adopted by the California Department of Forestry and Fire Protection (CAL FIRE) utilizing information gathered from several sources including research and field review of the proposed project area and consultation with environmental planners and other experts on staff at other public agencies. Pursuant to Section 21082.1 of the California Environmental Quality Act (CEQA), the Lead Agency, CAL FIRE, has prepared, reviewed, and analyzed the IS/MND and declares that the statements made in this document reflect CAL FIRE's independent judgment as Lead Agency pursuant to CEQA. CAL FIRE further finds that the proposed project, which includes revised activities and mitigation measures designed to minimize environmental impacts, will not result in significant adverse effects on the environment.

Regulatory Guidance

This MND has been prepared by the project proponent and adopted by CAL FIRE to evaluate and mitigate potential environmental effects which could result following implementation of the proposed project. This document has been prepared in accordance with current CEQA Statutes (Public Resources Code [PRC] §21000 *et seq.*) and current CEQA Guidelines (California Code of Regulations [CCR] §15000 *et seq.*).

An Initial Study (IS) was prepared by the project proponent to determine if the project may have a significant effect on the environment (14 CCR § 15063[a]), and thus, to determine the appropriate environmental document. In accordance with CEQA Guidelines §15070, a "public agency shall prepare ... a proposed negative declaration or mitigated negative declaration ... when: (a) The Initial Study shows that there is no substantial evidence ... that the project may have a significant impact upon the environment, or

(b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions will reduce potentially significant effects to a less-than-significant level." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the proposed project will not have a significant effect on the environment and, therefore, does not require the preparation of an Environmental Impact Report (EIR). This draft MND conforms to these requirements and to the content requirements of CEQA Guidelines Section 15071.

Purpose of the Draft MND

CAL FIRE has primary authority for carrying out the proposed project and is the lead agency under CEQA. The purpose of this Draft MND is to present to the public and reviewing agencies the environmental consequences of implementing the proposed project and describe the adjustments made to the project to avoid significant environmental effects or reduce them to a less-than-significant level. This disclosure document is being made available to the public, and reviewing agencies, for review and comment. The Draft MND is being circulated for public and agency review and comment for a review period of 30 days as indicated on the ***Notice of Intent to Adopt a Mitigated Negative Declaration*** (NOI). The 30-day public review period for this project begins on February 24, 2017 and ends on March 28, 2016.

The requirements for providing an NOI are found in CEQA Guidelines §15072. These guidelines require CAL FIRE to notify the general public by utilizing at least one of the following three procedures:

- Publication in a newspaper of general circulation in the area affected by the proposed project,
- Posting the NOI on and off site in the area where the project is to be located, or
- Direct mailing to the owners and occupants of property contiguous to the project.

The RPF has elected to mail all owners and occupants of property contiguous to the project as this method best serves notice to those most closely affected by operations associated with the project.

A notice has also been sent to the County Clerk/Recorder's office in 915 8th St., Suite 107, Marysville, CA 95901.

A complete copy of this CEQA document was made available for review by any member of the public requesting to see it at Locations #1 and #3 above. An electronic version of the NOI and the CEQA document were made available for review for the entire 30-day review period through their posting on CAL FIRE's Internet Web Pages at: ***http://www.fire.ca.gov/resource_mgt/resource_mgt_EPRP_PublicNotice.php***

If submitted prior to the close of public comment, views and comments are welcomed from reviewing agencies or any member of the public on how the proposed project may affect the environment. Written comments must be postmarked or submitted on or prior to the date the public review period will close (as indicated on the NOI) for CAL FIRE's consideration. Written comments may also be submitted via email (using the email address which appears below) but comments sent via email must also be received on or prior to the close of the 30-day public comment period. Comments should be addressed to:

Bill Solinsky, Forester III, Forest Practice
California Department of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460
Phone: (916) 657-0300
Email: sacramentopubliccomment@fire.ca.gov

After comments are received from the public and reviewing agencies, CAL FIRE will consider those comments and may (1) adopt the Mitigated Negative Declaration and approve the proposed project; (2) undertake additional environmental studies; or (3) abandon the project. If the project is approved and funded, CAL FIRE could design and construct all or part of the project.

Project Description and Environmental Setting

Project Location: The project area is located on the Camptonville U.S.G.S. 7.5' Quadrangle in a rural area of Yuba County, California. State Highway 49 travels the length (basically on a curve) of the plan area. The project area is located at the Yuba/Sierra counties line. The legal description includes: the SE ¼ of the SW ¼ of section 24, T19N, R8E, M.D.B.M. This project area is part of Yuba County Assessor's parcel numbers 054-240-008 & 009.

Background and Need for the Project: The Landowner wishes to convert 7 acres of land from his two parcels from timber production to agriculture production. This includes the conversion of the land to an organic blueberry farm, although there may be opportunity to grow other farm crops in the future.

Project Objectives: The landowner wishes to utilize the intended Yuba County zoning of the property for this 7 acre project. The intended use is already covered under Yuba County's Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code). The County does not require an EIR or negative declaration to use lands of this type of zoned parcel. The county has zoned this property as: Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial. According to the Yuba County Development Code the purpose of the A/RR zone is to:

1. Recognize parcels located within the Natural Resources General Plan designation that have previously been subdivided into parcels less than 20 acres in size that are predominantly utilized for very low density rural residential uses and small agricultural operations.

2. Prevent further encroachment of residential and other incompatible uses into agricultural and natural resource areas.

3. Serve as a transition between agricultural and natural resource lands and rural residential or urban development (I am attempting to manage both my orchard and timberland in this transition zone).

Project Start Date: Time is of the essence as the establishment of an organic blueberry farm is predicated on many timing factors. This lengthy MND process only slows down the ability to successfully put in place a functional facility. We would like to begin as soon as possible.

Project Description: The conversion area total acreage is 7 acres. The conversion area has been clearly flagged on the ground and was available for inspection during the CALFIRE THP preharvest inspection. The intent is to remove most trees in the unit since the intent is to establish an organic garden growing area.

Suitable forest products such as sawlogs will be the primary stage of the resource removed from the project area(s), however, based on current market conditions at the time of timber harvest, biomass, wood chips and/or firewood might also be removed. Tractor logging will be the timber yarding method utilized within the conversion area (as well as the remainder of the THP area). There are no watercourses adjacent to the timberland conversion area and only one off-property class III watercourse (as defined by the California Forest Practice Rules) is present as a part of the entire timber harvest plan portion of the initial project.

Timber operations proposed as a part of this timberland conversion shall be done in conformance with the California Forest Practice Rules. Existing seasonal roads on the plan area will be used to access timber. Generally, minimal tractor blade and grader use will be required to provide for passage of log trucks on the existing roads. Exceptions to this include two small sections of road construction (330' on one section and 350' on the other) associated with the timber harvest plan. These small construction road segments are on gentle slopes, impact no watercourse crossing(s), and are in locations where old skid roads are already in place. The construction segments are necessary to provide a logical road system access for the conversion, timber harvest plan, and future safe vehicular traffic involved with the conversion work and work following the establishment of the orchard associated with the conversion.

The entire conversion area will be harvested using standard tractor skidding. Skidding activities will take place on gentle slopes, as the conversion units are generally located on less than 10% slopes. There are NO slopes that exceed 50% or on unstable areas as a part of the proposed operation.

Following removal of commercial forest products, the remaining non-merchantable or non-commercial timber, other vegetation, and stumps will be removed and piled by tractor using a "brush rake" and/or an excavator. Logging slash and clean residual vegetation may be chipped for use elsewhere within the project area for erosion control purposes. Otherwise, stumps and roots will be mechanically concentrated in piles and/or windrows and burned. This material will generally be piled on the contour, away from orchard boundary areas but somewhere within the conversion area(s). During construction of burn piles, care will be taken to minimize the inclusion of non-organic material so that the piles burn most efficiently. Following piling, the ground surface slopes will be left in as near their natural position as possible. Large holes created by stump removal will be backfilled and smoothed to facilitate ripping operations. These land clearing operations will be done after timber harvesting and before winter rains. If the winter period is approaching and land clearing cannot be completed prior to October 15th of the operations season, skid trails used during timber operations will be waterbarred and cover crops or seeding and mulching will be applied to exposed soil where appropriate to lessen the potential for erosion. No land clearing or preparation will take place in the winter period. The California Forest Practice Rules concerning water quality protection will apply to the land clearing and preparation phase of the project.

During the land-clearing phase, surface disturbance will be smoothed wherever possible so that cat tracks, berms, or other ground disturbance do not channel erosion. Piles will be burned at the soonest practicable time, depending on safety, weather and regulatory requirements.

Once the land clearing is complete, the next phase of site preparation will be the initial orchard development. Initial orchard development will consist of sub-surface ripping to allow for the incorporation of soil amendments, to improve soil permeability, and to allow the removal of subterranean organic matter and rocks. Following sub-surface preparation, organic material generated will either be piled and burned or removed from the site. Following burning, the soil surface will be smoothed, and minor re-contouring may take place using tractor equipment.

Slash and woody debris may not be burned by open outdoor fires except under permit from the appropriate fire protection agency, the local air pollution control district or air quality management district. The burning will occur on my property (only) where the slash and woody debris originated.

The conversion area is land proposed for conversion to orchard (blueberries is the initial choice for this site, however strawberries and raspberries possibly could be harvested from this orchard in the future) development and has been selected because of the favorable topography, climate and soils. A well is already in place. Recorded history of this area of Yuba County indicates that much of the land area around Oak Valley and south toward Camptonville contained farms raising garden and orchard crops (everything from grapes to potatoes, etc.) and livestock (cattle, pigs, chickens, etc.). Once the gold miners moved out (late 1800's - early 1900's) farm community sizes shrunk. Evidently, the existence of the farms was tied to the larger population that demanded gods and services as a way of life for the era. The concept still remains the same - this area of the Sierra Nevada is more than capable of producing agricultural crops. Otherwise, these parcels associated with this conversion would not be zoned such.

High quality blueberries (and other selective berry crops) have a fantastic chance to survive and thrive at this location of the Sierra Nevada, especially given the acidic nature of the existing soil. There are many, many articles written about the growing of blueberries, and I suggest the reader peruse the article: http://ucce.ucdavis.edu/files/filelibrary/5842/25993.pdf Growing Blueberries in the Sacramento Region to gain a better insight into what is required to insure this crop can sustain itself in the environment associated with this project area. Two wells already exist on the two parcels.

Soil analysis and complete forestry work necessary for the thorough completion of a timber harvest plan was completed by Terry L. Rogers, California Registered Professional Forester.

Findings: Soils within the project area are considered to be acidic. The Jocal-Sites-Mariposa complex pH averages 5.6 to 6 throughout the A and B horizons. This complex is generally comprised of 50% Jocal (what in the past was referred to as Josephine Soils), 20% Sites, and 15% Mariposa soils. According to various official surveys of soils throughout the foothills and upland regions of the Sierra Nevada (including Soils Surveys of Yuba, Western Nevada, Placer and Eldorado Counties, the "UC Davis, NRCS, University of California Agriculture and Natural Resources Soilweb" website and the "NRCS Web Soil Survey" website) all components of this complex can be utilized for orchard and general farm crops when irrigated. The overall common use for a soil complex as described is timber production.

However, as with all organic farms, it is evident that each farmer has their own method of enriching the soils associated with the crop that is chosen to grow. It can be as simple as enriching the soil in each planting hole by mixing in a bucketful of composted leaves or pine needles, which will help maintain acidity and provide a long-lasting source of humus for optimum nutrition, aeration, and moisture. It can be more sophisticated when enriching the entire orchard/garden/farm area by working organic matter into the overall surrounding orchard soil before planting each season. If he is using unfinished (raw) organic matter like leaves or undecomposed manure, he should add it to his soil at least one month before planting. That way it will break down in the soil before planting. He then should add finished compost and manures just before planting.

Blueberries thrive in areas where the soil is high in organic matter. Once garden beds are established there will be a need for additional organic matter to improve the soil and provide nutrients for beneficial organisms that live in the soil by spreading 4 to 6 inches of organic material over the bed and work it into the soil to a depth of at least a foot. Organic materials that help acidify the soil as much as possible include composted oak leaves, fir bark and pine bark. In the timing of such action it is recommended to wait at least two months before planting to allow the organic matter to combine with the soil. Utilizing uncomposted carbon-based materials such as wood chips, sawdust or leaves, might create a necessity to add nitrogen to the soil to replace that lost during the process of breaking down the materials, and wait at least six months before planting. A rule-of-thumb is it takes approximately 3 cubic yards of compost to spread a 1-inch-thick layer over 1,000 square feet. Work in the organic matter to a depth of at least 6 inches. The best way to spread organic matter is with a wheelbarrow and a shovel, iron fork, and/or rototiller.

It is also important to note: blueberries need soil with excellent drainage. Adding organic matter improves the drainage of most soil, but if the soil doesn't drain quickly then strong consideration should be paid to planting blueberries in raised beds or containers. These alternative planting methods are essential if he should encounter any unknown hardpans in the top 2 feet of soil.

Following removal of commercial forest products, the remaining non-merchantable or non-commercial timber, other vegetation and stumps will be removed and piled by tractor using a "brush rake" and/or an excavator. Logging slash and clean residual vegetation may be chipped for use elsewhere within the project area for erosion control purposes or soil conditioning. Otherwise, stumps and roots will be mechanically concentrated in piles and/or windrows and burned.

This does not preclude the necessity of hiring someone who operates an "in-woods chipper" or a "tub grinder" machine, which parks at a roadside landing to grind piles of forest waste-wood and tree debris producing wood chips and biomass fuel useable in a number of commercial products. The chipper machine grinds the woody material, and then dumps the ground-up wood into a waiting truck. The chipper operator runs a purpose-built, large portable machine, which is equipped to grind the woody logging debris ("slash"), thereby turning the wood into chips or hog fuel, to then be loaded onto semi-trucks or chip vans. This is a future alternative based on market conditions, an overwhelming amount of slash, and the price for someone to do this type of work on-site.

If burning operations shall be conducted, they shall be in conformance with the Yuba County Air Pollution Control District and California Department of Forestry and Fire Protection rules and regulations. Smaller branches, leaves and other smaller woody vegetation may be left on the ground and cultivated into the soil

with tractor implements. This soil amendment process will attempt to retain the natural biomass on the project site as much as possible.

All stumps will be removed and burned thus preventing stump sprouting as a revegetation problem within the orchard conversion area. During the orchard operational phase, natural woody growth and weed growth within the orchard conversion area will be prevented through a combination of methodologies (natural, mechanical and chemical), depending on the specific site and situation. Permanent cover cropping (of either Kentucky blue grass or fescue most likely) between the orchard rows will provide a competitive barrier to weeds and woody growth. The first cover crop will be planted concurrent with blueberry bush planting. Permanent cover crops will be maintained throughout the mature orchard phase. Mechanical control will include manual hoeing and small tractor mowing (between orchard rows). Chemical control, if utilized, will need to be discussed and in accordance with the recommendations of a Licensed Pest Control Advisor.

The planting stock will most likely involve the following: High bush Bluettas, Spartans, Blue Rays, Blue Crop, O'Neills and Dukes. The Blueberry planting stock should be planted during the dormant season (mainly December and January) and spring when they are most available at nurseries, but potted plants can also be planted in the summer. They should be planted on a small mound or berm if the soil is poorly drained. Set the soil line on the trunk of the plant at the same level as the soil, or slightly above if settling is expected. If the plant is older and root-bound, the outer roots should be loosened or pulled away before planting. After planting, irrigate and cover the soil with 4 to 6 in. of mulch. Blueberries should be spaced 3 ft. apart for a hedge, or 4 to 5 ft. apart for shrubs.

Environmental Setting of the Project Region: There are no watercourses located within the entire 20 acre ownership, therefore there are no watercourses locates within the proposed conversion area. An off-site ephemeral stream runs adjacent to the northern periphery of the 20 acre property and flows into Willow Creek. Willow Creek is a tributary to the North Fork of the Yuba River. The North Yuba River, 61.0 miles (98.2 km) long, rises near the eastern border of the Tahoe National Forest, on a mountainside along California State Route 49. It flows southwest then west through a 3,000-foot-deep (910 m) canyon past the small villages of Downieville, where it receives the Downie River, and Goodyears Bar. It then incorporates the flow of Canyon Creek and Slate Creek, two of its main tributaries, and very soon after widens into New Bullards Bar Reservoir, which is impounded by the 645-foot (197 m) New Bullards Bar Dam. Very soon after leaving the dam it joins with the Middle Yuba to form the Yuba River.

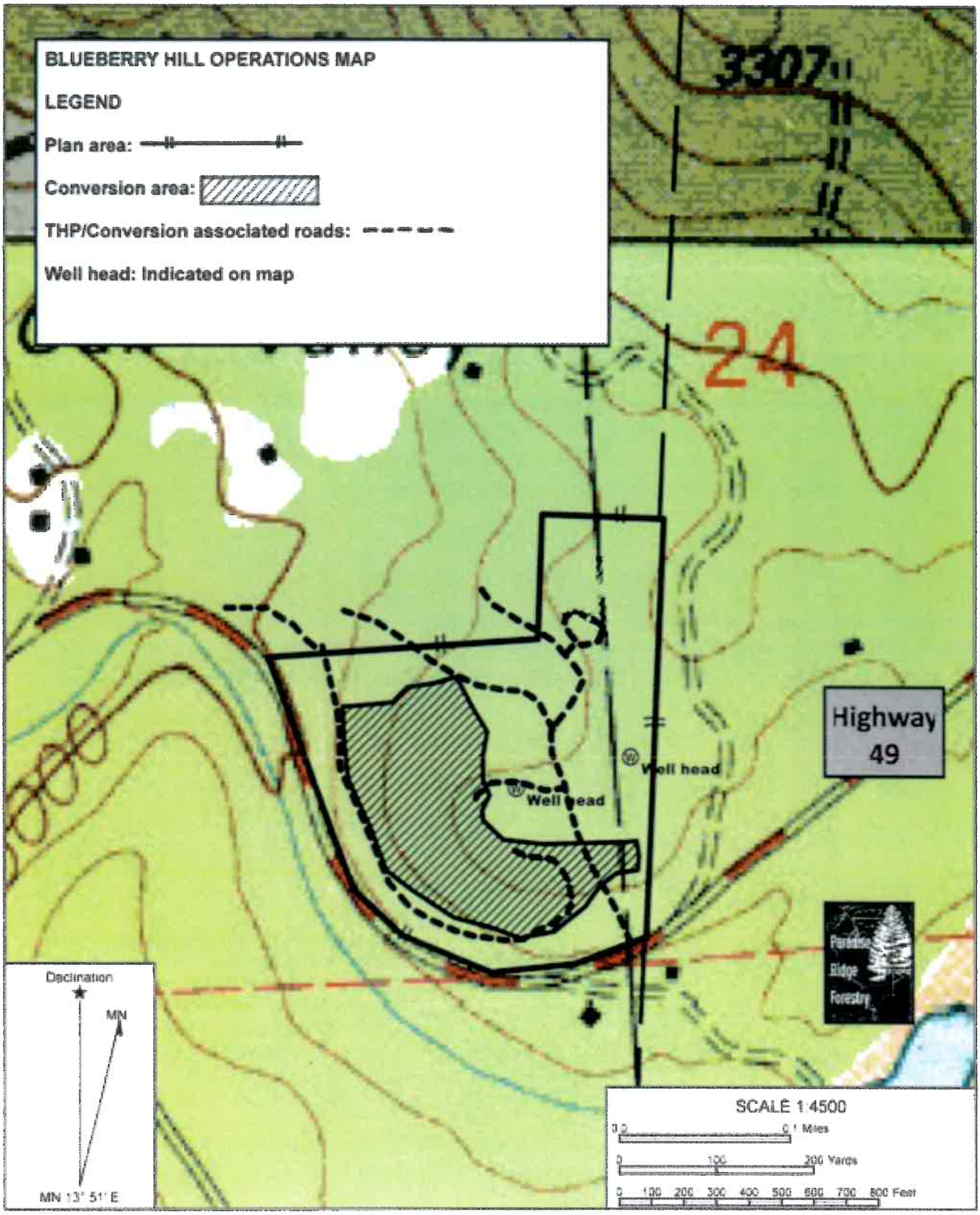
Within the associated Timber Harvest Plan (THP #2-16-010-YUB), biological resources (both flora and fauna) have been well scoped in section IV, cumulative watershed effects analysis. There are no habitat conditions of major concern as there are no waterways with pools and riffles, large woody material in the stream or near-water vegetation associated with the proposed project area. As the 7 acre conversion area will be mostly cleared, the Landowner would like to retain as many larger oaks within the conversion area to provide shade and habitat for animals that depend on the larger oaks for food and general protection. Snags will not be retained within the conversion area, however snags will be retained on the remaining 13 acres of the property (only where the snag is not a safety factor). As stated large oaks will be retained but all understory oak (mainly tanoak) will be removed as part of the process preparing for the conversion to agriculture. Since the 13 acres of ownership outside the conversion under the THP outlines a plan to retain trees in various diameter classes and ages for aesthetics and wildlife purposes the object is to maintain a multi-story canopy on the remainder of his property. There is no late seral stage forest conditions within

the entire 20 acre ownership, thus none will be affected by operations associated with this project. Multi-storied canopy exists throughout the region, but the area of the conversion shall not be representative of the same. I have evaluated the entire property and considered all wildlife species that could possibly be present within the project area. The highest probability of special concern species in the general area around the THP area will most likely be limited to birds of prey and bats. This is partially influenced by the surprising density of homesites in the area. There is a large presence of dogs and other domesticated animals found at these homesites which might preclude very much nesting on-site. I have visited every tree on the property and have found no nest sites. But, there is always a chance that any of a number birds could be present in any given year such as hawks (including the merlin or Northern goshawk) and/or flycatchers could easily perch temporarily on-site or forage in various spots. I believe there is more ample foraging close by (near Oak Valley). These birds of prey prefer edges, openings, and natural and human-created clearings in otherwise relatively dense forests and also occupy semi-open forests. The association with openings and edges extends to the entire landscape, as these birds are more abundant in broad areas with a matrix containing clear-cuts or otherwise highly fragmented forest than in less-fragmented or unfragmented landscapes.

Like many of the smaller hawks, owls and flycatchers, some bats also prefer edge environment for foraging. The landowner has spent considerable time walking many areas in the general vicinity of the project area. He is almost certain there are no open or closed mines in the local area. However, there could easily be any number of species of bats which forage over the conversion area and down into the older forest of the USFS or even into the meadow areas around Oak Valley (depending on which specie it is).

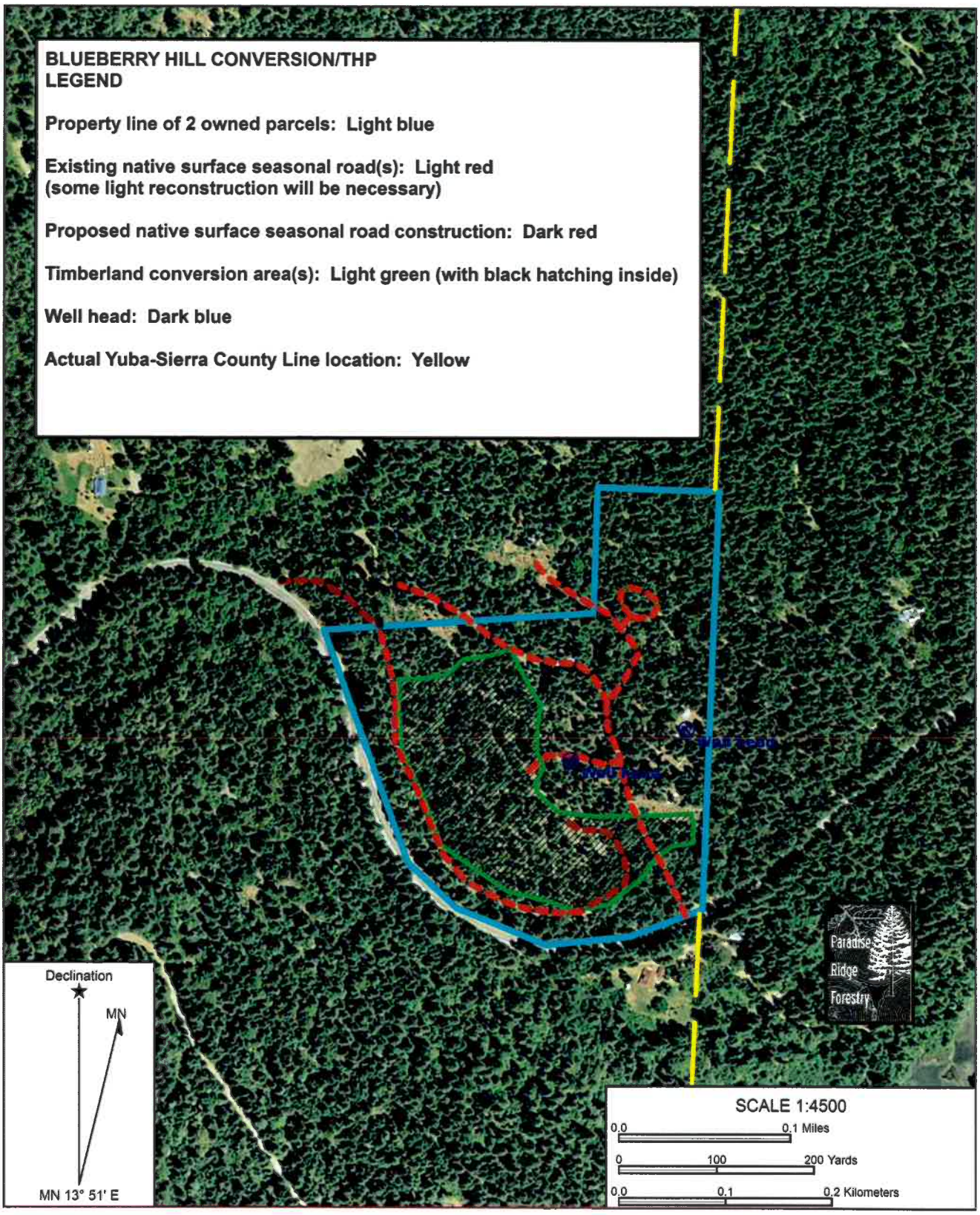
Description of the Local Environment: The entire ownership 20 acre property is surrounded by rural and vacant properties. The closest community to the project area is Camptonville, California (3 miles south) with a population of 158 (2010). There is a mix in the general area of year round residents and those who either vacation here or are living in the general area on a temporary basis. There are no major businesses in the general vicinity and the largest employer within the general area (4.2 miles south) is the U.S. forest Service Yuba River Ranger District Office. The conversion area is composed of second growth Sierra mixed conifer forest and is found on low to moderate slopes. The principal trees species are ponderosa pine, Douglas-fir, white fir, incense cedar and tanoak. The elevation ranges from 3,000 to 3,160' above sea level. State Highway 49 makes up approximately ½ of the perimeter of the THP area.

Current Land Use and Previous Impacts: Land use involves the management and modification of natural environment or wilderness into built environment such as settlements and semi-natural habitats such as arable fields, pastures, and managed woods. Current and present land uses for this property has been for timber production (one parcel was harvested in the mid-90's (not by this landowner), gardening and firewood cutting. When the gold miners of the mid to late 1800's arrived they cleared the forests and small communities sprung up everywhere in this general area. As the mines and creeks ran out of gold, so left the miners. With no waterways on this parcel no previous impact from mining can be found on-site.



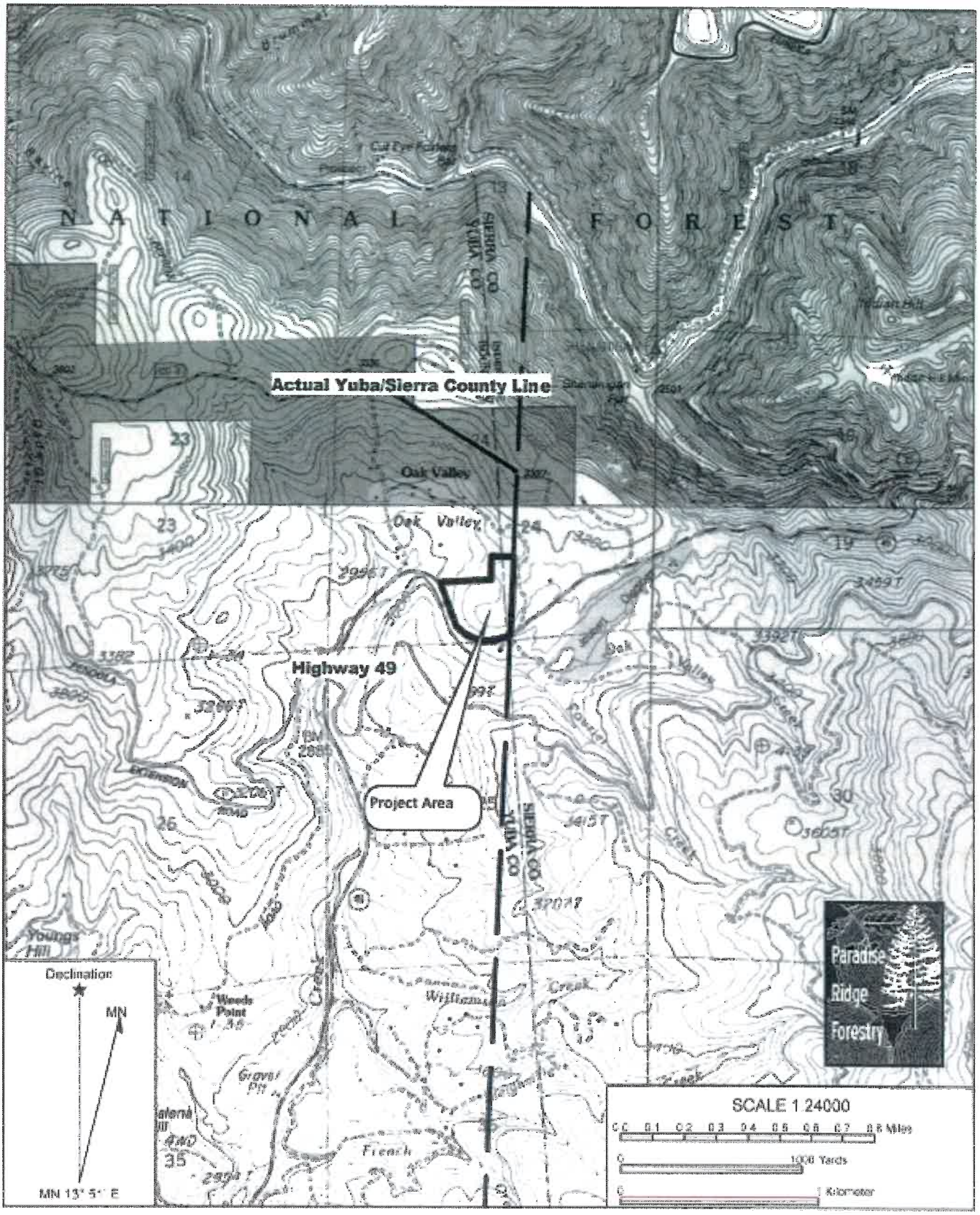
CamptonvilleUSGS 7.5' Quadangle
Contour interval: 40'
Scale: 1 inch = 375 ft.

Anders Dupen Conversion Permit & Plan Operations Map



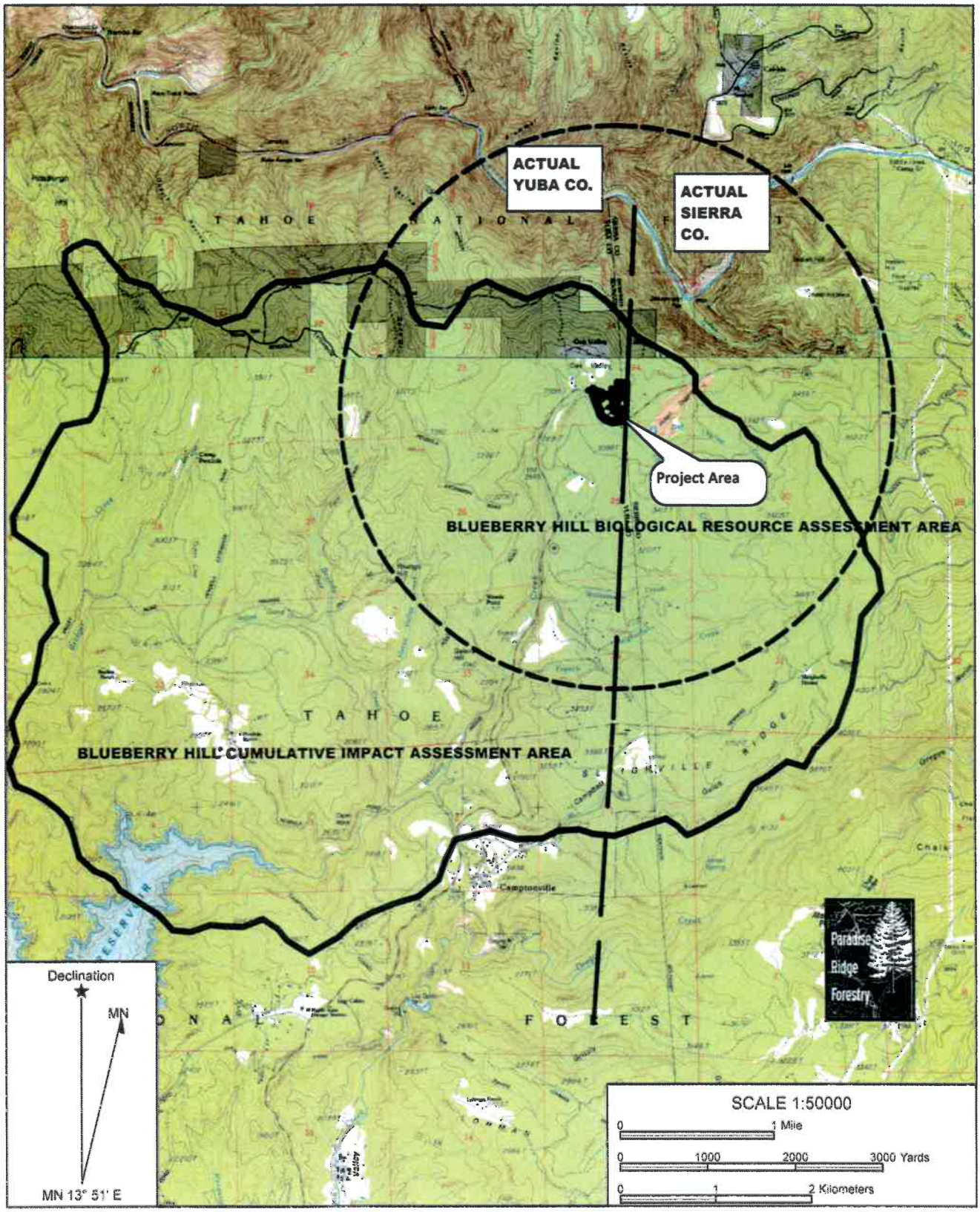
CamptonvilleUSGS 7.5' Quadangle
Contour interval: 40'
Scale: 1 inch = 375 ft.

Anders Dupen Conversion Permit, Plan and THP Color Aerial Photo



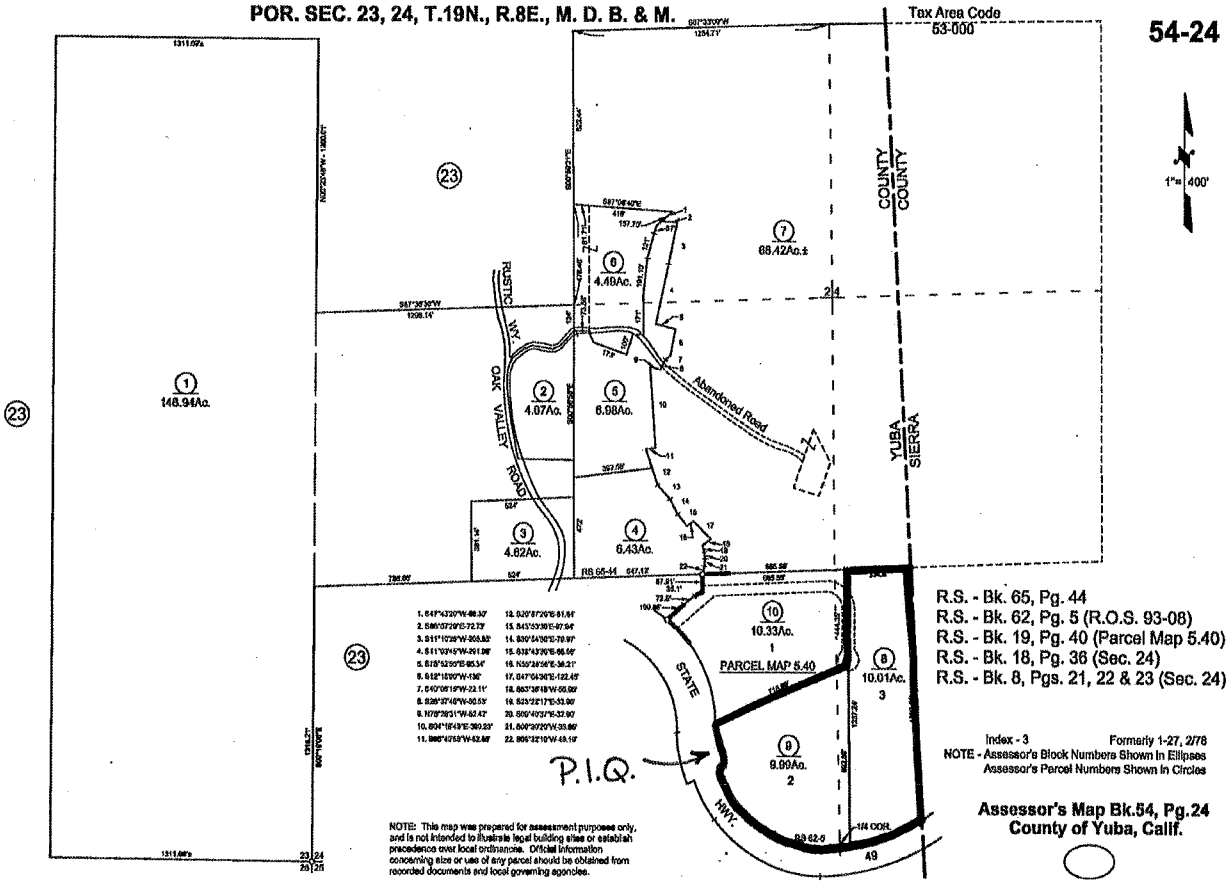
Camptonville USGS 7.5' Quads
Contour interval: 40'
Scale: 1 inch = 2,000 ft.

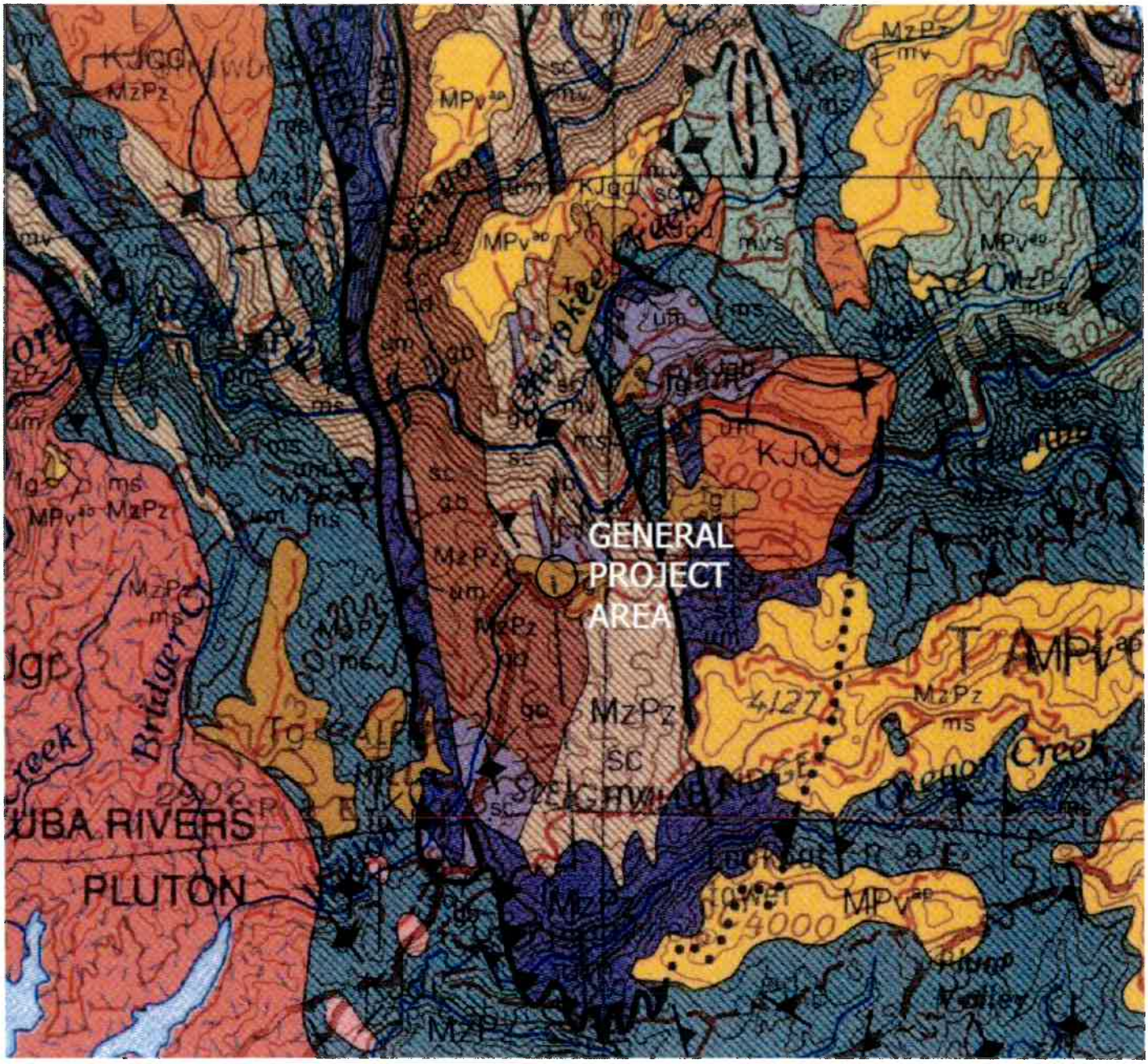
Blueberry Hill Timber Harvest Plan
20 acres
Section 24, T19N, R8E, M.D.B.M.

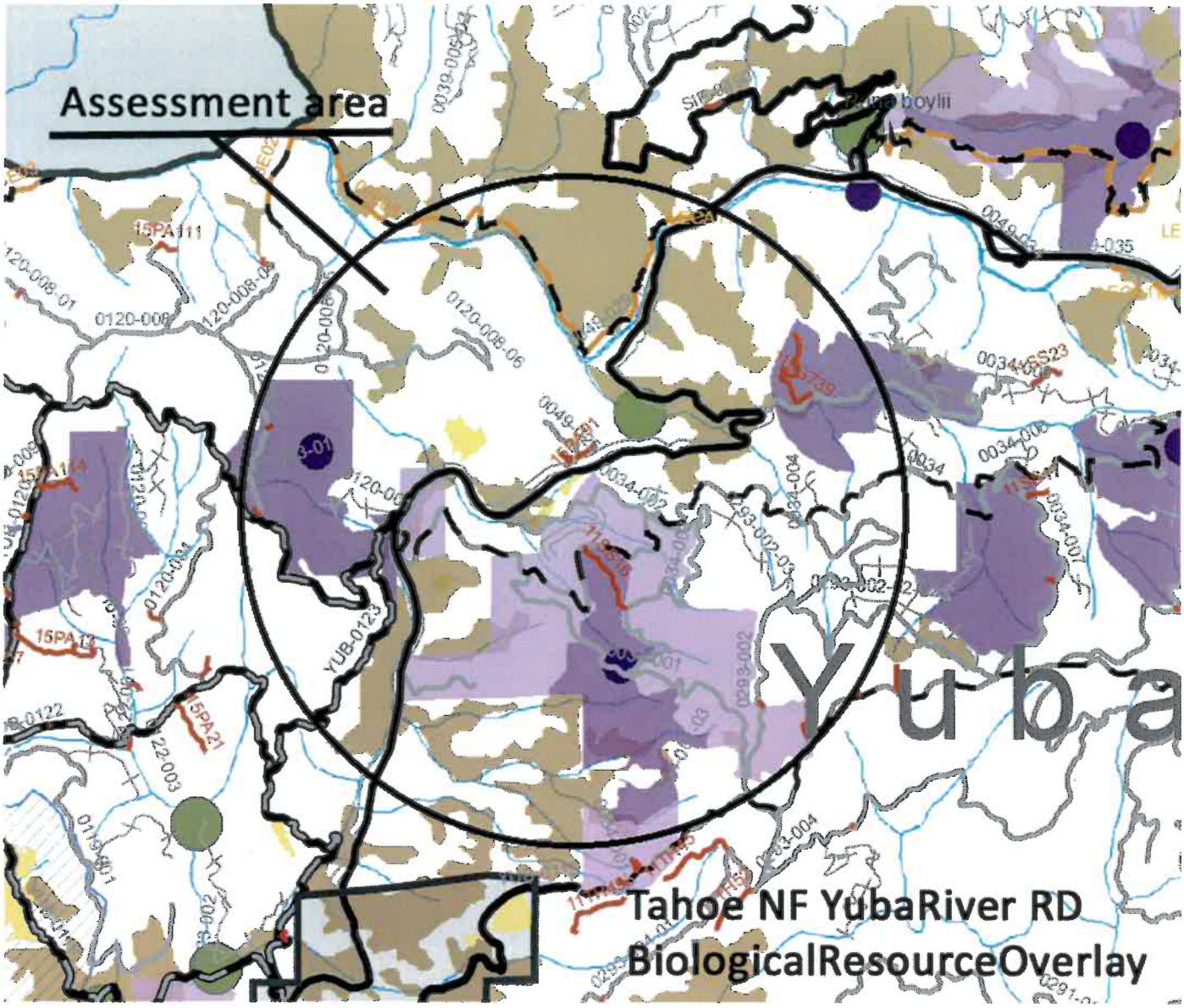


Camptonville & Strawberry Valley Quads
Contour interval: 40'
Scale: 1 inch = 4,166 ft.

BLUEBERRY HILL THP
ASSESSMENT AREAS


POR. SEC. 23, 24, T.19N., R.8E., M. D. B. & M.
Tax Area Code 53-000
54-24
1"= 400'
148.94Ac.
4.07Ac.
4.46Ac.
6.98Ac.
4.62Ac.
6.43Ac.
68.42Ac.±
10.33Ac.
9.99Ac.
10.01Ac.
RUSTIC WY.
OAK VALLEY ROAD
Abandoned Road
COUNTY
COUNTY
YUBA
SIERRA
STATE
HWY.
PARCEL MAP 5.40
P.I.Q.
R.S. - Bk. 65, Pg. 44
R.S. - Bk. 62, Pg. 5 (R.O.S. 93-08)
R.S. - Bk. 19, Pg. 40 (Parcel Map 5.40)
R.S. - Bk. 18, Pg. 36 (Sec. 24)
R.S. - Bk. 8, Pgs. 21, 22 & 23 (Sec. 24)
Index - 3
Formerly 1-27, 2/78
NOTE - Assessor's Block Numbers Shown In Ellipses
Assessor's Parcel Numbers Shown In Circles
Assessor's Map Bk.54, Pg.24
County of Yuba, Calif.
NOTE: This map was prepared for assessment purposes only, and is not intended to illustrate legal building sites or establish precedence over local ordinance. Official information concerning size or use of any parcel should be obtained from recorded documents and local governing agencies.


GENERAL
PROJECT
AREA
UBA RIVERS
PLUTON
Bridger Cr
Creek
MzPz
MPv
KJgd
4127
4000



Tahoe NF YubaRiver RD BiologicalResourceOverlay Key

- Great Gray Owl PAC
- CNDDB occurrence (w/ species name)
- Spotted Owl nest tree
- Spotted Owl PAC
- Spotted Owl home range
- Goshawk nest tree
- Goshawk PAC
- Foothill Yellow-Legged Frog occurrence
- Willow Flycatcher habitat
- Montane Meadow vegetation
- T&E Plant occurrence (w/ species code)
- Meadow Management Zone
- Deer Emphasis Area
- Hydrology
- Lake
- Critical Aquatic Refuge
- Major road
- Ranger District
- Forest Boundary

Conclusion of the Mitigated Negative Declaration

Environmental Permits

The proposed project may require the following environmental permits and CAL FIRE may be required to comply with the following State regulations:

With the actual zoning of the conversion area being that of "agriculture use" (organic farm) the County of Yuba does not require an EIR or negative declaration to use lands of this type of zoned parcel for small agriculture operations.

Mitigation Measures

The following mitigation measures will be implemented by CAL FIRE to avoid or minimize environmental impacts. Implementation of these mitigation measures will reduce the environmental impacts of the proposed project to a less than significant level.

All mitigation measures are incorporated into the Anders Dupen Timberland Conversion Permit Application Plan and Blueberry Hill Timber Harvest Plan (2-16-010-YUB). These documents are on file with Cal Fire in Sacramento and Redding, California.

Summary of Findings

This Draft MND has been prepared to assess the project's potential effects on the environment and an appraisal of the significance of those effects. Based on this draft MND, it has been determined that the proposed project will not have any significant effects on the environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project will have no effect related to; air quality, cultural resources, hazards and hazardous materials, land use planning, mineral resources, population and housing, public services, recreation, transportation, and utilities and service systems.

2. The proposed project will have a less than significant impact on; geology and soils, biological resources, greenhouse gas emissions, hydrology and water quality, noise, aesthetics, and agriculture and forest resources.

3. The proposed project will have a less than significant with mitigation incorporated to reduce potentially significant impacts related to aesthetics, and hydrology and water quality.

The Initial Study/Environmental Checklist included in this document discusses the results of resource-specific environmental impact analyses which were conducted by the Department. This Initial Study revealed that potentially significant environmental effects could result from the proposed project; however, the project proponent's consultant revised its project plans and has developed mitigation measures which will eliminate impact or reduce environmental impacts to a less than significant level. CAL FIRE has found, in consideration of the entire record, that there is no substantial evidence that the proposed project as currently revised and mitigated would result in a significant effect upon the environment. This draft MND is therefore the appropriate document for CEQA compliance.

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION	
1. Project Title:	**Blueberry Hill THP Timberland Conversion Project**
2. Lead Agency Name and Address:	**California Department of Forestry and Fire Protection P.O. 944246 Sacramento, CA 94244-2460**
3. Contact Person and Phone Number:	**Terry L. Rogers (RPF); (530) 321-1401**
4. Project Location:	**17962 State Highway 49, Camptonville CA 95922**
5. Project Sponsor's Name and Address:	**Anders M. Dupen (Land and timber owner) P.O. Box 555, Downieville, CA 95936**
6. General Plan Designation:	**Natural Resources (Yuba County)**
7. Zoning:	**Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial**
8. Description of Project: **See Pages 7-10 of this document**	
9. Surrounding Land Uses and Setting:	**Refer to pages 10-11 of this document**
10: Other public agencies whose approval may be required:	**No other public agency approval is required**

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below are the ones which would potentially be affected by this proposed project and were more rigorously analyzed than the factors which were not checked. The results of this analysis are presented in the detailed Environmental Checklist which follows.

☒	Aesthetics	☒	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology / Soils
☒	Greenhouse Gas Emissions	☒	Hazards & Hazardous Materials	☒	Hydrology / Water Quality
☐	Land Use / Planning	☐	Mineral Resources	☐	Noise
☐	Population / Housing	☐	Public Services	☐	Recreation
☒	Transportation / Traffic	☐	Utilities / Service Systems	☐	Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

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 in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

I find that the proposed project **MAY** 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. ☐

Dan Stapleton, Forest Practice Review Coordinator
Forest Practice Program
Department of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460
(916) 584-5111

Date Signed

ANALYSIS OF POTENTIAL ENVIRONMENTAL IMPACTS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Will the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

a) Will the project have a substantial adverse effect on a scenic vista? ***For purposes of determining significance under CEQA, a scenic vista is defined as "a viewpoint that provided expansive views of highly valued landscape for the benefit of the public". In addition, some scenic vistas are officially designated by public agencies, or informally designated by tourist guides. A substantial adverse effect to such a scenic vista is one that degraded the view from such a designated view spot.***

There are no scenic vistas within or adjacent to the plan area. The Yuba County portion of Highway 49 is not designated "scenic" to date (see Caltrans listings for "Scenic" corridor highway designation). An adjacent portion of Highway 49 in Sierra county is however, designated as Scenic. However, only a small part of the southwest corner of the project area near this scenic portion of highway will be visible due to the establishment of a special treatment area where trees and shrubs have been retained to a large degree to mitigate local visual impacts. This 200 foot long special treatment area is located near the termination point of the scenic highway at the county line. For people approaching the project area driving or walking along portions of Highway 49 in Yuba county, outside of any scenic corridor designations, the removal of most of the trees within the conversion area will be recognizable. The 7 acre area presently has an approximate 60% canopy closure. That will be reduced to approximately a 15% canopy closure (with retention of larger oak trees selected as leave trees in the stand on an intuitive basis). However, the organic farm will eventually grow and create a different view that, in itself will allow pedestrians an opportunity to share the scenic beauty of this portion of Yuba/Sierra counties. Once the farm is "up and running" passersby will be welcomed to participate in the actual picking of the fruit from the farm and learn how an organic farm works.

b) Will the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ***At the Sierra County line, east of the project area, Highway 49 becomes a "scenic" corridor highway in Sierra County. Right at that point of contact between non-scenic highway in Yuba County and scenic highway in Sierra County, a passerby could barely see activities associated with this project. During the preharvest inspection for the timber harvest plan (THP) associated with this project it was recommended by the CalFire inspector to create a "special treatment area" in the SE corner of the plan area, whereby trees removed would be under a "selection" silviculture prescription. In fact, it is estimated that within that 200' zone from the SE corner***

of the property only 3 trees are scheduled to be removed (nothing of large size) as the Landowner wishes to maintain a visual and sound barrier for his property. The project associated with the conversion and the THP will not substantially damage any scenic resources listed above in the long or short term and has been assessed as "less than significant" but mitigated as part of the THP and Conversion plan (TCP).

c) Will the project substantially degrade the existing visual character or quality of the site and its surroundings? ***Please read responses to both (a) and (b) above. The project, as planned, will not substantially degrade any existing visual character or quality of the site and its surroundings. And, as stated, in the not-to-distant future the project will provide it' own enhanced visual character (an organic blueberry farm along Highway 49).***

d) Will the project create a new source of substantial light or glare which will adversely affect day or nighttime views in the area? ***If you study the THP maps provided in this report you will notice the conversion area does not extend all the way to Highway 49. In fact, for the most part, there is a strong vegetative buffer consisting of pine, cedar and fir trees, brush species and grasses found in the buffer. Because the Landowner enjoys this sound buffer, very little timber harvest activity is planned in this portion of the property (more than likely only defective trees that cause a danger of infection or falling will be removed). Operations associated with the activities of this conversion will not create new sources of substantial light or glare that would affect day or night time views of passersby along Highway 49.***

Overall the heavily vegetated buffer along State Highway 49 (which is NOT designated as a "Scenic Highway" in Yuba County) and the project area will be left intact and provides an excellent mitigation for all activities associated with the project area. This buffer provides a good sound buffer and visual buffer.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒

c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Discussion

a) Would the project 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? ***No impact.***

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract? ***The property already has agriculture zonings and there are no Williamson Act contracts in either Yuba or Sierra Counties at this time.***

c) Would the project conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))? ***No impact.***

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use? ***Yes, this small 7 acre tract of land would result in the loss of forest land in a transition to an agriculture based condition. The size of the project area is pale in comparison to large tracts of timber which are harvested throughout the entire Sierra Nevada (some even in the general vicinity of the property – some with "clearcut" units larger than this project area). The plan is to establish an organic blueberry farm which would replace a forested 7 acre stand with what the county has zoned the parcels for, Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial. This is not to say that there will not be any timber stands left on the property. The maintenance of the remaining 13 acres of timber on-site will provide a better timber base. Most of the <u>conversion</u> area was logged in the mid-1990's and the understory of the stand has not produced as well as hoped, as it has not been managed. There is a tremendous growth of brush species and weeds, coupled with the usual invasion of sapling sized tanoak. The landowner desires to (1) establish an organic blueberry farm and (2) manage the remainder of his property for timber.***

e) Would the project 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? ***Changes to the existing environment actually will entail conversion of timberland to farm land (which in the recent past is usually the other way around). This project is unique unto itself. If successful, this opportunity could influence others to follow the lead.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations. Will the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Information about Air Quality

Discussion

a) Will the project conflict with or obstruct implementation of the applicable air quality plan? ***No impact.***

b) Will the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? ***No impact.***

c) Will the project 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)? ***No impact.***

d) Will the project expose sensitive receptors to substantial pollutant concentrations? ***No impact.***

e) Will the project create objectionable odors affecting a substantial number of people? ***No impact.***

This project area is located in Zone 4 of the Feather River Air Quality Management District. Zone 4 in Yuba County coincides with the boundaries of the State Responsibility Area (SRA) and under Cal Fire and US Forest Service Jurisdiction. A burn permit shall be secured by the leading responsible agency. If a burn permit is obtained during the burning season the following conditions shall be met:

It may become necessary to burn slash and debris. In the case where it becomes necessary to burn piles of debris it shall be done as follows:

(a) Piles and concentrations shall be sufficiently free of soil and other noncombustible material for effective burning.

(b) The piles and concentrations shall be burned at a safe time during the first wet fall or winter weather or other safe period following piling and according to laws and regulations. Piles and concentrations that fail to burn sufficiently to remove the fire hazard shall be further treated to eliminate that hazard. All necessary precautions shall be taken to confine such burning to the piled slash.

Notification of Burning: The local representatives of Cal Fire and USDA Forest Service shall be notified in advance of the time and place of any burning of slash. Any burning shall be done in the manner provided by Law."

No burning will be allowed in Yuba Zone 4 while Cal Fire burn permits are suspended for the season.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Will the project:				
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 Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Information about Biological Resources

Discussion

a) Would the project 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 Game or the U.S. Fish and Wildlife

Service? ***The resource http://ecos.fws.gov/ecp/species/2891 was queried using the project area to determine the potential to impact critical habitat of listed species. Two species were listed, Rana draytonii, the California Red-legged from and Hypomesus transpacificus, the Delta Smelt. The resource indicated the project area is outside the designated critical habitat for these species and no habitat for these species exists in the project area or have been documented within the biological assessment area for the THP/TCP. Additionally, the California Department of Fish and Wildlife Natural Diversity Database was used to conduct a nine-quad search for wildlife and plant occurrences as part of the associated THP (2-16-010-YUB). There have been no observations or occurrences of species identified as a candidate, sensitive, or special-status species within the project area. Specific protection requirements related to the detection of certain species are listed under item 32 of the THP. Additionally, prior to operations, a walk-through survey is required as part of the associated THP to ensure no protected species are present. Less than significant impact.***

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? ***No impact.***

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ***No impact.***

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***No impact.***

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***No Impact. No local tree preservation policy exists in this potion of Yuba County. As stated in the section discussing environmental permits, the tree felling would be subject to the requirements of the Forest Practice Rules, but the project would not conflict with those rules.***

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed project site is not within the boundaries of a Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plan. The project does not conflict with implementation of any such plan in this part of Yuba County.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Will the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Information about Cultural Resources

Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? ***No impact. An Archeological Survey Report was done as part of the Blueberry Hill THP (2-16-010YUB) and is confidential in nature. Nothing was located of archeological significance which would be impacted.***

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? ***No impact. An Archeological Survey Report was done as part of the Blueberry Hill THP (2-16-010YUB) and is confidential in nature. Nothing was located of archeological significance which would be impacted.***

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***No impact. There are no unique paleontological resources or geological sites found within the entire timber harvest plan area (which includes the conversion area).***

d) Would the project disturb any human remains, including those interred outside of formal cemeteries? ***No impact***

If cultural materials are encountered during the land clearing phase, work will be halted in the area until a qualified archaeologist is hired from the Society of California Archaeology to evaluate the find. If the selected archaeologist determines the discovery is important, appropriate mitigation measures will be formulated and implemented. Furthermore, the State Health and Safety Code (Section 7050.5) states that if human remains are exposed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to their origin and disposition pursuant to Public Resources Code 5097.98.

Additionally, if prehistoric or historic-era archaeological resources are encountered anywhere during project construction when no archaeologist is present, work in the area must halt until a qualified archaeologist is hired from the Society of California Archaeology can evaluate the nature and significance of the find and formulate appropriate evaluation and/or mitigation measures.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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 California Geological Survey Special Publication 42.)				
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) 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 California Geological Survey Special Publication 42.) ***Page 17 depicts the portion of a California Geological Survey Map for the project area vicinity. There are no known faults within the general vicinity of the project area.***

ii) Strong seismic ground shaking? ***No impact***

iii) Seismic-related ground failure, including liquefaction? ***No impact***

iv) Landslides? ***There are no known landslides with the vicinity of the project area.***

b) Would the project result in substantial soil erosion or the loss of topsoil? ***All topsoil will be retained wherever possible. Please read the Timberland Conversion Permit Application and Plan (submitted to Cal Fire in the early spring of 2016) to gain a better understanding of what the restrictions and mitigations are involved concerning soil retention and erosion control. There will be a need to enrich the present top soil in order to create a proper bed for his blueberry crops. See attached section IV and V from the associated THP 2-16-010-YUB.***

c) Would the project 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? ***No impact.***

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property? ***No impact***

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ***No impact***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Information about Greenhouse Gas Emissions

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ***The project will generate greenhouse gas emissions, however the amount generated will not have a significant impact on the environment. The area covers 7 acres. Some larger oak trees will be retained in the conversion area. A greenhouse gas emissions study was completed as part of a cumulative effects analysis for the Blueberry Hill THP (2-16-010YUB).***

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?				
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***No impact.***

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment? ***No impact.***

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ***No impact.***

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment? ***No impact.***

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? ***No impact.***

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? ***No impact.***

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***No impact.***

h) Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? ***No impact.***

At this point there is no intentions to use chemicals for this project. The Landowner is dedicated to following strict organic farming practices. Some burning of slash and debris will be necessary at some point. If so the following guidelines shall be strictly adhered to:

This project area is located in Zone 4 of the Feather River Air Quality Management District. Zone 4 in Yuba County coincides with the boundaries of the State Responsibility Area (SRA) and under Cal Fire and US Forest Service Jurisdiction. A burn permit shall be secured by the leading responsible agency. If a burn permit is obtained during the burning season the following conditions shall be met:

(a) Piles and concentrations shall be sufficiently free of soil and other noncombustible material for effective burning.

(b) The piles and concentrations shall be burned at a safe time during the first wet fall or winter weather or other safe period following piling and according to laws and regulations. Piles and concentrations that fail to burn sufficiently to remove the fire hazard shall be further treated to eliminate that hazard. All necessary precautions shall be taken to confine such burning to the piled slash.

Notification of Burning: The local representatives of Cal Fire and USDA Forest Service shall be notified in advance of the time and place of any burning of slash. Any burning shall be done in the manner provided by Law."

No burning will be allowed in Yuba Zone 4 while Cal Fire burn permits are suspended for the season.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level that will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
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 will result in substantial on- or off-site erosion or siltation?	☐	☐	☐	☒
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 on- or off-site flooding?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a) Would the project violate any water quality standards or waste discharge requirements? ***The plan for this project is to establish a true organic blueberry farm. Water quality is at the forefront for consideration and this will be addressed on a constant basis. Through the use of organic materials there should be a less than significant impact to water quality and waste discharge. The project area is only 7 acres, and the beginning of the project will, at best, entail the actual working of just a couple acres, eventually growing to fill the 7 acre area.***

b) Would the project 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 nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? ***There are two wells on-site which shall be used. Each well pumps 26 gpm. The plan is to use approximately 10,000 gallons per week for watering blueberries when in a full production phase. Blueberries do not take an abundance of water to grow, thus there will be no impact to groundwater supplies as a result of activities associated with this organic blueberry farm.***

c) Would the project 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 on- or off-site erosion or siltation? ***These operations will have no effect on existing drainage patterns and will not result in on- or off-site erosion or siltation.***

d) Would the project 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 on- or off-site flooding? ***There will be no on- or off-site flooding associated with this project.***

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ***No impact.***

f) Would the project otherwise substantially degrade water quality? ***The plan for this project is to establish a true organic blueberry farm. Water quality is at the forefront for consideration and this will be addressed on a constant basis. Through the use of organic materials there should be a less than significant impact to water quality and waste discharge. The project area is only 7 acres, and the beginning of the project will, at best, entail the actual working of just a couple acres, eventually growing to fill the 7 acre area.***

g) Would the project 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? ***No impact.***

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows? ***No impact.***

i) Would the project 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? ***No impact.***

j) Would the project result in inundation by seiche, tsunami, or mudflow? ***No impact.***

The proposed project area does not contain any watercourses, and Class I watercourses are not present on the project site. However, several Class II and III watercourses exist adjacent to the conversion area. In general, the watercourses have a gentle gradient and shallow channels, and contain flowing water only seasonally. Furthermore, the streams are generally stable with varying amounts and types of streamside vegetation, with a large majority of the areas having a canopy cover greater than 70 percent. The Class II watercourses contain limited amounts of aquatic habitat with some pool structure and large woody debris. The Class III watercourses contain limited large woody debris, little or no pool structure, and no aquatic habitat.

In preparation for the timber harvest plan and CEQA review of this entire project I considered impacts from runoff from the proposed project site. This includes canyon drainages, natural open channels, lined drainage channels, springs, creeks (ephemeral, perennial, intermittent), rivers, surface reservoirs, and groundwater basins. I have intently studied available maps, including Yuba County General Plan (Resources Element), USGS topographic maps, Water Quality Control Plan (Basin Plan), and aerial photos.

I also studied the latest 303D list which discusses water bodies and pollutants that exceed protective water quality standards. Downstream and away from the project vicinity is Englebright Lake (24 miles downstream from this project area). This information discusses that waterbody in relation to the entire project area.

303(d) Impaired Watersheds

Based on an assessment of cumulative impacts of a proposed project on any portion of a waterbody that is located within or downstream of the proposed timber operation and that is listed as water quality limited under Section 303(d) of the Federal Clean Water Act (USEPA Approval Date of the list is November 12, 2010) the following items were evaluated and submitted to be used in conjunction with the timber harvest plan associated with activities of this project.

Name of waterbody affected: ***Englebright Lake***

Name of hydrologic unit where plan area is located, size affected, and priority: ***Brandy Creek (Calwater ID# 5517.510103 consisting of 11,392 acres), affecting 754 acres; LOW priority***

Pollutant/stressor of affected hydrologic unit (source notes): ***Mercury***

The degree to which the proposed operations will result in impacts that may combine with existing stressors to impair the waterbody's beneficial use: ***I have assessed the degree to which the proposed operations will result in impacts that may combine with existing listed stressors (in this case - mercury) to impair a waterbody's beneficial uses, thereby causing a significant adverse effect on the environment. Englebright Lake, a dammed waterbody found on the main stem of the Yuba River is listed under Section 303(d) of the Clean Water Act as "impaired" due to elevated mercury levels. According to published reports elemental mercury, Hg0, released during mining activities is oxidized in the presence of water to Hg2+***

and bonds to elements such as Cl and S. Anaerobic bacteria, found in reservoirs at the bottom of the water column and in bottom sediment metabolize organics and convert the Hg2+to CH3Hg, methyl mercury. The methyl mercury is then absorbed by aquatic organisms and moves up the food chain, eventually reaching fish and finally humans. Some specific conditions that enhance the growth of anaerobic bacteria in reservoirs include: low dissolved oxygen, high nutrient levels, low pH, and high temperature. In October of 2011 the Department of Fish and Game planted Rainbow Trout in the Lake, an interesting scenario given the reported state of the water of the lake. Most rules associated with the California Forest Practice Rules seek to prevent increased water runoff into major streams. I believe the choice of silviculture prescriptions in association with larger diameter retention of trees throughout the plan area will help to prevent increased water runoff. This project will not increase water levels in Englebright Lake, therefore, I conclude that operations of this THP and associated timberland conversion (TCP) will not negatively affect Englebright Lake.

Feasible mitigation references implemented within the plan area to reduce impacts from the plan to a level of insignificance: Strict enforcement of the WLPZ rules should provide protection enough to reduce impacts to Willow Creek, Bullards Bar, the Yuba River and Englebright Lake.

Conclusion: Based on the above discussion it is felt that the entire project, as proposed, will not combine with any listed impairments to contribute to significant negative effects on this watershed, including additions of mercury into the environment.

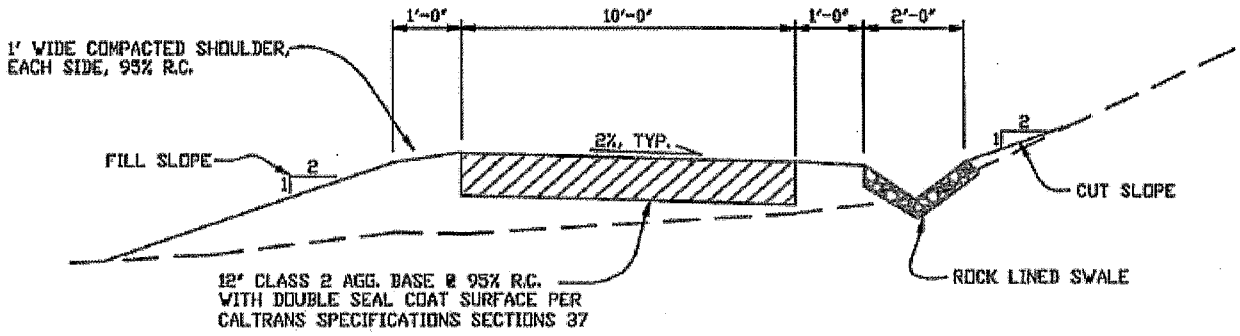
I have determined in order to nearly reduce post-project sediment yield to that of pre-project conditions certain drainage improvements are necessary. For this project we shall install a drainage system detention basins for the intended orchard area. We shall also follow best management practices in reducing impacts to downstream watercourses caused by the establishment and/or use of seasonal roads within the project area.

The lower road which parallels the western periphery of the conversion area could best be served with an outslope road, however runoff from the orchard area (especially in earlier years before the actual crops of the orchard are established) creates a problem. It is my intent to establish a system to catch the overland flow, channel into a rock-lined inside ditch along that road and carry excessive runoff to a detention pond. This detention ponds basin will receive and hold runoff for release at a delayed rate, thereby reducing the peak runoff delivered off-site to local streams. The pond shall be excavated and an earthen structure constructed by a combination of an existing natural depression with some excavation of existing soil necessary. The bottom of the detention pond shall be rock lined with large angular rock to a depth of 24". Side walls shall be natural earth.

The key to channeling the water to the detention pond will be to make sure the lower road is slightly insloped with a generous swale on the uphill side. This inside ditch will be rock lined with 4" plus rock to a depth of one foot and shall average 20" in width and 14" in depth.

An example of the re-design of the lower road will look like this:

Example Insloped Road



Maintenance of this existing road, as well as any other temporary/seasonal roads which need to be established for proper access throughout the farm area, is important to avoid excessive sediment yields which eventually could find their way into watercourses downstream and away from the project area.

Therefore, the Landowner shall:

1. Establish thick cover crops on temporary or seasonal roads by October 15. Depending on traffic, this may require active seeding annually.

2. Use straw mulch during the rainy season in places where cover crops are sparse. I shall closely monitor and augment straw treatments as necessary.

3. Blade existing roads in dry weather when possible, but while moisture is still present in soil and aggregate to minimize dust and maximize compaction to prevent road fines from being discharged from the road surface.

4. Use water bars and rolling dips to break-up slope length, diverting water to well-vegetated areas.

Maintenance of the Detention Basin

Detention basins, also called a Best Management Practice (BMP), provide (1) a treatment basin for pollutant removal and (2) a collection basin to retain larger flows thus reducing peak runoff rates downstream.

Routine maintenance activity of the detention basin shall consist mostly of detention and debris removal, focusing on any obstructions at the inlet during periodic inspections and especially after rainfall events.

However, other activities can often dictate a regular maintenance plan for the detention basin. In certain conditions vegetation management (routine mowing) could become the largest recurring activity in the maintenance program. Even at this elevation it will be necessary to maintain vector control because of mosquito breeding that could occur in the stilling basins, if this is the case. Because this detention basin is expected to only hold standing water during the rainy season (and, hopefully, only for short periods of time) mosquito breeding should not occur. In most cases, basic housekeeping practices such as removal of

debris accumulations and vegetation management to ensure that the basin dewaters completely in 48-72 hours is sufficient to prevent creating mosquito and other vector habitats.

Specifically, the following shall be followed in the maintenance of the detention basin:

1. Mow the in-slopes and general area around the detention basin should be done at least annually to avoid establishment of woody vegetation, but may need to be performed much more frequently if aesthetics are an important consideration.

2. Schedule semiannual inspections for the beginning and end of the wet season for standing water, slope stability, detention accumulation, trash and debris, and presence of burrows.

3. Remove accumulated trash and debris in and around the basin during the semiannual inspections. The frequency of this activity may be altered to meet specific site conditions

4. Trim vegetation at the beginning and end of the wet season and inspect monthly to prevent establishment of woody vegetation and for aesthetic and vector reasons.

5. Remove accumulated detention and re-grade about every 10 years or when the accumulated detention volume exceeds 10 percent of the basin volume. Inspect the basin each year for accumulated detention volume.

6. Eventually various structural components may need to be repaired or be replaced.

There are two wells on-site which shall be used. Each well pumps 26 gpm. I plan to use approximately 10,000 gallons per week for watering blueberries when in a full production phase.

WINTER OPERATIONS

It should be noted that winter operations shall be allowed for the timber harvesting phase of this project base on the following:

Tractor yarding or the use of tractors for constructing logging roads, landings, watercourse crossings, layouts, firebreaks or other tractor roads shall be done only during dry, rainless periods and shall not be conducted on <u>saturated soil</u> conditions that may produce significant sediment discharge. Erosion control structures shall be installed on all constructed skid trails and tractor roads prior to the end of the day if the U.S. Weather Service forecast is a "chance" (30% or more) of rain before the next day, and prior to weekend or other shutdown periods.

The licensed timber operator shall not place, discharge, or dispose of or deposit in such a manner as to permit to pass into the waters of the state, any substance or materials, including, but not limited to, soil, silt, bark, slash, sawdust, or petroleum, in quantities deleterious to fish, wildlife, beneficial functions of riparian zones, or the quality and beneficial uses of water

Saturated Soil Conditions means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during timber operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials.

Winter operations associated with the pre farm phase shall be governed by the same set of characteristics as the timber harvest listed above. Optimally most work will be done in the spring and summer months. However, weather conditions in this region of Northern California include extended dry periods whereby much needed work can be done. :

Land clearing and development activities will begin in the following spring and summer after Cal Fire approves the Timberland Conversion and Timber Harvest Plan. The organic farm owner intends to develop all organic farm areas according to high quality industry standards.

Erosion control and sediment retention components will be in place on a temporary basis as required during the construction season, and on a seasonal or permanent basis prior to onset of winter rains. A typical operational sequence includes:

- ***Placement of temporary erosion control measures around work areas.***
- ***Tree and stump removal and stockpiling, or disposal.***
- ***Surface shaping and grading as desired/required to facilitate efficient farm/orchard layout.***
- ***Deep ripping to break up roots and modify soil structure.***
- ***Rough grading or shaping as required to smooth field irregularities, improve drainage, modify field layout, or meet other management objectives.***
- ***Concurrent root picking using hand or mechanical means to remove materials down to 1" diameter or less.***
- ***Discing the rough field to smooth contours.***
- ***Final land leveling as required.***
- ***Layout of farm rows and drain lines.***
- ***Installation of surface and subsurface drainage features consistent with block, row, and avenue placement.***
- ***Farm/orchard installation, including row and bush placement layout, training stakes, drip irrigation lines.***
- ***Installation of irrigation water system components.***
- ***Installation of soil mulch and cover crop components.***
- ***Installation of permanent erosion control measures.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) Would the project physically divide an established community? ***No impact.***

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? ***No Impact. The proposed project does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.***

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan? ***No Impact. The proposed project site is not within the boundaries of a Habitat Conservation Plan, Natural Community Conservation Plan, or other habitat conservation plan. The project does not conflict with implementation of any such plan in this part of Yuba County.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? ***No impact.***

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a) Would the project create exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards? ***No Impact. The proposed project will not generate noise levels in excess of established standards.***

b) Would the project create exposure of persons to or generation of excessive groundborne vibration or ground borne noise levels? ***No Impact. The proposed project will not generate excessive ground borne vibration or noise levels.***

c) Would the project create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? ***No Impact. The proposed project will not increase permanent ambient noise levels above those without the project.***

d) Would the project create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? ***Less than significant impact. The proposed project will increase temporary ambient noise levels above those without the project only during the land clearing phase. This could come about with the use of heavy machinery (used for the timber harvesting) and chippers during the subsequent site preparation for the conversion area.***

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? ***No impact.***

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? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? ***No impact.***

b) Would the project displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere? ***No impact.***

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection? ***No impact.***

Police protection? ***No impact.***

Schools? ***No impact.***

Parks? ***No impact.***

Other public facilities? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
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?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) Would the project 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? ***No impact.***

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. Would the project:				
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?	☐	☐	☐	☒

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion

a) Would the project 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? ***No impact.***

b) Would the project 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? ***No impact.***

c) Would the project 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? ***No impact.***

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ***No impact.***

e) Would the project result in inadequate emergency access? ***No impact.***

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? ***No impact.***

The proposed project would generate traffic from temporary logging operations and on-going agricultural activities. Logs would be hauled off the conversion THP area via a private road system to State Highway 49. As part of the timber harvest plan, a small segment of road construction will allow for a much improved access to the project area (for timber harvesting and later for access to the organic blueberry farm), allowing for a better line-of-site at the confluence of the highway and the private access road. It is 76 miles to Quincy, California, 41 miles to Oroville, California, 57 miles to Lincoln, California and 72 miles to the McClellan log yard site in Sacramento. These are the closest destinations where log trucks might haul their products, although there could be other destinations. Once on Highway 49 all traveling is done on County or State highways.

On-going farm operations would result in increased traffic along the haul route intermittently throughout the year for long-term operation of the farm, particularly during pruning and harvest periods. The operation is small in nature and the entire area is very rural, therefore the project would result in only a slight increase in existing traffic levels and patterns. The traffic to and from the site would be limited to vehicular traffic and would not result in a

change in air traffic patterns. Therefore, no impact would occur. The proposed project would result in a need for parking for full-time and seasonal workers; however, all parking will be located within the conversion area and is part of internal roadways on the project site. The proposed project would not modify alternative modes of transportation and is not a people intensive use that would affect existing alternative transportation.

Because of all state above it is felt that all discussed impacts would be considered no impact.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? ***No impact.***

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ***No impact.***

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? ***No impact.***

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? ***No impact.***

e) Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments? ***No impact.***

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? ***No impact.***

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste? ***No impact.***

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance.				
a) Does the project 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project 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.)	☐	☐	☐	☒
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Authority: Public Resources Code Sections 21083 and 21083.05.
Reference: Government Code Section 65088.4, Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21083.05, 21083.3, 21093, 21094, 21095, and 21151; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors (1990)*, 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San* Francisco (2002) 102 Cal.App.4th 656.

Discussion

a) Would the project 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory? ***No impact. The 7 acre organic blueberry farm will not 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory.***

b) Would the project 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.) ***No impact. The project does not have impacts that are individually limited, but cumulatively considerable.***

c) Would the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly? ***The project will have no impact on environmental effects that could cause substantial adverse effects on humans.***

LIST OF PREPARERS OF THIS DOCUMENT

Terry L. Rogers

LIST OF EXPERTS CONSULTED

Terry L. Rogers, California Registered Professional Forester, License 2537

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Appendix A

Mitigation Monitoring and Reporting Plan (MMRP)
for the Blueberry Hill Timberland Conversion Project
Initial Study/Mitigated Negative Declaration
Yuba County, California

In accordance with CEQA Guidelines Section 15074(d), when adopting a mitigated negative declaration, the lead agency will adopt a Mitigation Monitoring and Reporting Plan (MMRP) that ensures compliance with mitigation measures required for project approval. The California Department of Forestry and Fire Protection (CAL FIRE) is the lead agency for the above-listed project and has developed this MMRP as a part of the final Initial Study/Mitigated Negative Declaration (IS/MND) supporting the project. This MMRP lists the mitigation measures developed in the IS/MND which were designed to reduce environmental impacts to a less-than-significant level. This MMRP also identifies the party responsible for implementing the measure, defines when the mitigation measure must be implemented, and which party or public agency is responsible for ensuring compliance with the measure.

Potentially Significant Effects and Mitigation Measures
The following is a list of the resources that will be potentially affected by the project and the mitigation measures made part of the Initial Study/Mitigated Negative Declaration.

Mitigation Measure #1: Retention of visual buffer along highway 49
Schedule: Timberland Conversion (TCP) Project Completion
Responsible Party: Anders Dupen
Verification of Compliance:
Monitoring Party: CAL FIRE
Initials: _____
Date: _____

Mitigation Measure #2: Erosion control structures
Schedule: Completion of the road maintenance period established by Cal Fire THP/TCP Inspector
Responsible Party: Anders Dupen
Verification of Compliance:
Monitoring Party: CAL FIRE
Initials: _____
Date: _____

NOTICE OF INTENT TO ADOPT A DRAFT INITIAL STUDY

AND MITIGATED NEGATIVE DECLARATION

CEQA PUBLIC REVIEW PERIOD: April 26, 2017 to May 26 2017

To: Public Agencies, Organizations and Other Interested Parties

From: **Anders Dupen,** P.O. Box 44, Camptonville CA 95922

Paradise Ridge Forestry, 1715 Grand Court, Paradise CA 95969

Subject: Anders Dupen (Landowner) is releasing a draft Mitigated Negative Declaration (MND) for the conversion of 7 acres of timberland to be used for agriculture purposes. The 7 acres is part of two parcels totaling 20 acres in size. The present Yuba County zoning of these parcels includes Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial. This Draft IS/MND is for review and comment from all agencies, organizations and interested persons. Reviewers should focus on the content and accuracy of the Draft IS/MND in discussing potential impacts upon the environment. This Notice of Intent to Adopt a Draft Mitigated Negative Declaration for this project is in compliance with the California Environmental Quality Act (CEQA).

The Draft IS/MND is being circulated for a 30-day review period. Persons responding are urged to submit their comments in writing. Written comments should be delivered to the office of the Registered Professional Forester (RPF) who has prepared the timberland conversion for the landowner, at the Contact Person address listed below, by **no later than 4:30 p.m. on March 28, 2016**. Submittal of written comments via e-mail (PDF or Word format) is also acceptable.

Project Title: Timberland conversion to agriculture use

Applicant: P.O. Box 555, Downieville, CA 95936

Contact Person: Terry L. Rogers, California Registered Professional Forester, License #2537

Address: 1715 Grand Court, Paradise, CA 95969

Telephone: (530) 321-1401

E-mail: ***rpf2537@yahoo.com***

Project Location: The project location is along California State Highway 49 at the Yuba/Sierra counties line.

Project Description: The intended use is already covered under Yuba County's Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code). The County does not require an EIR or negative declaration to use lands of this type of zoned parcel. However, as a requirement from Cal Fire, an MND is being developed.The intent is to remove trees (conifer - selected on an intuitive basis) in order to establish an organic farm for the production of agriculture crops.Larger oak trees shall be retained when possible for aesthtics and shade in areas which will not affect the intended future land use. Blueberries are the choice of crop to cultivate and extensive research has been done to verify the high probability that this hardy crop will establish on-site, given the nature of the soil, growing season and other abiotic factors. This area of Yuba County has a long standing tradition of agriculture uses, with records dating back as far as the 1850's.

Project and CEQA Public Hearing Date: At this point no public hearing dates are known to be necessary as field inspections by Cal Fire and California Fish and Wildlife have already been performed as part of the timber harvesting plan process. This does not mean that a public hearing will not be done, just one has not been scheduled to date.

CEQA Project Status: A Draft Initial Study and Mitigated Negative Declaration have been prepared for this project pursuant to the provisions of CEQA. The Draft Initial Study prepared for this project demonstrates that the proposed project will not have any significant or unmitigatable effects on the environment. As a result of the adoption of this document and the implementation of the proposed mitigation measures, the proposed project will not have any significant or unmitigatable effects on the environment. The site is NOT listed on any hazardous site lists per California Government Code 65962.5. The Draft Initial Study/Mitigated Negative Declaration and all related analysis are available to the General Public at CAL FIRE Resource Management – Environmental Protection Program, P.O. Box 944246, Sacramento, CA 94244-2460

Appendix B

32.a & b - BIOLOGICAL RESOURCES

The plan area lies on one quad (Camptonville) but the wildlife assessment area has it's dominant coverage on two quads (add Strawberry Valley). This certainly provides a somewhat over saturation of scoping for a 20 acre harvest plan. The following were consulted as part of the scoping process for all biological resources:

1. The 9 quad search became a 12 quad search and is approximately 332,145 acres in area. Just for comparison realize that the city of San Francisco is just under 30,000 acres in area, thus this scoping is 10 times greater than the area of that city. The California DFW Natural Diversity Data Base was queried for both the Camptonville and Strawberry Valley USGS Quads and information was received in my office which expires on April 2, 2016.
2. http://www.rareplants.cnps.org
3. http://bios.dfg.ca.gov
4. http://www.natureserve.org/explorer
5. http://amphibiaweb.org
6. http://www.californiaherps.com
7. http://www.calflora.org
8. Visit to Chico State University Herbarium (once in November 2015)
10. http://ucjeps.berkeley.edu/consortium/
11. NTMP 2-14NTMP-001-YUB - NTMP prepared by RPF Rogers
12. THP 2-14-064-YUB - THP prepared by RPF Vasquez
13. THP 2-11-029-YUB - THP prepared by RPF Boudreaux
14. THP 2-11-071-BUT - THP prepared by RPF Rogers
15. THP 2-05-098-YUB - THP prepared by RPF Rogers

ABOUT THE CHICO STATE HERBARIUM

The Chico State Herbarium, located in Holt Hall room 129, is the most complete repository of plant specimens from northeastern California. The emphasis is on the northern California flora, and includes a great number of rare, threatened, and endangered plant species. Established with specimens donated by the late Professor Vesta Holt in the 1950's, the herbarium now contains more than 102,000 dried and mounted plant specimens. The majority of samples are flowering plants, conifers, and ferns, but bryophytes, lichens, and especially slime molds, are also well represented. The herbarium is used extensively for identification of sensitive and other plant species by various agencies and individuals. Loans of herbarium specimens are made to any higher academic institutions who request them. Facilities available to visitors to the herbarium include the use of high-quality dissecting scopes, a compound microscope, an extensive reference library, an internet-connected computer, an internet connection for personal computers, and, with suitable training, access to the collection of specimens.

FIELD RECONNAISSANCE

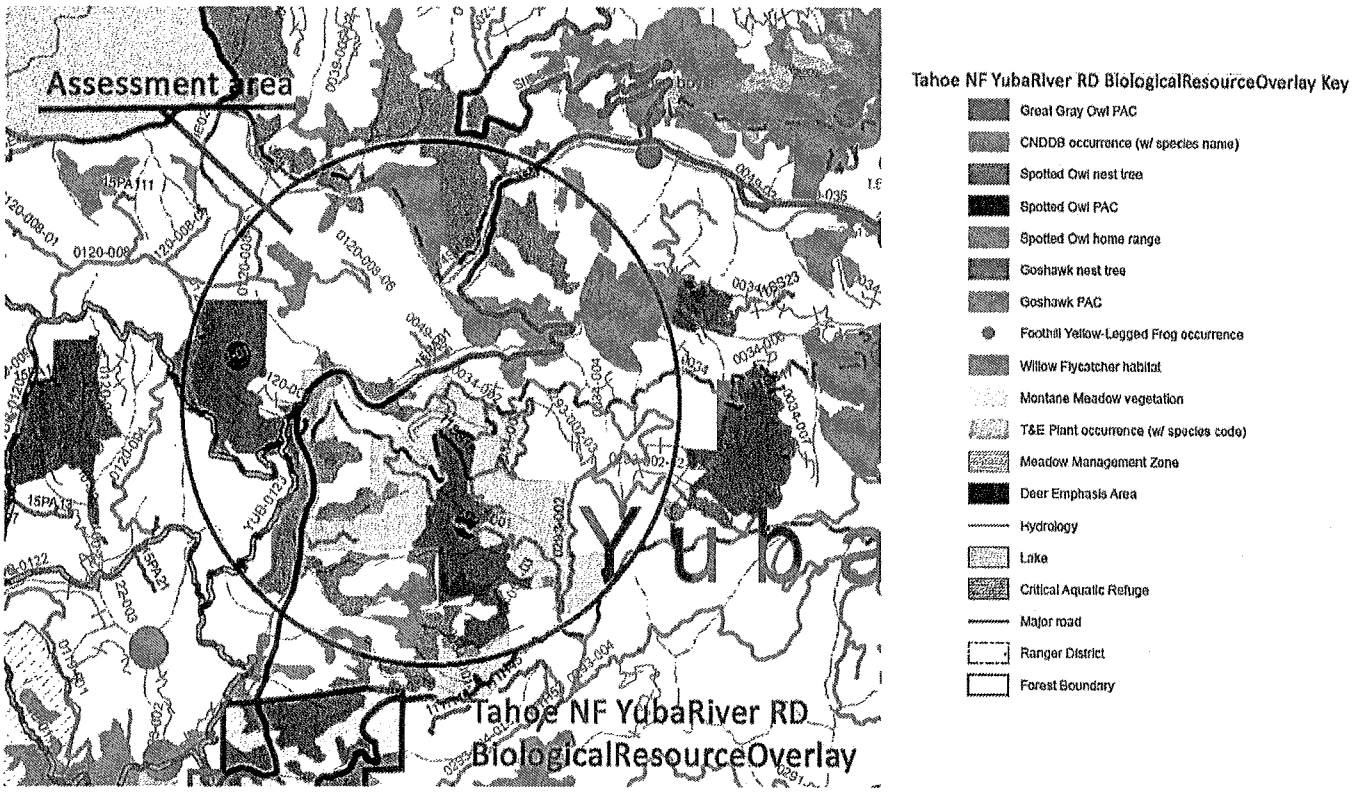
I, the RPF, am responsible for all of my own field work. During initial field work, the entire project area was covered during timber marking, line and corner verification, archeology investigation, watercourse investigation and protection zone flagging. During these phases of field work, sophisticated (color photos included) wildlife and plant species "keys" were utilized by me to verify presence and/or absence of any listed or non-listed animal or plant species. Botanical Surveys were done in August and September. More surveys are to follow based on floristic characteristics of potential flora.

Species with habitat associated with the general project area which exhibit higher status levels for Federal, State, CDFW & CNPS (i.e. endangered, threatened, candidate, special concern, plants with CNPS List 1 & 2, etc.) are found in the following passages.

According to scoped sources (dominated by unproccessed reports of CNDDB for the 12 quad search), the following have been known to exhibit an association with reports and/or websites involved. Each species is evaluated on the basis of: ❶ was species observed within the project area, ❷ is there potential habitat for the species within the project area, ❸ was species recorded by some reporting agency as being found within the Biological Assessment Area, and/or ❹ is there habitat for or potential habitat for the species within the biological assessment area?

The Yuba River Ranger District of the Tahoe National Forest has prepared an excellent map depicting wildlife resources in the general

are of this small timber harvest plan. I include their rendition and interpretation of these wildlife resources.



SPECIES OF SCOPING EVALUATION

Fauna

American peregrine falcon, American white pelican, Bald eagle, California red-legged frog, California spotted owl , California wolverine, Coast range newt, Common loon, Cooper's hawk, Fisher - West Coast DPS, Foothill yellow-legged frog, Golden eagle, Great gray owl, Greater sandhill crane, Long-eared owl, Merlin, Northern goshawk, Olive-sided flycatcher, Osprey, Pallid bat, Purple martin, Riffle sculpin, Sharp-shinned hawk, Sierra Nevada Mountain beaver, Sierra Nevada snowshoe hare, Sierra Nevada red fox, Sierra Nevada yellow-legged frog, Townsend's big-eared bat, Volcano Creek golden trout, Western pearlshell, Western pond turtle, Western red bat, Western white-tailed jack rabbit, Yellow warbler

Flora - The following will be evaluated in "Plants - A Botanical Survey for the Blueberry Hill THP", found later here in Section III:

Ahart's buckwheat, Buxbaumia moss, Brownish-beaked rush, Cantelow's lewisia, Caribou coffeeberry, Clifton's eremogene, Constance's rockcress, Cylindrical trichodon, Dissected-leaved toothwart, Flexuose threadmoss, Inundated bog club-moss, Layne's ragwort, Mildred's clarkia, Mingan moonwart, Minute pocket moss, Mosquin's clarkia, Plumas rayless daisy, Plumas Sierra arching sedge, Shevrock's copper moss, Sierra blue grass, Sticky pyrrocoma, Upswept moonwart, Western goblin

FAUNA

Species	Status	Observed Within THP Boundaries	Potential Habitat Exists Within THP Area	Recorded Within Biological Assessment Area	Habitat or Potential Habitat Present Within Biological Assessment Area
MAMMALS					
American peregrine falcon	Fed: DEL State: DEL CDFW: FP	NO	NO	NO	NO
American white pelican	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Bald eagle	Fed: DEL State: CE CDFW: FP	NO	NO	NO	NO
California red-legged frog	Fed: FT State: None CDFW: SSC	NO	NO	NO	POSSIBLE LOCATIONS ALONG YUBA RIVER
California spotted owl	Fed: None State: None CDFW: SSC	NO	POSSIBLE	YES	YES foraging
California wolverine	Fed: None State: CT CDFW: FP	NO	NO	NO	NO
Coast range newt	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Common loon	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Cooper's hawk	Fed: None State: None CDFW: WL	NO	POSSIBLE	NO	YES foraging
Fisher - West coast DPS	Fed: FC State: CCT CDFW: SSC	NO	NO	NO	NO
Foothill yellow-legged frog	Fed: None State: None CDFW: SSC	NO	NO	YES	PROBABLE LOCATIONS ALONG YUBA RIVER
Golden eagle	Fed: None State: None CDFW: FP: WL	NO	NO	NO	NO
Great gray owl	Fed: None State: CE CDFW: None	NO	NO	NO	POSSIBLE flight possible through, foraging in Oak Valley
Greater sandhill crane	Fed: None State: CT CDFW: FP	NO	NO	NO	NO
Long-eared owl	Fed: None State: None CDFW: SSC	NO	NO	NO	POSSIBLE flight possible through, foraging in Oak Valley
Merlin	Fed: None State: None CDFW: WL	NO	NO	NO	POSSIBLE Winter range foraging possible

Species	Status	Observed Within THP Boundaries	Potential Habitat Exists Within THP Area	Recorded Within Biological Assessment Area	Habitat or Potential Habitat Present Within Biological Assessment Area
Northern goshawk	Fed: None State: None CDFW: SSC	NO	YES	NO	POSSIBLE flight possible through, foraging in Oak Valley
Olive-sided flycatcher	Fed: None State: None CDFW: SSC	NO	NO	NO	POSSIBLE flight possible through, foraging in Oak Valley
Osprey	Fed: None State: CT CDFW: FP	NO	NO	NO	NO
Pallid bat	Fed: None State: None CDFW: SSC	NO	NO	NO	POSSIBLE flight possible through, foraging in Oak Valley
Purple martin	Fed: None State: None CDFW: WL	NO	NO	NO	NO
Riffle sculpin	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Sharp-shinned hawk	Fed: None State: None CDFW: SSC	NO	POSSIBLE	NO	POSSIBLE flight possible through, foraging in Oak Valley
Sierra Nevada Mountain beaver	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Sierra Nevada snowshoe hare	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Sierra Nevada red fox	Fed: None State: CT CDFW:	NO	NO	NO	POSSIBLE
Sierra Nevada yellow-legged frog	Fed: FPE State: CT CDFW: SSC	NO	NO	NO	NO
Townsend's big-eared bat	Fed: None State: CE CDFW: None	NO	NO	NO	
Volcano Creek golden trout	Fed: None State: CT CDFW: FP	NO	NO	NO	NO
Western pearlshell	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Western pond turtle	Fed: None State: None CDFW: WL	NO	NO	NO	NO
Western red bat	Fed: None State: None CDFW: SSC	NO	NO	NO	POSSIBLE flight possible through, foraging in Oak Valley

Species	Status	Observed Within THP Boundaries	Potential Habitat Exists Within THP Area	Recorded Within Biological Assessment Area	Habitat or Potential Habitat Present Within Biological Assessment Area
Western white-tailed jack rabbit	Fed: None State: None CDFW: SSC	NO	NO	NO	NO
Yellow warbler	Fed: None State: None CDFW: SSC	NO	NO	NO	POSSIBLE

The highest probability of special concern species in the general area around the THP area will most likely be limited to birds of prey and bats. This is partially influenced by the surprising density of homesites in the area. There is a large presence of dogs and other domesticated animals found at these homesites which might preclude very much nesting on-site. I have visited every tree on the property and have found no nest sites. But, there is always a chance that any of a number of hawks (including the merlin or Northern goshawk) and/or flycatchers could easily perch temporarily on-site or forage in various spots. I believe there is more ample foraging close by (near Oak Valley). These birds of prey prefer edges, openings, and natural and human-created clearings in otherwise relatively dense forests and also occupy semiopen forests. The association with openings and edges extends to the entire landscape, as these birds are more abundant in broad areas with a matrix containing clear-cuts or otherwise highly fragmented forest than in less-fragmented or unfragmented landscapes.

Like many of the smaller hawks, owls and flycatchers, most bats also prefer edge environment for foraging. The landowner has spent considerable time walking many areas in the general vicinity of the project area. He is almost certain there are no open or closed mines in the local area. Bat roosting is most likely not found on-site and there is a low probability of roosting in the assessment area. However, as noted above, there could easily be any number of listed species of bats which forage over the plan area and down into the older forest of the USFS or even into the meadow areas around Oak Valley (depending on which specie it is).

The following information is provided for the above listed species that has **ANY** designation besides **"NO"** noted in any column of study (info is also available for other species of special concern even if there is not a "NO" attached in any column). This will therefore provide pertinent data which can be evaluated by any of the many personnel which may seek to study the presence/non-presence of the noted specie, or any personnel which will actually be part of the operations associated with timber harvesting within the project area as a means to help better identify any specie found within the project area.

Those species of which further information is provided includes: **California red-legged frog, California spotted owl, Cooper's hawk, Fisher - West coast DPS, Foothill yellow-legged frog, Great gray owl, Long-eared owl, Merlin, Northern goshawk, Olive-sided flycatcher, Pallid bat, Sharp-shinned hawk, Sierra Nevada red fox, Western red bat, Yellow warbler.**

CALIFORNIA RED-LEGGED FROG

SUMMARY

The California red-legged frog has a range and distribution consistent with the project area. It is found in portions of the Sierra Nevada usually below 3950 ft. However, the habitat is not consistent with the project area. It requires quiet pools of streams, marshes, and occasionally ponds. They use cover that is highly aquatic and prefer shorelines with extensive vegetation, and usually escapes to water at least 3 feet deep at the bottom of pools. Eggs are deposited in permanent pools attached to emergent vegetation. 8 essential aquatic habitat elements for the California red-legged frog have been identified and include: the current range, stream classification (watercourses with pools year round), no presence of non-native predators, less than 4% stream gradient, presence of slack water areas, streams greater than 20" in depth during high water, calm water bodies greater than 20" in depth, and calm water bodies that are over 500 square feet in size.

These element have been examined in the California Red-Legged Frog Habitat Assessment Worksheet and are described below.

Range: The project area lies within the current range of the CRLF.
Stream Classification: Class 1, Class 2 or Class 3a. Class 3a watercourses may have intermittent water past late July, Class 3 watercourses

do not.
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.
Stream Gradients less than 4%: Steams with less than 4% gradient are considered to provide suitable breeding habitat.
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 refuge within a 1/4 mile.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.
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.
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.

OCCURRENCE

No sightings have been reported within the THP area or the Biological Assessment Area of the Blueberry Hill THP.

CALIFORNIA RED-LEGGED FROG HABITAT ASSESSMENT WORKSHEET

Watercourse Type	ALL		Streams			Calm waterbodies	
Watercourse segment	Stream Classification	Non-native predators present	Stream gradients >4%	Slack water areas	>than 20" in depth during high water mark	>than 20" in depth	At lease 500 sq. Ft. In size
1 (off-site)	III	No	No	No	Yes	No	Yes

CALIFORNIA SPOTTED OWL

Basic Description: A large, dark-eyed, round-headed, dark brown owl with white spotting on the head, back, and underparts (spotted breast, barred belly).

Reproduction Comments: Egg laying occurs mainly early to mid-April. Clutch size is 2-4, usually 2. Incubation, by female (fed by male), lasts about 30 days. Hatching occurs in early to mid-May. Young leave nest at about 5 weeks, fly at about 6-7 weeks, stay near nest for several weeks, fed by adults until late summer, independent by early fall. First breeds at 2-3 years; may not breed every year.

Mobility and Migration Comments: Adults may migrate downslope in fall, return to higher elevation in spring; fall (mid-October to mid-November) movements averaged 31 km with a change in elevation averaging 754 m in the Sierra Nevada, California.

In and around Lassen National Forest in northeastern California, a small percentage (7 percent) of banded owls changed breeding locations between years; dispersal distance was 1-33 kilometers (mean 7 km); most dispersal events resulted in increased territory quality for the dispersing owl.

Pair home range size averages 3400 acres; range may or may not shift seasonally. Median June-December home range of 5 owls was 1070-2230 ha.

Habitat Comments: Typical habitat is dense, multi-layered evergreen forest that includes a diversity of tree species, large trees (some greater than 83 cm DBH), some trees with evidence of decadence, and open areas under the canopy; most often on lower, north-facing slopes of canyons, usually within 0.3 km of water. Foraging owls selected macrohabitats composed of larger trees (>52 cm dbh) with canopy closures of 40% and greater; used microhabitats characterized by multiple vegetative strata, large tree size classes, high tree basal areas, and woody debris. Commonly inhabited plant associations include: canyon live oak/California laurel (lower elevations of southern Coast Range); ponderosa pine, or sugar pine, Coulter pine, and/or incense cedar (higher elevations of southern Coast Range); mixed conifer forest, usually dominated by ponderosa pine (southern Sierra Nevada); ponderosa pine, Douglas-fir, and/or white fir (northern

Sierra Nevada). Spotted owls may persist in areas where up to 10-30% of the available habitat has been removed by clear-cutting.

In the central Sierra Nevada, 97 percent of the habitat patches in which owls roosted were characterized by the presence of residual trees (greater than 100 cm dbh); owl roost and nest sites were also characterized by residual trees and high structural diversity.

Nests are on broken tree tops, cliff ledges, in natural tree cavities, or in tree on stick platforms, often the abandoned nest of hawk or mammal; sometimes in caves. This owl exhibits a high level of nest site fidelity.

Management Requirements: Greatest management need is protection of large contiguous blocks of habitat capable of supporting multiple pairs.

Published literature and data is available from the southern Sierra Nevada to examine the potential effects of landscape-level reductions in canopy cover (CC) on owl occupancy and reproduction. Using a combination of population data, canopy cover measurements, and forest simulation models, they showed that modest fuels treatments in the Sierra Nevada would not be expected to reduce canopy cover sufficiently to have measurable effects on owl reproduction. Sixty-year simulations predict that mechanical thinning or mechanical thinning plus fuel-break construction treatments in combination with either no fire or mixed-lethal fire scenarios will not degrade canopy conditions in productive owl territories, nor impede improvement of non-productive territories. In contrast, lethal fire simulations produced a pronounced and lasting negative effect. Their analysis supports the hypothesis that habitat needs for owl reproduction can be incorporated in developing effective fire and fuels management strategies that lessen the chances of uncharacteristic wildfire.

COOPER'S HAWK

Basic Description: A crow-sized, woodland hawk.

General Description: A medium-size diurnal raptor with rounded wings, a long brown/black banded tail (often rounded at the end), and a hooked bill; adult is mainly gray/brown above, barred rusty brown below, with strong contrast between dark crown and paler nape and back; immature is paler, with brown upperparts, dark-streaked whitish or buffy underparts, and white undertail coverts. Average length 36-51 centimeters, wingspan 74-94 centimeters; females average larger than males.

Reproduction Comments: The breeding season usually begins in early April and extends through May and. The annual molt begins in late June but can occur as late as October. Southward migration commences in the northern states in late August, with September being the peak month; it is essentially over by November. Northward migration occurs from late February to early April.

The male does most of the nest building and occasionally some of the incubation; most of the incubation is done by the female, which seldom leaves the nest before the young have fledged. During the pre-fledging period the male provides both the female and the young with food, while both parents feed the young for up to four weeks after they leave the nest.

Only one brood is raised each year. The normal clutch is four-five eggs, with clutches of three and six being rarely observed. A national average has been calculated at 3.5 eggs. Replacement clutches are laid if the first set is lost, and laying can be delayed under conditions of low food availability.

Hatching success data are limited, but in areas unaffected by DDT contamination the average hatching rate ranges from about 70% to 83%, with some further reduction in the brood occurring after hatching. Normal fledging success rates range from 2.1 to 3.5 for pairs with successful; roughly 80% of nests produce at least one fledgling. In areas affected by DDT poisoning these figures were reported to be dramatically reduced.

The young fledge one month after hatching, the males leaving the nest three-four days earlier than the larger females. They remain dependent on their parents until they are eight weeks of age and have learned to forage on their own. Only about 19% of the birds breed in their first year. Most nest by the second year and continue breeding throughout the rest of their lives.

Habitat Comments:

BREEDING: Primarily mature forest, either broadleaf or coniferous, mostly the former; also open woodland and forest edge. Nests in both pine and hardwood groves, and riparian cottonwoods and sycamores in the West; Douglas-fir in northeastern Oregon. Usually builds new nest on horizontal limb near trunk or in crotch, 6-18 meters above ground; may modify old one or squirrel or crow nest.

Generally is an inhabitant of deep woods, utilizing thick cover both for nesting and hunting. Openings, especially where hedgerows or windbreaks offer shelter for prey species, may also be used when foraging. Published reports state that Cooper's are less fussy about the forest type than sharp-shins, and are more often "associated with deciduous and mixed forests and open woodland habitats such as woodlots, riparian woodlands, semiarid woodlands of the southwest, and other areas where the woodlands tend to occur in patches and groves or as spaced trees."

In the Northwest and Northeast, conifers are used for nesting, but elsewhere the preference is for hardwoods. In the Northwest a preference may exist also for the cooler microclimates offered by north and east facing slopes. In that area, the Cooper's hawk is typically found in middle-aged stands, 50 - 60 years in age, whereas the sharp-shin prefers younger stands and the goshawk older ones. That difference might express competitive displacement, because in the East, where the goshawk rarely nests, the Cooper's hawk prefers mature stands.

FISHER-WEST COAST DPS

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Uncommon permanent resident of the Sierra Nevada, Cascades, and Klamath Mts.; also found in a few areas in the North Coast Ranges. Occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Fishers are largely carnivorous. Eat rabbits and hares, especially snowshoe hares, and rodents (mice, porcupines, squirrels, mountain beavers), shrews, birds, fruits, and carrion. One study noted that eight-three percent of all fisher scats contained mammal prey items, 28% contained birds, 26% arthropods, 14% plants, and 7% reptiles. Prey species identified for Fishers include: insects, shrews, moles, shrew-mole, unknown rodents, squirrels, chipmunks, California ground squirrel, golden-mantled ground squirrel, ground squirrels, western gray squirrel, Douglas' squirrel, northern flying squirrel, pocket gophers, deer mice, woodrats, red-backed voles, voles, jumping mouse, porcupine, unknown lagomorph, American pika, hares and rabbits, skunks, and cervids (Aubry and Raley 2005). The false truffle, a subterranean fungus is an important food item for them in some ranges. Fishers hunt both on ground surface and in trees. Being opportunistic; they search for small mammals, and pounce on, or chase prey. They also dig out prey.

Cover: Fisher populations landscapes that provide protective cover, adequate prey, and tree cavities for rest and reproductive den sites. Fishers use cavities in large trees, snags, logs, rock areas, or shelters provided by slash or brush piles. Dense, mature stands of trees also provide cover, especially in winter.

Den Structures: For natal dens, adult female fishers typically used live trees or snags with openings that accessed hollows created by heartwood decay. Most of the openings used appeared to have been excavated by pileated woodpeckers; natural openings included small knot holes and narrow cracks in the bole. Although the tree cavity may have been large, footage from remote video cameras revealed that adult females typically used cavity openings that were just large enough for them to fit through. The size of the opening may be important for excluding potential predators and perhaps, male fishers. Natal den trees need to be fairly large to accommodate a cavity large enough for an adult female and kits. The average dbh and height of live trees used for natal dens was 92 cm (range = 62-138 cm) and 40 m (range = 25-54 m), respectively. The average dbh and height of snags was 89 cm (range = 61-136 cm) and 26 m (range = 10-52 m), respectively. Most of the snags were relatively hard (decay class 1-3); however, 1 natal den was in a large decay-class 4 snag. Height of the cavity-opening may also be important for protection from potential predators; the average height of cavity-openings was 16.2 m (range = 4-47 m; n = 10). The most commonly used tree species were incense cedar, true fir, and western white pine (Table 4).(Aubry and Raley 2005)

Resting Sites: When resting in snags and logs, both sexes typically used cavities or hollows that had been created by advanced stages of heartwood decay. Similar to results for den structures, use of various species of snags and logs (Table 8) by fishers for resting was probably related to the live tree species in our study area that were most susceptible to infection by heart-rot decay fungi. Both sexes occasionally used cull piles for resting (i.e., debris piles created during timber harvest operations). The average length and width of 11 cull piles used by fishers was 19.3 m (14.2- 31.5) and 13.1 m (7.8-18.2), respectively. The height of cull piles varied from 1.5-4.0 m (mean = 2.5 m). On average, cull piles were comprised of small woody debris <10 cm in diameter (41%), logs 10-50 cm in diameter (43%), logs >51 cm in diameter (15%), and stumps, soil and boulders (1%).

Reproduction: Fishers den in a variety of protected cavities, brush piles, logs, or under an upturned tree. Hollow logs, trees, and snags

are especially important.

Water: May require drinking water.

Pattern: Suitable habitat for fishers consists of large areas of mature, dense forest stands with snags and greater than 50% canopy closure.

SPECIES LIFE HISTORY

Activity Patterns: Active yearlong. Mostly nocturnal and crepuscular, some diurnal activity.

Seasonal Movements/Migration: Non-migratory.

Home Range: In Ontario, Canada, home ranges were estimated at 38 km' (10 mil. In Massachusetts, home ranges averaged 19.2 km' (74 mil, and varied from 6.6 to 39.6 km' (2.5 to 15.3 mil. Home ranges usually smaller in summer than in winter. The long axis of home range tends to parallel valleys. Home ranges of 3 adult males in Trinity Co. averaged 14 km' (5.4 mi2). The fishers in Trinity Co. appeared to have regularly used travel routes within the home ranges.

Territory: Fishers appear to be territorial.

Reproduction: Females breed a few days after parturition; implantation of the embryo is delayed until the following winter. Post-implantation active growth lasts about 30 days. Young born February through May. Litter size averages 2.7, and ranges from 1-4, rarely 5. Young remain with female until late autumn. Males and females become sexually mature in the first or second year.

Niche: Few animals prey on fishers other than humans. Fishers are one of the few specialized predators on porcupines. Have been transplanted into Oregon, West Virginia, and other states for porcupine control. Long-term studies suggest that fishers predominantly are terrestrial.

MITIGATION

Timber operations for this plan may take place during the March 1st to July 31st denning period for the fisher.

Potential Den trees shall not be cut between March 1st and July 31st.

Potential Den trees have the following characteristics:

Hardwood Trees greater than 15" DBH, live or dead, with visible indicators of cavity formation
Conifer snags greater than 22" DBH
Live Green Cull conifer* greater than 22" DBH
*(less than 25% merchantable wood by volume)

Decadent and deformed trees of value to wildlife shall be retained unless removal is necessary for operational or public safety needs. These trees will be designated with a blue "W" prior to operations.

Unmerchantable logs: logs outside the conversion area containing less than 25% merchantable volume which are greater than 16" in diameter and over 8' long shall be retained where feasible. Snags shall be retained in compliance with 14 CCR 959.1.

If during the life of the THP any visual detection during the critical period or evidence of nesting/denning by any listed species (defined pursuant to 14CCR 895.1 FGC 2068) is discovered, tree felling and yarding operations on the plan within 1/4 mile of the discovery will be stopped, CDF and DFW shall be notified immediately. An amendment to the THP shall be submitted, incorporating the protection measures agreed to between the Director of the Department of Forestry and Fire Protection and the timberland owner.

FOOTHILL YELLOW-LEGGED FROG

General Description: A small frog, gray, brown, reddish, or olive above, and often spotted or mottled with dusky, sometimes plain; adults have yellow on underside of hind legs, extending onto the lower abdomen; pale triangle is present between tip of snout and eyes; throat and chest often are dark spotted; no dark mask; skin of granular texture; indistinct dorsolateral folds; young have faint or no yellow pigment on underside of hind limbs; adult males have a swollen, darkened thumb base; adult snout-vent length usually 3.7-7.1 cm.

Reproduction Comments: Breeds between mid-March and early June, after stream flow subsides from winter storms and runoff. Reports were published in 2003 concerning observations of newly deposited clutches in early to mid-May in northwestern California. Eggs often are laid in clusters of about 1,000 eggs/mass. Larvae hatch in about 5 days at 20 C, metamorphose in summer.

Riverine Habitat(s): CREEK, High gradient, MEDIUM RIVER, Moderate gradient, Pool, Riffle, SPRING/SPRING BROOK

Habitat Comments: This species inhabits partially shaded, rocky streams at low to moderate elevations, in areas of chaparral, open woodland, and forest. It seeks cover at the bottom of the pool when startled. Habitats in order of decreasing favourability: (1) partially shaded, small perennial streams, 30-1,000m asl, with at least some cobble-sized rocks; riffle areas and stream depth rarely greater than 1m, (2) intermittent, small, partly shaded, rocky streams displaying seasonal riffle habitat, (3) large (consistently greater than 1m in stream depth), partly shaded, perennial streams with rocky or bedrock habitat, (4) open perennial streams with little or no rocky habitat.

It breeds in pools of streams. Eggs usually are attached to gravel or rocks at edge of pools or streams. In northern California, eggs were attached to cobbles and boulders at lower than ambient flow velocities, near confluences of tributary drainages in wide, shallow reaches. Most breeding sites were used repeatedly.

GREAT GRAY OWL

General Description: One of the World's largest Owls, the Great Gray Owl is dark grey overall interspersed with bars and flecks of light grey and white. When perched it appears bulky because of its dense, fluffy plumage, long wings extendin with the lowest known nest at 157 feet. In California and Oregon, great gray owls appear to select nesting sites in stands with late successional characteristics including dense overstory canopy closure, a significant presence of trees and snags equal to or larger than 24 inches at diameter breast height (dbh). In California, nesting sites are normally associated with large meadows or complexes of smaller meadows totaling 10 acres or more. Stands with late seral elements appear to enhance owl reproduction and recruitment by providing adequate nest platforms, as well as overhead cover for thermal protection and predator evasion for juveniles. GGO have been detected in the Southern Cascades, Klamath Mountains, and Modoc Plateau, and Northern California Coast Range ecoregions of California. In August 2006, a search of the California Natural Diversity Database (NDDB) revealed a single detection near Patterson Meadow in Modoc County. A nest site was not found and the occupancy status of this area is unknown. A query of the Biogeographic Information and Observation System (BIOS) indicated 15 additional locations where a GGO or its feathers was observed. Recent observational data (2005 Shaw, pers. comm.) indicates GGOs are present in the vicinity g past the body, relatively long tail, and large head. Size of head and prominent facial disk make the yellow eyes appear small. A noticeable white "moustache" strip is preset under the facial disk, broken by a black "bow-tie." Feet are heavily feathered and remain hidden from view. Like most raptors, this species exhibits reversed sexual dimorphism with females averaging 30 percent larger than males.

Range and Distribution: The GGO is found world-wide in northern latitudes, where it is considered rare. The Southern Sierra Nevada is the southern-most limit of the species range in North America, where it is found at higher elevations and shows a strong affinity for forests affiliated with wet meadows. In the Sierra Nevada, breeding habitat may be limited to elevations of roughly 3,000 to 8,000 feet above sea level. In the Cascade Range of Oregon, nests of the GGO have been found below 3000 feet of Lake Davis, Plumas County. Additionally, there are likely two to three active pairs in the Mumbo Basin and other portions of the Eddy Mountains, Trinity and Siskiyou Counties. Further, GGOs have been recently detected along the Siskiyou Crest in Siskiyou County.

Habitat Use: GGOs appear to prefer several CWHR habitat types: (1) red fir and mixed conifer forest (4D, 5 M and D, 6) for nesting and roosting habitat, and (2) large wet meadows and natural or artificially created early forest successional stages (CWHR 1 and 2) for foraging. Further, stands should be in an uneven-aged condition with the largest tree size class at least 24 inches dbh. Lastly, pockets of dense understory should be left intact near nest sites. According to this model, reproductive value is directly related to the level of habitat suitability. In northeastern Oregon, Bull and Henjum (1990) found GGOs foraging in open conifer stands with herbaceous understories, approximating WHR 4 and 5 S and P stands.

Nesting: Coniferous forests associated with montane meadows are used for nesting. Nests typically situated in mature stands with large and decadent trees, including snags and hardwoods. GGOs prefer older stands with open understories and dense overstories. GGOs rely on old squirrel, raptor and corvid nests, or natural depressions on broken-topped snags or stumps that are at least 35 feet from the ground. Large lateral branches or mistletoe broom platforms are also used as nests. GGOs also accept artificial nest structures. Since fledglings leave the nest before they can fly, leaning trees and large lateral branches are important elements for reproduction.

Roosting: GGOs roost on tree branches, broken-top snags, and stumps. They may move vertically in the canopy to thermoregulate. They may also position themselves next to the tree in inclimate weather or in the open if dry and cold. They typically roost away from meadow edges, and at appropriate heights, to avoid harassment by corvids, other raptors, and predators.

Foraging: Foraging habitat is typically open, grassy habitats that include bogs, natural meadows, open forests, and regeneration harvests. GGOs predominantly forage in meadows or other openings; however, males in northeastern Oregon were observed foraging in forest stands with 11 to 59 percent canopy closure. Within the western cascades physiographic province in Oregon, preliminary data suggest that some GGOs forage within nest stands. Perches 10 to 16 feet high provide better hunting opportunities. Regeneration harvest units may provide foraging opportunities for the first ten years or so.

Breeding Cycle

a. Courtship in late February to early March
b. Egg laying from late March to early June
c. Clutch size ranges from 1 to 4 eggs
d. Incubation ranges from 28 to 29 days
e. Fledglings leave nest in 3 to 4 weeks
f. Females leave the nest after another 3 to 6 weeks
g. Males feed young up to 3 months after young leave nest

- GGO may only nest every 3 to 4 years (Winter 1985).
- GGO Produce one brood per year after age 3 (Duncan and Hayward 1994)

LONG-EARED OWL

Basic Description: The Long-eared Owl is a medium-sized woodland Owl. They have prominent ear tufts that appear to sit in the middle of the head and are usually held erect. Plumage is brown and buff, with heavy mottling and barring over most of the body. Male plumage tends to be lighter than females. The eyes are golden yellow, facial disk pale ochraceous-tawny (Eurasia, Africa) to rufous (North America). The bill is black. The forehead and lores are mottled grey and white and there is a white chin patch. The legs and feet are heavily feathered.

Juveniles are similar to adults but less heavily marked. The head tufts are shorter and less defined and facial disk darker. Body feathers are tipped with greyish white.

Size: Length females 14.6", males 13.4" average.
Wingspan females 39", males 38" average.
Weight females 10oz, males 9oz average.

Habits: Nocturnal, with activity normally begining at dusk. They appear slim and slouch forward when perched. Long-eared Owls are buoyant fliers, appearing to glide noiselessly even when their wings are flapping. They are very manoeuvrable and can fly through fairly dense brush. They fly moth-like, often hovering and fluttering while looking for prey. When roosting, a Long-eared Owl will stretch its body to make itself appear like a tree branch.

Voice: The main advertisement call of the male is a low "hoo, hoo, hoo, hoo, ...", repeated 10 to 200 times, with one note every 2 to 3 seconds. The female responds with a raspy buzz call, and often duets with the male. Calling occurs almost always during nocturnal hours. When alarmed, Long-eared Owls bark "whek-WHEK-whek" or shriek like a cat. Both males and females hiss during exchange of prey or when alarmed. During courtship, the male flies around and flaps its wings below its body, producing a clapping sound. Fledged young call with high-pitched, drawn-out feeh notes.

Hunting & Food: Long-eared Owls hunt mainly by ranging over open rangeland, clearings, and fallow fields. They rarely hunt in woodlands where they roost and nest. They hunt mainly from late dusk to just before dawn, flying low to the ground, 3 to 7 feet, with the head canted to one side listening for prey. When prey is spotted, the Owl pounces immediately, pinning the prey to the ground with its powerful talons. Smaller prey is usually swallowed immediately, or carried away in the bill. Larger prey is carried in the talons.

Long-eared Owls feed primarily on mammals. In most areas voles are the most common prey, but deer mice are the most important prey in other areas. In southwestern deserts, pocket mice and kangaroo rats are primary foods. Other mammal prey includes squirrels, bats, chipmunks, gophers, shrews, moles, and cottontail rabbits. Birds are also taken, occasionally on the wing. Most bird prey are smaller species that occur on or near the ground. Bird prey includes meadowlarks, blackbirds, juncos, Horned Larks, doves, bluebirds, and thrashers. Larger birds such as grouse and screech-Owls are occasionally taken. Long-eared Owls sometimes eat insects, frogs, and snakes.

Pellets are fairly large, about 2 inches long and 0.75 inches thick. Pellets are oval or cylindrical, greyish, and compact with many bones, skulls, and teeth. They are regurgitated 3 to 4 hours after eating.

Breeding: Males occupy nesting territories first and may begin their territorial calling in winter. Nesting occurs mainly from mid March through May in North America. During courtship, males perform display flights around nests. Display flights involve erratic gliding and flapping through the trees with occasional single wing claps. Females respond by giving their nest call. The female selects a nest by hopping around it, while the male displays above. She then performs display flights as well, and flies repeatedly to the nest. Leading up to mating, the male approaches the female after calling and performing display flights, then waves his wings as he sidles up to her. Mutual preening and courtship feeding also occur. After pairing, adults roost close together, but the female tends to roost on the nest after it has been selected.

Long-eared Owls nest almost exclusively in old stick nests of crows, magpies, ravens, hawks, or herons. They nest rarely in rock crevices, tree cavities, or on open ground. Nests are almost always located in wooded sites, often screened by shrubbery, vines, or branches and are commonly 16 to 33 feet above ground.

Long-eared Owls have an impressive nest defense display - the female spreads her wings out widely facing the intruder, flares her flight feathers, and lowers her head. This display makes her appear 2 to 3 times as large as she really is. They also perform a distraction display near nests, where the Owl pretends to capture prey, or feign injury, and flop away from the nest on the ground making various noises. They will occasionally attack viciously, aiming the talons at the face and throat of the intruder.

Old nests are lined with bark strips, feathers, leaves, and moss before eggs are laid. Clutch sizes range from 3 to 8 eggs, with an average of 4 to 5 eggs. Clutch sizes tend to increase from south to north and from east to west. Eggs are laid irregularly every 1 to 5 days and incubation begins with the first egg laid, so that a clutch of 6 eggs may hatch over a period of 10 to 12 days. The female performs the incubation which lasts 25 to 30 days. Nestlings begin to walk out of the nest onto nearby branches at about 3 weeks, but are not capable of flight until about 5 weeks. Young become independent from parents at about 2 months. Nesting success is strongly linked to food availability and predation. Long-eared Owls are usually single-brooded, however double-brooding has been observed. If a clutch of eggs is lost, a replacement clutch may be laid about three weeks later. Densities of breeding birds are relatively low, except when local food and nesting habitat availability allow loosely colonial nesting.

Mortality: Captive Long-eared Owls have been known to live for over 10 years. Many are killed by shooting and collision with vehicles. Natural enemies of adult birds include Great Horned and Barred Owls. Raccoons are major predators of eggs and nestlings.

Habitat: Long-eared Owls inhabit open woodlands, forest edges, riparian strips along rivers, hedgerows, juniper thickets, woodlots, and wooded ravines and gullies. Breeding habitat must include thickly wooded areas for nesting and roosting with nearby open spaces for hunting. During winter, they need dense conifer groves or brushy thickets to roost in. Roosting sites are usually in the heaviest forest cover available. They will also roost in hedgerows, or in caves and cracks in rock canyons.

Unlike most other Owls, during winter they may roost communally (7 to 50 Owls) in dense thickets and range over very large undefended foraging areas. Communal roost sites are often used year after year, probably by the same birds.

MERLIN

A rather small falcon, compact and fast-flying, the Merlin is a common breeder across the northern forests of North America and Eurasia. It feeds mostly on small birds, capturing them in mid-air in rapid pursuit. The Merlin is generally found in wild places, but since about

1960 it has become a common urban bird in several towns on the northern prairies; there it nests and remains to winter, relying on a steady supply of House Sparrows as prey.

Feeding Behavior

Does most hunting by watching from a perch, then flying out to capture prey in the air. Also hunts by flying low among trees or over ground, taking prey by surprise; seldom dives steeply from above to capture prey. Birds, insects, and bats are usually caught in mid-air.

Eggs

4-5, sometimes 2-6. Whitish, lightly or heavily marked with reddish-brown. Incubation is mostly by female, 28-32 days; male brings food to female, then he incubates while she eats. Young: Female remains with young most of time, brooding them when they are small. Male brings food, female takes it from him near nest and then feeds it to young. Age of young at first flight about 29 days.

Young

Female remains with young most of time, brooding them when they are small. Male brings food, female takes it from him near nest and then feeds it to young. Age of young at first flight about 29 days.
Diet

Mostly small birds. Often specializes on locally abundant species of birds (such as Horned Larks on the plains, House Sparrows in urban settings, small sandpipers on coast). Also feeds on large insects (especially dragonflies), rodents, bats, reptiles.

Nesting

In courtship, male performs spectacular flight displays, with steep dives, strong twisting flight, glides, rolling from side to side, fluttering with shallow wingbeats. Male brings food and presents it to female. Nest site is usually in tree in old nest of hawk, crow, or magpie, 10-60' above ground. Sometimes in large tree cavity, on cliff ledge, or on ground. Usually little or no material added to existing nest.

NORTHERN GOSHAWK

Basic Description: A fairly large hawk; male 55 cm in length with a wingspan of 98-104 cm, female 61 cm in length with a wingspan of 105-115 cm. Male is brown-gray to slate gray on back, head with black cap and pronounced white supercilary line. Undersides are light gray with fine horizontal vermiculations and fine black vertical streaks. Long, rounded tail, white undertail coverts, dark gray above with 3-5 dark bands and a think, white terminal band (reduced or absent with wear). Female is similar to male but browner on back and more heavily marked on underside, sometimes appearing barred. Feet, cere, toes, legs, and mouth-lining are yellow, eyes are red. Juveniles dark brown to brown-black on back with buff white and cinnamon streaks. Undersides buff white with thick cinnamon to blackish brown streaks on throat. Tail is dark brown with wavy dark-brown bands that are bordered by thin whitish bands, forming a zigzag pattern.

General Description: A fairly large hawk with a long tail, rounded wing tips, and a conspicuous pale eyebrow; adult has dark crown, blue-gray back, white underparts with dense gray barring, and conspicuous fluffy white undertail coverts; immature is brown above, buffy below, with dense blurry streaking, undertail coverts are dark-streaked, and tail has wavy dark bands bordered with white and a thin white tip; total length is 53-66 cm, with females averaging lager than males.

Reproduction Comments: Usually one clutch produced per year, from late April through early May; however, some individuals may not breed during cold, wet springs. Egg-laying may begin later at higher elevations and during cold, wet. Clutch is typically two to four eggs, rarely one to five. Average clutch size of 44 North American clutches is 2.7 eggs. Eggs are laid every two to three days and incubation usually begins after the second egg is laid. Incubation, conducted principally by the female, takes 28-38 days; hatching is asynchronous.

Few data regarding hatching success. In Oregon, hatching success in five nests was 81 percent. Nest success (percentage of active nests that fledge greater than one young) in North America ranges from 44-94 percent and most populations produce 2-2.8 fledglings per successful nest. Egg/nestling mortality has been attributed to exposure to cold and rain and siblicide. In northern Wisconsin, nest success dropped from 94 percent to 62 percent due to an increase in predation of nest contents and adult females by fishers. Increased predation by fishers was attributed to an increase in the fisher population and nest exposure due to tree defoliation by forest tent caterpillars

Brooding and feeding of nestlings is performed principally by the female; the male brings food to the nest. The young begin flying at 35-42 days and become independent at about 70 days. Maintain one to eight alternate nests within a nest area. Alternate nests range from 15-2066 meters apart. The average distance between nests of nearest neighboring pairs in Arizona was 3 kilometers (range = 1.6-6.4 kilometers). A small percentage (less than 10 percent) of subadults (1-2 years old) are sexually mature; however, most breeding birds are young adults (2-3 years old) or adults. Nesting by subadults is more frequent in expanding populations and less frequent in stable populations.

Habitat Comments:

BREEDING: Nests in a wide variety of forest types including deciduous, coniferous, and mixed forests. Has a complexity of habitat needs in the breeding season, which vary among forest types and region. Typically nests in mature or old-growth forests and generally selects larger tracts of forest over smaller tracts. In the eastern U.S., nests in hardwood-hemlock (TSUGA CANADENSIS) forests, where black birch (BETULA LENTA) and American beech (FAGUS GRANDIFOLIA) are preferred nest trees. In the western U.S., characteristically nests in coniferous forests including those dominated by ponderosa pine (PINUS PONDEROSA), lodgepole pine (PINUS CONTORTA), or in mixed forests dominated by various coniferous species including fir (ABIES spp.), Douglas-fir (PSEUDOTSUGA MENZIESII), cedar (THUJA spp.), hemlock, spruce (PICEA spp.), and larch (LARIX spp.). Western birds also nest in deciduous forests dominated by aspen (POPULUS TREMULOIDES), paper birch (BETULA PAPYRIFERA), or willow (SALIX spp.).

While generally associated with remote habitat, goshawks in Europe apparently have adapted to human-occupied landscapes and nest near farms and settlements. Palmer noted that this species may be undergoing similar adaptation in northeastern U.S.; for example, it is apparently not uncommon in suburbs of Boston.

Nests are generally constructed in the largest trees of dense, old or mature stands with high canopy closure (60-95 percent) and sparse groundcover, near the bottom of moderate slopes, and near water or dry openings. Occasionally will nest in relatively open stands (10 percent canopy coverage). Nest height above the ground is significantly correlated with nest-tree. Nest height ranges from 2.5-43 meters. May use same nest in successive years. May use other hawk nest as base.

Management Requirements: The U.S. Forest Service has developed forest management recommendations for the southwestern U.S. designed to sustain forest composition and structure necessary for goshawk reproduction. Reynolds et al. (1992) divided the nesting home range (about 2400 hectares) into three components - nesting area, post-fledging family area (PFA), and foraging area - and provided size and management recommendations for each. Three nesting areas per home range - each encompassing approximately 12 hectares of large, mature trees - should be available. In addition, three replacement nesting areas per home range should be in some phase of development to provide alternates to currently used sites. The PFA should encompass approximately 170 hectares and be maintained by management tools such as timber harvest and prescribed fire to provide a variety of forest conditions and prey habitat attributes. Management activities should be confined to the non-breeding period. The foraging area should encompass approximately 2200 hectares and be managed similarly to the PFA except that it should provide larger forest openings and less canopy coverage. To replace the late-seral stages of forest lost through natural or anthropogenic events, Bassett et al. (1994) and Graham et al. (1994) recommended that 10 percent of the forest be regenerated every 20 years. Minimum recommendations for timber harvest include leaving an 8-hectare forest buffer around nests.

NON-BREEDING: habitat requirements during winter are poorly understood, especially in the U.S. During winter in Sweden, inhabits a fragmented landscape of forests, clearcuts, wetlands and agricultural lands. Whereas non-forested habitats were used in proportion to their availability, large tracts of mature forest were used preferentially.

OLIVE-SIDED FLYCATCHER

A distinctive large flycatcher of the boreal and western coniferous forests, the Olive-sided Flycatcher gives its "quick-three-beers" song from the tops of tall snags. It makes dashing flights from its high perch to catch flying insects, then returns to the same perch.

Feeding Behavior

Forages by watching from a high, exposed perch, often on a dead branch at very top of tree, flying out to catch passing insects in the air, then returning to its perch to eat them. Always or almost always takes insects in mid-air, not from foliage or ground.

Eggs

3, rarely 2-4. White to pinkish buff, with brown and gray spots concentrated at larger end. Incubation is by female only, 16-17 days, sometimes reported as 14 days. Young: Fed by both parents. Age of young at first flight about 21-23 days.

Young

Fed by both parents. Age of young at first flight about 21-23 days.
Diet

Insects. Apparently feeds almost entirely on flying insects. In summer, a high percentage of these are various kinds of wasps, winged ants, and bees, including many honeybees. Also eats beetles, grasshoppers, true bugs, moths, and others. Winter diet not well known.

Nesting

Male defends nesting territory by singing incessantly in spring. Courtship behavior not well known, probably involves active chasing through the treetops. Nest site is in tree, usually on horizontal branch well out from the trunk. Conifers preferred in most areas, but in other areas will often nest in deciduous trees; height also quite variable, 5-70' above ground. Nest usually well hidden among dense twigs or needles. Nest (probably built by female) a flat open cup of twigs, grass, weeds, lined with finer materials.

PALLID BAT

General Description: A large, pale bat with large ears (not joined at base), large eyes, a simple muzzle, and yellowish drab dorsal pelage (palest in deserts, darkest along coast); total length 92-135 mm; tail length 35-53 mm; hind foot length 11-16 mm; ear length 21-37 mm; forearm length 45-60 mm; skull length 18.6-24 mm; mass 13.6-24.1 g in males, 13.9-28.0 g in females (Hermanson and O'Shea 1983).

Reproduction Comments: Copulation usually occurs in October-December. Delayed fertilization in spring. In the U.S., young are born in late May-early June in California, mostly late June in Kansas, probably early May to mid-June in Texas. Litter size usually is 2, sometimes 1. Young fly at 6 weeks, weaned in 6-8 weeks. In Oregon, reproductive success was reduced in a year in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows. Some hibernate; many remain active all year in low to mid-elevations.

Behavior: Emerges about an hour after sunset. Eat, then go to night roosts to digest food, then will hunt again before dawn. Roosts in small colonies of about 12 to 100 bats. Forms nursery colonies, bears with low spring temperatures. Maternity colonies usually are small, but may include up to 200+ adults, may include adult males.

Habitat Comments: Grasslands and deserts. Roosts one or two pups each year, which nurse 6-8 weeks. Able to fly at about 6 weeks. Lifespan in wild unknown, have lived 9 years in captivity.

SHARP-SHINNED HAWK

Basic Description: A robin-to-pigeon-sized woodland hawk.

Reproduction Comments: Clutch size commonly is 4-5. Incubation lasts 30-32 days (34-35 days also reported), mainly by female (male brings food). Young fledge at 3-4.5 weeks, independent at about 7 weeks. First breeds: usually 2 years (sometimes as yearling).

Habitat Comments: Forest and open woodland, coniferous, mixed, or deciduous, primarily in coniferous in more northern and mountainous portion of range. Primary habitat is boreal forest, with the greatest nesting densities occurring in eastern Canada. Young, dense, mixed or coniferous woodlands are preferred for nesting. Where conifers are scarce, as in the prairie regions, cottonwoods, poplars, and other members of the Betulaceae may be used. Migrates through various habitats, mainly along ridges, lakeshores, and coastlines. Nests usually in tree crotch or on branch next to trunk, most often 3-18 m up, hidden by thick foliage, usually in conifer in north. May build new nest, reuse old one, or modify old bird or squirrel nest. Nests generally seem to be in a stand of dense conifers near a forest opening, though this may reflect observer bias. Pairs apparently remain faithful to nesting areas for several years, although a new nest is usually constructed each season. However, this may not be universally true as Herron et al, in 1985, stated that pairs are not faithful to a nest site.

The foraging habitat during the breeding season is essentially the same as that chosen for nesting, and the birds appear to avoid open, deciduous forests, at least in Canada . During the winter, however, the males tend to hunt most frequently along hedgerows, field edges

and other ecotonal habitats, while females usually stick to extensive stands of forest or riparian areas.

SIERRA NEVADA RED FOX

According to J.D. Perrine (2005) the only known current population of Sierra Nevada red fox is around the vicinity of Lassen Peak, in Lassen National Forest, with periodic sightings by inexperienced observers throughout the rest of the Sierra Nevada. The range of the Sierra Nevada red fox is limited to the conifer forests and rugged alpine landscape of the Sierra Nevada and Cascade ranges between 4,000 feet and 12,000 feet. Preferred habitat for the Sierra Nevada red fox appears to be red fir and lodgepole pine forests in the subalpine zone and alpine fell-fields of the Sierra Nevada. Open areas are used for hunting, forested habitats for cover and reproduction. Edges are utilized extensively for tracking and stalking prey. The red fox hunts in forest openings, meadows, and barren rocky areas associated with its high elevation habitats. This species is known to inhabit vegetation types similar to those used by the marten and wolverine.

Distribution, Abundance, and Seasonality

Rare in Sierra Nevada, but widely distributed in lowlands in central and southern California. The native subspecies V. v. necator is found in Cascades, in Siskiyou Co., and from Lassen Co. south to Tulare Co. Introduced populations inhabit Sacramento and San Joaquin valleys and scattered coastal and inland locations from Sonoma Co. south to Monterey Co., and east to Stanislaus Co., as well as in Ventura, Los Angeles, and Orange cos. Sierra Nevada populations may be found in a variety of habitats, including alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. Jeffrey pine, eastside pine, and montane hardwood-conifer also are used. Populations in central and southern Callfornia occur in annual and perennial grassland, coastal scrub, wet meadow, emergent wetland, and cropland habitats, and may use mixed chaparral and chamise-redshank chaparral (Grinnell et al. 1937, Ingles 1965, Ewer 1973, Ables 1975, Gray 1975,1977, Schempf and White 1977, Gould 1980). Most sightings in Sierra Nevada above 2200 m (7000 ft), ranging from 1200-3700 m (3900-11,900 ft) (Schempf and White 1977). Sightings in central and southern California below 914 m (3000 ft) (Schempf and White 1977).

Specific Habitat Requirements

Feeding: Hunts small and medium-sized mammals, ground squirrels, gophers, mice, marmots, woodrats, pikas, and rabbits. Apparently an increasingly important predator of ground-nesting waterfowl, shorebirds, upland game birds, and eggs in lowland California and other areas. Other vertebrates, insects, carrion, fruits, and earthworms used occasionally; carrion important in winter, as are lagomorphs. Hunts in meadows, fell-fields, grasslands, wetlands, and other open habitats.

Cover: Uses dense vegetation and rocky areas for cover and den sites.

Reproduction: Den sites include rock outcrops, hollow logs and stumps, and burrows in deep, loose soil. May move pups to new den several times.

Water: Captive red foxes did not require free water as pups or adults.

Pattern: In Sierra Nevada, prefers forests interspersed with meadows or alpine fell-fields. Open areas are used for hunting, forested habitats for cover and reproduction. In lowlands, uses fence lines, hedgerows, woodlots, and other brushy, wooded areas for cover and reproduction, and hunts in cropland, wetland, urban habitats and other open areas.

Species Life History

Activity Patterns: Active yearlong; hunts day and night.

Seasonal Movements / Migration: None in many habitats. Sierra red foxes move downslope in winter into ponderosa pine and mixed conifer, upslope in summer to lodgepole pine, subalpine conifer, alpine dwarf-shrub, and red fir habitats.

Home Range: Summer home ranges in alpine and subalpine tundra of British Columbia averaged 1611 ha (3979 ac), varying from 277-3420 ha (684-8447 ac) (Jones and Theberge 1982). In Minnesota, Illinois, and Wisconsin, home ranges averaged 700 ha (1728 ac) and varied from 155-1554 ha (384-3840 ac). Red foxes have been known to travel up to 395 km (245 mi). Home range size is influenced by food abundance and habitat.

Territory: The male defends the territory, which is shared by the mated pair and pups. Defense consists of display, scent-marking, chasing, and rare physical conflict. The entire home range may be defended, or territoriality may break down in times of food abundance.

Reproduction: Mating takes place in late winter (January-March), and after a gestation period of 52 days, young born in early spring (March-May). Litter sizes in many studies averaged about 5. Most litters are 4-6, though range is 1-12. There is 1 litter/yr. Pups dependent on parents for 6 mo, and become sexually mature at 10 mo.

Niche: Coexists with coyotes in Sierra Nevada, and with gray and kit foxes and coyotes in lowland California. Numbers apparently increase when numbers of coyotes and other predators decrease, through predator control or natural factors. Sierra Nevada populations apparently reduced by grazing in meadows, which reduces prey populations, and by trapping, logging, and recreational disturbance.

Comments: Sierra Nevada red foxes are rare, and numbers may be continuing to decline. Lowland populations, presumably introduced, are expanding in range and numbers.

WESTERN RED BAT

General description: Body length about 4", with an 11-13" wingspan. Orange-brown to yellow-brown fur with a fully furred tail membrane. Long pointed wings. Short rounded ears.

Reproduction Comments: Breeds in late summer; females store sperm until spring when fertilization occurs; gestation about 80 days; young (usually quadruplets) born in May or June. Schmidly (1991) mentioned a pregnant female found in late May in northeastern Mexico. In New Mexico, pregnant females have been found in mid-May and in mid- to late June; lactating females from mid-June to mid-July.

Habitat Comments: Edge habitats of forest, rivers, fields and urban areas. Roost alone in leaves of trees. Roost in leaf litter in the winter. In Arizona and New Mexico, occasionally captured in riparian habitats dominated by cottonwoods, oaks, sycamores, and walnuts; rarely found in desert habitats. Has been captured in riparian, xeric thorn scrub, and pine-oak forest in Tamaulipas, Mexico. The one specimen from Texas (as of 1991) was captured over permanent water in desert scrub habitat (Schmidly 1991). Summer roost usually in tree foliage. Avoids caves and buildings during summer/winter. Sonoran and Transition life zones in California. Young are born and perch among tree foliage.

Behavior: Fast, strong fliers at treetop to a few feet above the ground. Hang by one foot with head tucked in furry tail membrane. Gives birth to up to 4 pups. If the mother has to move with her pups, she may become grounded due to weight of pups and unable to return with pups a roost. Predators: Scrub Jays, falcons, hawks.

YELLOW WARBLER

Habitat: Bushes, swamp edges, streams, gardens. Breeds in a variety of habitats in east, including woods and thickets along edges of streams, lakes, swamps, and marshes, favoring willows, alders, and other moisture-loving plants. Also in dryer second-growth woods, orchards, roadside thickets. In west, restricted to streamside thickets. In winter in the tropics, favors semi-open country, woodland edges, towns.

Feeding Behavior

Forages from low levels up to treetops. Takes insects from twigs and foliage, hovers briefly to take items from underside of leaves, and flies out after flying insects. Males tend to forage higher and in more open foliage than females. Forages alone in winter in the tropics, defending a winter feeding territory.

Eggs

4-5, sometimes 3-6. Greenish-white, with variety of specks or spots of brown, olive, and gray. Incubated solely by female, 11-12 days. Male feeds female on nest. Very frequently parasitized by cowbirds. May defend against parasitism by rebuilding new nest on top of cowbird eggs, or by deserting nest. Young: Fed by both parents (female does more). Young leave the nest 9-12 days after hatching.

Young

Fed by both parents (female does more). Young leave the nest 9-12 days after hatching.
Diet

Mostly insects. Up to two-thirds of diet may be caterpillars of various kinds. Also feeds on mayflies, moths, mosquitoes, beetles, damselflies, treehoppers, and other insects, plus spiders; also eats a few berries.

Nesting

Males defend nesting territories by singing, sometimes performing fluttering flight displays. Male courts female by actively pursuing her for 1-4 days. Nest: Placed in upright fork of branches in shrubs, small trees, and briars from 2-60' above ground. Nest (built by female) is compact open cup of weed stalks, shredded bark, grass, lined with plant down or fur. Males accompany females on trips to the nest and will occasionally help build. Females will steal nest material from other nests.

GRAY WOLF

The gray wolf became a state listed endangered species as of June 2014. Most, but not all, populations of gray wolf are also federally listed as endangered. Any wolves entering California are protected by both the ESA and the FESA. A wolf family has recently been photographed in north eastern California near Shasta. The species is a habitat generalist and requires large areas of low human populations and good ungulate prey availability. Wolves were hunted to extinction in California in the early 1900s. The species was known from the Klamath mountains, the Cascade range, the Sierra Nevada and the Modoc Plateau. It is unlikely that a wolf or wolf den would be seen in the plan area.

TOWNSEND'S BIG-EARED BAT

The Townsend's big-eared bat is under review for state endangered or threatened status listing. As such, timber operations must avoid take of COTO. This species roosts on the interior surfaces of caves, mines, old buildings, and cave-like analogues such as basal hollows of trees. The Landowner knows this property and other surrounding properties very well. He has stated there are no mines within the plan vicinity. None were found. During THP layout and marking the RPF searched for potential roosting trees. The following information is provided as a precaution in case a COTO (or any other bat specie for that matter) site is discovered.

Take Avoidance Measures:

1. The critical period for COTO shall be May 15th through August 15th (September 15th).
2. A stand search for potential roost habitat trees and/or caves shall be conducted prior to operations in the plan area and out to 400 feet of the plan boundary (when permission is granted).
3. Potential roost habitat trees are a tree with a basal hollow entrance of 2 square feet or greater and a diameter-at-breast-height of 42-inches or greater. The minimum entrance size in any direction for the opening shall be at least 12-inches. The interior of the basal hollow must extend above the height of the entrance and be at least 3 feet above ground level
4. No vegetation removal, felling, or yarding activities shall occur within 400 feet of the potential habitat tree or cave during the critical period and not within 200 feet outside the critical period unless the habitat has been determined not to be occupied by any bat species by the methods in #5 and #6 below.
5. For trees or unoccupied buildings, two inspections of the potential habitat shall be conducted by a qualified biologist or their supervised designee. The two inspections shall be at least a week apart and the final inspection shall be no later than 72 hours before operations begin within 400 feet of the identified tree. During the critical period (May 15 to August 15) surveyors shall utilize a red-filtered flashlight or a thermal imaging camera and be as un-intrusive as possible during the inspections. The observation of roosting bats, fresh bat guano, or noticeable odor shall be the criteria for determining bat presence. Outside the critical period (August 16 to May 14) a standard flashlight may be used. For caves, CDFW shall be consulted before inspections are undertaken.
6. If no evidence of bat use is observed during the inspections, the tree shall be retained (unless removal is agreed to after consultation with CDFW) and no habitat or disturbance measures shall be applied.

If evidence of bat use is observed, the species shall be assumed to be COTO unless subsequent consultation is undertaken with CDFW. No felling, yarding, or new road construction shall occur within 400 feet of the tree during the critical period. Outside the critical period, harvesting shall retain at least 75-sq. feet of basal area/acre within 200 feet of the tree and all non-merchantable conifers and screen

trees shall be retained within 25-feet of the tree.

If, through subsequent consultation with CDFW, the bat species present is determined to not be COTO: then no disturbance measures shall be applied. The tree shall be retained but no habitat protections will apply in the area around the tree.

If through subsequent consultation the bat species present is determined to be COTO, alternative site-specific habitat protections measures may be agreed upon with CDFW and those alternative measures shall be amended into the plan through a minor amendment.

PLANTS

REPORT OF BOTANICAL SURVEY FOR THE BLUEBERRY HILL THP

Survey Methodology

In order to prepare for the survey CDFW Natural Diversity Data Base was contacted for listings of rare and/or endangered species located within the USGS quad the project area is found on, plus all quads which surround the quads of the project area. The quads searched for preparation of this scoping include Chicago Park, Colfax, Dutch Flat, Foresthill, Grass Valley, Lake Combie, Nevada City, North Bloomfield, and Washington. Total acreage in this form of scoping equals **332,145** acres. The California CDFW Natural Diversity Data Base was queried for both the Camptonville and Strawberry Valley USGS Quads with a report received which expires April 2, 2016. This search revealed no known occurrences of special-status plant or wildlife species within the project area. Also, the California Native Plants Societies Inventory of Rare and Endangered Vascular Plants and the Consortium of California Herbaria were consulted revealing no known or suspected occurrences of special-status plant or wildlife species to occur within the project area. Through the scoping process I was able to determine which plants needed to be included in the rare and/or endangered classification reconnaissance. It was determined that the plants which needed special attention included those classified as CNPS 1 & 2. By utilizing information provided from the following websites I downloaded color pictures and exact descriptions of the plants and their environments to aid in location of any such specie(s). CNPS, Cal Photo, Calflora, and USDA Plants are especially a great source for color photos to be used in a key. The amount of digital photos has increased at least ten fold over the last two years.

HELPFUL WEBSITES

http://www.rareplants.cnps.org/	*http://www.calflora.org*	*http://www.audubon2.org*
http://ucjeps.berkeley.edu	*http://www.frap.cdf.ca.gov/projects/esu*	
http://www.calphotos.berkeley.edu	*http://www.CaliforniaHerps.com*	
http://ucjeps.berkeley.edu/consortium	*http://www.werc.usgs.gov*	
http://www.ecos.fws.gov	*http://www.plants.usda.gov*	
http://www.swrcb.ca.gov/	*http://www.dfg.ca.gov*	

During the timber marking phase in preparation for this THP I made notes and took gps location points for areas of interest for the botanical survey of the project area. The timber marking phase allowed for me to visit all parts of the property. Once I determined what areas to re-visit the botanical survey project areas were perused on a grid equal to approximately 2 chains (132') by 2 chains with .5 chain (33') plots. The transect survey was designed to collect data on the location and density of sensitive plants that might be located within the area(s) of survey. My survey team consisted of just myself using a GPS to walk transect lines that, to the extent possible, ignored topographic changes.

One of my primary concerns was to document not only where listed plants occur, but also where they do not. Thus, areas were sampled on a 2 chain interval and were offset in areas where it was physically impossible to locate a plot center (ex. thick brush). Sample plots were perused from a circle with a .5 chain radius. The location of each plot center was recorded with GPS and given a name consisting of the letter "B" (for Blueberry) and a sequential number.

If in the course of walking a transect a location were to be identified where a listed plant was identified, I had planned to give this location an ID number (ex. - the letter A followed by a sequential number), record its location with a GPS and a total station, and record some general observations about the actual immediate surrounding habitat. Some of initial questions are how these "patches" relate to various landscape attributes.

D. Dates of field survey and total person-hours spent: The dates of the surveys were 8/29/15, 8/30/15, 10/3/15, & 3/12/16. Total person(s) hours spent on the survey were 9.5 hours.

E. Results of field survey: To date, no listed plants have been found.

F. Potential impacts assessment: Although no plants were located it is possible that some plants could be found on site. *Therefore another cursory survey will be performed prior to operations to verify existence/nonexistence of special plants. If plants of concern are discovered this information will be immediately provided to Cal-Fire and CDFW.*

G. Discussion of the significance of rare, threatened and endangered plants within the project area: No rare, threatened or endangered plants were discovered within the project area during the survey phase.

H. Recommended measures to avoid impacts: No additional measures are necessary.

I. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s): No reference sites were visited.

J. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms: No forms were prepared as no plants were found.

K. Name of field investigator(s): Registered Professional Forester Terry L. Rogers

L. References cited, persons contacted, herbaria visited, and the location of voucher specimens: References are sited under subset C above. The Chico State Herbarium, located in the College of Natural Science in Chico, California was visited and the Jepson Online Interchange for California Floristics was perused for pertinent information necessary to do an adequate survey. There are no voucher specimens.

SURVEYORS SKILLS & ABILITIES

- I possess a degree in Forestry from an accredited California college
- I have logged approximately 1235 hours of Internet Research seeking information concerning plants and animals of California. In particular I have spent this time attempting to determine a methodical approach to make determinations concerning rare and/or endangered species or species of special concern.
- I possess a general botanical knowledge, including forest plant identification and vegetation ecology.
- I have knowledge of plant conservation laws and regulations, both California and Federal.
- I believe I have a high degree of commitment and dedication to plant conservation goals in relation to timber harvesting.
- I have strong computer literacy and moderate database management skills and data entry proficiency.
- I have familiarity with GPS and GIS mapping methods such as ArcView.
- I spent the 2009 season in Idaho, Colorado and Arizona conducting Common Stand Exams (CSE), establishing Shrub-Crown cover plots, Sig plots, and FIA's on various National Forests. CSE Fieldwork requires recording tree data with a PDR on each point using a BAF prism or Fixed Plots; limiting distances were measured. Some data collected include species, dbh, tree height, tree vigor, insect & disease, tree and stand age, seral stage or habitat type, canopy cover, ground cover, GPS Coordinates, fuels transects, wildlife use, site index and many more measurements.
- I have a moderate knowledge of plant taxonomy and plant community ecology.
- I am familiar with the plants of this area, including rare, threatened, and endangered species.
- I am familiar with the appropriate state and federal statutes related to plants and plant collecting.
- I am gaining experience in analyzing impacts of development on native plant species and communities.
- I have made numerous visits to the Biological Sciences Herbarium, California State University, Chico to study flora of Northern California.
- I have attended a workshop at California State University, Chico on rare plant survey protocols with an emphasis on pre-field

information review, field survey methods, mapping techniques, and reporting standards as part of a Northern California Botanists Conference.

As a result of the Botanical Survey the following table was developed for review concerning plants that may have the potential to exist within the project area (or biological survey area).

Special Status Plant Species Known or Thought to Occur in the Project Region

Species	Status*	Blooming period	Habitat	Probability in Project Site
Ahart's buckwheat	Fed: State: S2 CNPS: 1B	June to September	• Serpentinite, slopes, openings. • Chaparral • Cismontane woodland Elevation: 1310' to 6560'	Am very familiar with buckwheats. Low possibility of this plant on site. If it is, it most likely would be found in a non-timbered area.
Buxbaumia moss	Fed: State: S2 CNPS: 2.2	No flowers	•Lower montane coniferous forest •Subalpine coniferous forest •Upper montane coniferous forest/Fallen, decorticated wood or humus Elevation: 3200' to 7220'	Habitat is most likely present within the biological assessment area. I actually surveyed for all plants listed here in this table. This specie was not found during the survey.
Brownish-beaked rush	Fed: State: S2S3 CNPS: 2.2	July to August	•Lower montane coniferous forest •Meadows and seeps •Marshes and swamps •Upper montane coniferous forestazq/mesic Elevation: 1490' to 6560'	None. Required habitat is not found on site.
Cantelow's lewisia	Fed: State: CNPS: 1B.2	May to October	•Broadleafed upland forest •Chaparral •Cismontane woodland •Lower montane coniferous forest/mesic, granitic, sometimes serpentinite seeps Elevation: 1100' to 4500'	None. Required habitat or resource not available within the project area. No impacts are anticipated.
Caribou coffeeberry	Fed: State: S2 CNPS: 1B.2	May to July	Serpentinite • Chaparral • Lower montane coniferous forest • Meadows and seeps • Upper montane coniferous forest Elevation: 2705' to 6330'	None. Required habitat or resource not available on site. No impacts are anticipated.
Clifton's eremogone	Fed: State: S3? CNPS: 1B.3	April to September	Oopenings, usually granitic. • Chaparral • Lower montane coniferous forest • Upper montane coniferous forest Elevation: 1490' to 5810'	None. Required habitat or resource not available on site.
Constance's rockcress	Fed: State: S2 CNPS: 1B.1	May to July	Serpentinite, rocky • Chaparral • Lower montane coniferous forest • Upper montane coniferous forest) Elevation: 3200' to 6640'	None. Required habitat or resource not available within the project area.

Species	Status*	Blooming period	Habitat	Probability in Project Site
Cylindrical trichodon	Fed: State: S2 CNPS: 2B.2	Moss	Sandy, exposed soil, roadbanks. • Broadleafed upland forest • Meadows and seeps • Upper montane coniferous forest Elevation: 160' to 6570'	None. Required habitat or resource not available within the project area.
Dissected-leaved toothwort	Fed: State: S2 CNPS: 1B.2	February to May	• Usually serpentinite, rocky • Chaparral • Lower montane coniferous forest Elevation: 840' to 6890'	Some toothwart are found in the area and this one will be studied closely. The leaf has particular distinctions, as well as the flower. It could possibly be found on-site.
Flexuose threadmoss	Fed: State: S1 CNPS: 2B.1	Moss	Roadsides, rocky seeps. • Lower montane coniferous forest Elevation: 3120' to 3360'	None. Required habitat or resource not available within the project area.
Inundated bog-clubmoss	Fed: State: CNPS: 2.2	September	•Bogs and fens (coastal) •Lower montane coniferous forest (mesic) •Marshes and swamps (lake margins) Elevation: 10' to 3200'	None. Required habitat or resource not available on site. According to CNPS optimum elevation is not found on this THP. No impacts are anticipated.
Layne's ragwort	Fed: State: CNPS: 1B.2	April to August	According to CNPS habitats include chaparral, cismontane woodland and serpentinite or gabbroic, rocky sites Elevation: 660' to 3280'	None. These gabbro and/or serpentine soils are not found anywhere on the project area.
Mildred's clarkia	Fed: State: S3 CNPS: 1B.3	May to August	• Sandy, usually granitic. • Cismontane woodland • Lower montane coniferous forest Elevation: 800' to 6210'	I am quite familiar with the Clarkia's. Both Mildred's and Mosquin's flower are quite distinctive. Although not likely found in timber area, possibility it could be found in operations area.
Minute pocket moss	Fed: State: S1 CNPS: 1B.2	No flowers	•North Coast coniferous forest (damp coastal soil) Elevation: 30' to 3360'	None. Required habitat would not be found in a harvestable area.
Mosquin's clarkia	Fed: State: S2 CNPS: 1B.1	May to July	• Rocky, roadsides • Cismontane woodland • Lower montane coniferous forest Elevation: 610' to 4000'	I am quite familiar with the Clarkia's. Both Mildred's and Mosquin's flower are quite distinctive. Although not likely found in timber area, possibility it could be found in operations area.
Plumas Sierra arching sedge	Fed: State: S2S3 CNPS: 1B.2	May to August	• Lower montane coniferous forest (mesic) • Meadows and seeps • Marshes and swamps • Riparian forest (margins) Elevation: 2000' to 4460'	None. Suitable habitat does not exist. The optimum habitat for this species is not present on the THP area. No impacts are anticipated.
Sierra blue grass	Fed: State: S2S3 CNPS: 1B.3	April to June	• Openings • Lower montane coniferous forest Elevation: 1200' to 4920'	Low possibility habitat is found on site. Have studied this one at CSU Herbarium. Not found on site during botanical surveys. According to Consortium of California Herbaria this species appears to be found mostly in steep canyon areas.

Species	Status*	Blooming period	Habitat	Probability in Project Site
Sticky pyrrocoma	Fed: State: S3 CNPS: 1B.2	July to October	•Great Basin scrub •Lower montane coniferous forest •Meadows and seeps/alkaline clay Elevation: 2300' to 6400'	None. Habitat is not found on site. Appears to be found only in Sierra, Plumas, Lassen and Yuba Counties.
Upswept moonwart	Fed: State: S2 CNPS: 2B.3	July to August	Mesic • Lower montane coniferous forest • Meadows and seeps Elevation: 3660' to 8860'	None. Habitat is not found on site. A little low for the projected elevation requirements.

*Status

STATE RANKING

The state rank (S-rank) is assigned in reference to the imperilment status only within California's state boundaries.

S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 = Secure—Common, widespread, and abundant in the state.
SH = All California sites are historical

CALIFORNIA NATIVE PLANT SOCIETY LISTS

CNPS has created five "lists" in an effort to categorize degrees of concern. They are described as follows:

List 1A: Plants Presumed Extinct in California

The plants of List 1A are presumed extinct because they have not been seen or collected in the wild in California for many years. This list includes plants that are both presumed extinct as well as those plants which are presumed extirpated in California. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

Plants are placed on List 1A in an effort to highlight their plight and encourage field work to relocate extant populations.

All of the plants on List 1A meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to the California Environmental Quality Act (CEQA).

List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

The plants of List 1B are rare throughout their range with the majority of them endemic to California. Most of the plants of List 1B have declined significantly over the last century. List 1B plants constitute the majority of taxa in the CNPS Inventory, with more than 1,000 plants assigned to this category of rarity.

All of the plants on List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Except for being common beyond the boundaries of California, the plants of List 2 would have appeared on List 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Endangered Species Act. Until 1979, a similar policy was followed in California. However, after the passage of the Native Plant Protection Act in 1979, plants were considered for protection without regard to their distribution outside the state.

With List 2, we recognize the importance of protecting the geographic range of widespread species. In this way we protect the diversity of our own state's flora and help maintain evolutionary processes and genetic diversity within species. All of the plants constituting List 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

Threat Ranks

The CNPS Threat Rank is an extension added onto the CNPS List and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all List 1B's, List 2's and the majority of List 3's and List 4's. List 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California. However, certain conditions exist to make the plant a species of concern and hence be placed on a CNPS List. In addition, all List 1A (presumed extinct in California), and some List 3 (need more information) and List 4 (limited distribution) plants, which lack threat information, do not have a Threat Rank extension.

Threat Ranks

0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

DESCRIPTION OF HABITATS USED IN ASSOCIATION WITH THE SPECIAL STATUS PLANT Species TABLE ABOVE (IN PARTICULAR HABITATS THAT COULD BE LISTED AND LOGICALLY FOUND WITHIN THE RANGE OF THIS ASSESSMENT)

The following listed habitats follow brief characterizations outlined by Robert F. Holland and John O. Sawyer, Jr. and are presented in taxonomic rather than alphabetical order.

HABITATS:

Chaparral (Chprl): Impenetrably dense, evergreen, leathery-leaved shrubs that are active in winter, dormant in summer, and adapted to frequent fires either through resprouting or seed carry-over. There is a characteristic florula of fire-following annuals and short-lived perennials. Mature stands may exceed 3-4 meters in height. It occurs on diverse substrates, many of which support distinctive suites of edaphic indicators. Chaparral may be successional to conifer forests or oak woodlands, as tree seedlings can be found beneath the shrub canopies.

Meadows and seeps (Medws): More or less dense grasses, sedges, and herbs that thrive, at least seasonally, under moist or saturated conditions. They occur from sea level to treeline and on many different substrates. They may be surrounded by grasslands, forests, or shrublands

Bogs and fens (BgFns): Wetlands, typically occupying sites sub-irrigated by cold, frequently acidic, water. Plant growth dense and low growing, dominated by perennials herbs or low shrubs. Saturated soils frequently allow substantial accumulations of "peat." From the Klamath Ranges to North Coast Ranges, along the North Coast and in the northern Sierra Nevada.

Marshes and swamps (MshSw): Emergent, suffrutescent herbs adapted to seasonally or permanently saturated soils. These include salt, brackish, alkali, and fresh water marshes, as well as swamps, with their woody dominants and hydrophytic herbs. Found throughout California.

Riparian forest (RpFrs): Broadleaved, winter deciduous trees, forming closed canopies, associated with low- to mid-elevation perennial and intermittent streams. Most stands even-aged, reflecting their flood-mediated, episodic reproduction. These habitats can be found in every county and climate in California.

Riparian woodland (RpWld): Broadleaved, winter deciduous trees with open canopies associated with low- to mid-elevation streams. Most stands even-aged, reflecting their flood-controlled, episodic reproduction. This type tends to occupy more intermittent streams, often with cobbly or bouldery bedloads.

Riparian scrub (RpScr): Streamside thickets dominated by one or more willows, as well as by other fast-growing shrubs and vines. Most plants recolonize following flood disturbance.

Cismontane woodland (CmWld): Trees deciduous, evergreen, or both, with open canopies. Broadleaved trees, especially oaks, dominate, although conifers may be present in or emergent through the canopy. Understories may be open and herbaceous or closed and shrubby. This type occurs on a variety of sites below the conifer forests in Mediterranean California.

Broadleafed upland forest (BUFrs): Stands of evergreen or deciduous, broadleaved trees 5 meters or more tall, forming closed canopies. Many, but not all, with very poorly developed understories. Several are seral to montane conifer forests. It includes the "mixed evergreen forest" of the Coast Ranges.

Lower montane coniferous forest (LCFrs): Open to dense stands of conifers found at lower and middle elevations in the mountains. Broadleaved trees may be present in the understory. Shrubstories may be dense assemblages of chaparral species, especially in seral stands. The upper limit of lower montane coniferous forests more or less coincides with the elevation of maximum annual precipitation.

Upper montane coniferous forest (UCFrs): Open to dense conifer forests, found at high elevations in the mountains. Trees tend to be somewhat shorter than at lower elevations. Shrubstories tend to be open, drawn from adjacent montane chaparral species, or lacking. Above the elevation of maximum precipitation, with growing seasons curtailed by winter snow accumulations.

Subalpine coniferous forest (SCFrs): Conifer forests and associated clearings of highest elevations of tree establishment. This type occurs in areas where substantial snowpack accumulation and cold temperatures limit the growing season to three months or less.

BIOLOGICAL RESOURCES CONCLUSION

During field work associated with the preparation of this timber harvest plan I effectively covered all parts of the project area. I saw no signs of raptors, rare or endangered wildlife species, or species of special concern which would use any part of the THP area for their activities, including foraging and/or nesting.

I have prepared a lot of harvest and management plans over the last 20 years and have come to have an actual routine that I associate with this preparation. I like to keep a close eye out for many factors that relate to wildlife and botany issues. This paragraph is more in reference to wildlife. I do thorough reconnaissance of items that might relate to wildlife. Some of these are scat, hollow logs and trees, dens, nests, whitewash, plucked prey, animal trails, animal beds, and feathers in general. I covered practically every inch of the property and was quite amazed that there were very few animal trails. I realize that deer herds are most likely in the higher country, but I could not hardly find any old trails. I believe this fact is due to the lack of water on the property. The only Class III watercourse associated with this plan is actually off-site and has hardly discernable features that would actually classify these streams as class III. There was NO whitewash within the timber stands. There were no nests at any height in trees, of which I studied from all angles with binoculars and at different times of the day.

It is my conclusion that there are no rare, endangered, or species of special concern associated with this plan area. There is no old growth forest component associated with the plan area. There is however, evidence of deer, small birds and other small mammals that utilize the plan area. I believe that most of these will not be impacted by the timber operations and the openings created during marking and harvesting will, in many cases, provide for better habitat. A stable ecosystem is characterized by a constant turnover of materials, and a rough balance between losses of material from the system and their replacement from atmosphere or substrate. Timber harvesting, when done within compliance of the rules set down in the California Forest Practice Act, is a means of providing this turnover of materials in the forest. The following items are being addressed as part of this plan to demonstrate some of the important considerations that have gone in to preparing this THP with consideration for biological resources, as well as attempting to maintain diversity and promote plant growth and potential nesting and den sites. These could be considered "mitigations". I prefer to believe that these should be standard for wildlife and plant protection.

1. The end result of this harvest and the requirements of the silviculture method proposed should allow for a mosaic effect concerning wildlife habitats. As biodiversity increases over time, so does the prey base, hopefully resulting in improved habitat.

2. Large, coarse, woody debris will be left on site and undisturbed wherever possible (unfortunately this will not be the case in the conversion area as the entire conversion area needs to be removed in order to proceed with the planned blueberry farm. In addition, large non-merchantable, as well as hard green, cull trees will remain on site in the alternative prescription stand to provide possible den sites and future replacement trees. This item will be discussed thoroughly with the LTO at an "on-site" meeting prior to the start of operations.

3. If large, green trees exhibiting desirable wildlife habitat characteristics(i.e. multiple tops, active or potential nesting cavities, and dead tops, etc.) are found within the plan area these types of trees will be left standing unless they pose a safety hazard.

POTENTIAL PEST OR PROTECTION PROBLEMS

Armillaria root disease and Annosus root disease

Annosus root disease, caused by the fungus Heterobasidion annosum, lives in the butt and roots of commercially important forest trees. The fungus is a facultative parasite; that is, it lives primarily as a saprophyte, but is capable of attacking the living tissue of host trees. The maximum life span of *H. annosum* in a coniferous root system is difficult to estimate, but various reports have indicated that it may reach 60-80 years and is usually much less on small root systems. Other root decay fungi such as *Armillaria* sp., while not as efficient as *H. annosum* in colonizing freshly cut woody substrate, may live much longer in the roots of host trees. However, armillaria is a very different fungus and has other mechanisms for long term survival.

In Armillaria root disease the degradatione of stands established after harvest or severe fires generally results from infections spreading from primary inoculum (stumps or buried woody material from the previous stand). Inoculum potential slowly declines as the roots of stumps and snags deteriorate. Although the disease can be severe in the first few years after stand establishment, mortality of resistant species, such as pines and larch, generally declines after two or three decades, often with little lasting impact on stands.

Appendix C

b. [ ] Yes [✱] No **Are any alternatives to the rules for slash treatment along roads and within 200 feet of structures requested? If yes, RPF must explain and justify how alternative provides equal fire protection. Include a description of the alternative and where it will be utilized below.**

31.

[ ] Yes [✱] No Will piling and burning be used for hazard reduction? See 14 CCR 937 et seq., for specific requirements. Note: LTO is responsible for slash disposal. This responsibility cannot be transferred.

BIOLOGICAL AND CULTURAL RESOURCES

32.

a. [ ] Yes [✱] No Are any plant or animal species, including their habitat, which are listed as rare, threatened or endangered under federal or state law, or sensitive species by the Board, associated with the THP area? If yes, identify the species and the provisions to be taken for the protection of the species.

The California Forest Practice Rules defines "sensitive species by the Board" to be: Sensitive Species means those species designated by the Board pursuant to 14 CCR 898.2(d). These species are the Bald eagle, Golden eagle, Great blue heron, Great egret, Northern goshawk, Osprey, Peregrine falcon, California Condor, Great gray owl, Northern spotted owl, and Marbled Murrelet.

NOTE: See THP Form Instructions or the CDF Mass Mailing, 07/02/1999, section on "CDF Guidelines for Species Surveys and Mitigations" to complete these questions.

IDENTIFICATION OF SPECIES

	FED STATUS	CA STATUS	B.O.F. SENSITIVE SPECIE	PLANT STATE RANKING	CNPS RANKING
California red-legged frog	FT	CSC			
Great gray owl		CE	YES		
Northern goshawk			YES		
Pacific fisher			YES		
Sierra Nevada red fox		CT			
Sierra Nevada yellow-legged frog	FE	CT			
Townsend's big-eared bat		CT			
Dissected-leaved toothwort				S2	1B.2
Mildred's clarkia				S3	1B.3
Mosquin's clarkia				S2	1B.1

KEY

Federal:

DEL - Delisted
FE - Federal Endangered
FT - Federal Threatened
FP - Fully protected
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate
FPD - Federal Proposed for Delisting
FSC - Federal Species of Concern
FSLC - Federal Species of Local Concern

State:

CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CCT - California Candidate Threatened
CFP - California Fully Protected
CSC - California Species of Special Concern

FOR COLUMNS 4 & 5 PLEASE SEE PAGES 59-60 (IN SECTION III) OF THIS PLAN FOR EXPLANATION OF RANKINGS

PROVISIONS TO BE TAKEN FOR THE PROTECTION OF THE SPECIES

CALIFORNIA RED-LEGGED FROG

SUMMARY

The California red-legged frog has a range and distribution consistent with the project area. It is found in portions of the Sierra Nevada usually below 3950 ft. However, the habitat is not consistent with the project area. It requires quiet pools of streams, marshes, and occasionally ponds. They use cover that is highly aquatic and prefer shorelines with extensive vegetation, and usually escapes to water at least 3 feet deep at the bottom of pools. Eggs are deposited in permanent pools attached to emergent vegetation. 8 essential aquatic habitat elements for the California red-legged frog have been identified and include: the current range, stream classification (watercourses with pools year round), no presence of non-native predators, less than 4% stream gradient, presence of slack water areas, streams greater than 20" in depth during high water, calm water bodies greater than 20" in depth, and calm water bodies that are over 500 square feet in size.

These element have been examined in the California Red-Legged Frog Habitat Assessment Worksheet and are described below.

Range: The project area lies within the current range of the CRLF.

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

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.

Stream Gradients less than 4%: Steams with less than 4% gradient are considered to provide suitable breeding habitat.

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 refuge within a 1/4 mile.

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.

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.

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.

Sources: "California Wildlife Habitat Relationship System — California Red-Legged Frog" California Department of Fish and Game (2008), "Recovery Plan for the California Red-legged Frog" US Fish and Wildlife Service (2002)

OCCURRENCE

No sightings have been reported within the THP area or the Biological Assessment Area of the Blueberry Hill THP.

CALIFORNIA RED-LEGGED FROG HABITAT ASSESSMENT WORKSHEET

Watercourse Type	ALL		Streams			Calm waterbodies	
Watercourse segment	Stream Classification	Non-native predators present	Stream gradients >4%	Slack water areas	>than 20" in depth during high water mark	>than 20" in depth	At lease 500 sq. Ft. In size
1 (off-site)	III	No	No	No	Yes	No	Yes

MITIGATION

The RPF has determined that suitable habitat for the CRLF is not present in the plan area for the following reasons. Whereas the CRLF prefers streams with slow current, in stream aquatic vegetation for cover and food, and partial shade allowing them to sun themselves on during the cool season it has been determined that these conditions are not present in the off site class III watercourse.

GRAY WOLF

The gray wolf became a state listed endangered species as of June 2014. Most, but not all, populations of gray wolf are also federally listed as endangered. Any wolves entering California are protected by both the ESA and the FESA. A wolf family has recently been photographed in north eastern California near Shasta. The species is a habitat generalist and requires large areas of low human populations and good ungulate prey availability. Wolves were hunted to extinction in California in the early 1900s.The redwood region does not have any specific history of wolf presence. The species was known from the Klamath mountains, the Cascade range, the Sierra Nevada and the Modoc Plateau. It is unlikely that a wolf or wolf den would be seen in the plan area. The following protection measures will avoid take of wolf:

MITIGATION

If a suspected gray wolf, wolf den, or wolf rendezvous site is discovered during operations, the LTO shall immediately cease all vegetative disturbances within 500 feet of the wolf sighting, wolf rendezvous site, or wolf den and contact the RPF. A consultation with CDFW will be initiated. The results of the consultation shall be amended into the THP.

NORTHERN GOSHAWK

According to CCR 939.3 - Specific Requirements for Protection of Nest Sites

The following requirements shall apply to nest sites containing active nests and not to nest sites containing only abandoned nests.

(a) Buffer zones shall be established around all nest trees containing active nests. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of timber operations. In consultation with the Department of Fish and Game, and as approved by the Director, an RPF or supervised designee shall flag the location of the boundaries of the buffer zone, and the configuration of the buffer zone. Consultation with the Department of Fish and Game shall be required pursuant to 14 CCR 898. Consideration shall be given to the specific habitat requirements of the bird species involved when configuration and boundaries of the buffer zone are established.

(b) The size of the buffer zone for the Northern goshawk shall be as follows:

> **(4)** For the Northern Goshawk, the buffer zone shall be a minimum of five acres in size. When explained and justified in writing, the Director may increase the size of the buffer zone to a maximum of 20 acres when necessary to protect nesting birds.

(c) The following year around restrictions shall apply within the buffer zone.

> **(4)** For the Northern goshawk, designated nest trees, screening trees, perch trees, and replacement trees shall be left standing and unharmed. Only the commercial thinning, sanitation-salvage, and selection regeneration methods are permitted in the buffer zone.

(d) Critical periods are established for each species and requirements shall apply during these critical periods as follows:

> **(4)** For the Northern Goshawk, the critical period is from March 15 until August 15. During this critical period, no timber operations are permitted; however, new road construction is permitted if the Director determines that there is no feasible alternative. Exceptions may be approved by the Director after consultation with the Department of Fish and Game to allow hauling on existing roads that normally receive use within the buffer zone during the critical period.

PACIFIC FISHER

There are no known sightings of fishers within the biological assessment area according to CNDDB records. Habitat for the species does not occur within the THP. The critical breeding period is March 1 to July 31st. Structural elements used by fisher include; 1) live trees with cavities, broken tops or other similar features; 2) snags, particularly those with cavities or broken tops; 3) platforms formed by other nesting animals or witches broom associated with mistletoe; 4) existing logs either individual or in aggregations of coarse woody material, stumps etc.; and, 5) ground cavities. Other stand characteristics selected by fisher include high levels of canopy cover (>60%) and relative greater height and average diameter of the stand in relationship to the surrounding areas.

The following protection measures will be implemented in any year the Pacific Fisher is a candidate or listed species pursuant to the ESA;

1. If a fisher is sighted in a harvest unit during timber operations, all vegetation disturbing activities will be suspended within the unit until a qualified biologist has reviewed the area. If a den of a fisher is discovered, all operations (per PRC Sec 4527) will be suspended within a 375 foot radius around the denning site. DFW and CALFIRE will then be immediately notified.

2. Take Avoidance Measures will include protection of den structures with the following characteristics:

   a. A potential den structure for Inland Forest Districts includes hardwoods with visible indicators of cavity formation (dead or alive) ≥15 inches dbh; a conifer snag ≥22 inches dbh; or a live green cull or green wildlife conifer ≥22 inches dbh. A live green cull is a conifer tree with less than 25% merchantable wood by volume. A green wildlife conifer is considered a potential den or resting structure when it has mistletoe brooms, or large rest branches, and visible signs of fungus or other indications of cavity formation or visible cavity openings.

   b. During the Natal period of March 1st to May 15th, potential den trees will not be felled.

   c. During the Maternal period of May16th to July 31st, potential den trees will not be cut until the day after all other trees intended to be felled within a ten acre area (375 ft radius) have been felled. If a fisher has kits in a den tree within the area, this will allow her additional time to move her kits from the area. The company RPF will be responsible for instructing the LTO regarding these take avoidance measures.

   d. DFW shall be consulted if site-specific avoidance measure are needed that differ from those described above. After such consultation a minor amendment detailing the agreed protection measures shall be filed with CALFIRE. Any additional site specific avoidance measures developed through consultation with DFW will provide equal or greater protection to those stated above.

3. Mitigations measures incorporated into this plan will ensure the retention and recruitment of habitat elements important to fishers. Unmerchantable snags and green culls will be retained where they do not pose a safety hazard. Large woody debris and cull logs will be retained. All non-hazardous trees with a visible cavity will be retained. Except where needed to meet silvicultural objectives, all non-hazardous hardwoods will be retained. Trees with potential den sites will only be felled consistent with the above described take avoidance measures. Felling and harvest operations will commence progressively through the harvest area in such a fashion as to allow a potential fisher denning site to move their young away from the operational activity.

These measures reduce the risk of direct take of fishers. The mitigation measures prescribed above will provide suitable habitat for this species within the managed forest landscape.

SIERRA NEVADA RED FOX

According to J.D. Perrine (2005) the only known current population of Sierra Nevada red fox is around the vicinity of Lassen Peak, in Lassen National Forest, with periodic sightings by inexperienced observers throughout the rest of the Sierra Nevada. The range of the Sierra Nevada red fox is limited to the conifer forests and rugged alpine landscape of the Sierra Nevada and Cascade ranges between 4,000 feet and 12,000 feet. Preferred habitat for the Sierra Nevada red fox appears to be red fir and lodgepole pine forests in the subalpine zone and alpine fell-fields of the Sierra Nevada. Open areas are used for hunting, forested habitats for cover and reproduction. Edges are utilized extensively for tracking and stalking prey. The red fox hunts in forest openings, meadows, and barren rocky areas associated with its high elevation habitats. This species is known to inhabit vegetation types similar to those used by the marten and wolverine.

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If a red fox is sighted in the THP area during timber operations, all vegetation disturbing activities will be suspended within 1/4 mile of the feature until a qualified biologist has reviewed the area. According to Perrine Sierra Nevada red fox likely use whatever structures are available to them, whether among rocks or in the ground, but to date no accounts of earthen burrows in the mountains of California are known. If a den of a red fox is discovered, all operations will be suspended within a 375 foot radius around the denning site. DFW and CALFIRE will then be immediately notified.

SIERRA NEVADA YELLOW-LEGGED FROG

The habitat of Sierra Nevada yellow-legged frogs includes sunny river margins, meadow streams, isolated pools, and lake borders in the Sierra Nevada. Sierran frogs are most abundant in high elevation lakes and slow-moving portions of streams. They seldom are found away from water but may cross upland areas in moving between summer and winter habitats. Wintering sites include areas near shore under ledges and in deep underwater crevices. There are no documentations of SNYLF in the North Yuba River system, although there is evidence of this frog in the South Yuba River management areas at higher elevations. This frog could conceivably be found along some portion of the Yuba River found in this biological assessment area but it is highly unlikely to be found anywhere in close proximity to this plan area.

TOWNSEND'S BIG-EARED BAT

The Townsend's big-eared bat is under review for state endangered or threatened status listing. As such, timber operations must avoid take of COTO. This species roosts on the interior surfaces of caves; mines, old buildings, and cave-like analogues such as basal hollows of trees. The Landowner knows this property and other surrounding properties very well. He has stated there are no mines within the plan vicinity. None were found. During THP layout and marking the RPF searched for potential roosting trees. The following information is provided as a precaution in case a COTO (or any other bat specie for that matter) site is discovered.

Take Avoidance Measures:

1. The critical period for COTO shall be May 15th through August 15th (September 15th).

2. A stand search for potential roost habitat trees and/or caves shall be conducted prior to operations in the plan area and out to 400 feet of the plan boundary (when permission is granted).

3. Potential roost habitat trees are a tree with a basal hollow entrance of 2 square feet or greater and a diameter-at-breast-height of 42-inches or greater. The minimum entrance size in any direction for the opening shall be at least 12-inches. The interior of the basal hollow must extend above the height of the entrance and be at least 3 feet above ground level

4. No vegetation removal, felling, or yarding activities shall occur within 400 feet of the potential habitat tree or cave during the critical period and not within 200 feet outside the critical period unless the habitat has been determined not to be occupied by any bat species by the methods in #5 and #6 below.

5. For trees or unoccupied buildings, two inspections of the potential habitat shall be conducted by a qualified biologist or their supervised designee. The two inspections shall be at least a week apart and the final inspection shall be no later than 72 hours before operations begin within 400 feet of the identified tree. During the critical period (May 15 to August 15) surveyors shall utilize a red-filtered flashlight or a thermal imaging camera and be as un-intrusive as possible during the inspections. The observation of roosting bats, fresh bat guano, or

noticeable odor shall be the criteria for determining bat presence. Outside the critical period (August 16 to May 14) a standard flashlight may be used.

For caves, CDFW shall be consulted before inspections are undertaken.

6. If no evidence of bat use is observed during the inspections, the tree shall be retained (unless removal is agreed to after consultation with CDFW) and no habitat or disturbance measures shall be applied.

If evidence of bat use is observed, the species shall be assumed to be COTO unless subsequent consultation is undertaken with CDFW. No felling, yarding, or new road construction shall occur within 400 feet of the tree during the critical period. Outside the critical period, harvesting shall retain at least 75-sq. feet of basal area/acre within 200 feet of the tree and all non-merchantable conifers and screen trees shall be retained within 25-feet of the tree.

If, through subsequent consultation with CDFW, the bat species present is determined to not be COTO: then no disturbance measures shall be applied. The tree shall be retained but no habitat protections will apply in the area around the tree.

If through subsequent consultation the bat species present is determined to be COTO, alternative site-specific habitat protections measures may be agreed upon with CDFW and those alternative measures shall be amended into the plan through a minor amendment.

32. b. Yes ☐ No ☒ Are there any non-listed species which will be significantly impacted by the operations? If yes, identify the species and the provisions to be taken for the protection of the species.

Protection for non-listed raptors:

Should any nesting non listed raptor be discovered during the course of operations within the THP area the following protection measures shall apply:

1) The nest trees, replacement trees, perch tree and screening trees shall be protected.

2) Should operations cause the nesting raptor to vocalize, get up from a brooding position, or fly off the nest, operations will be moved back from the nest far enough to stop this agitated behavior by the raptor.

Operations can resume in the setback area once the young have left this set back area.

Walk-Through Survey Prior to Operations

A thorough walk through shall be done within the entire project area prior to any and all entries associated with operations as defined by this THP to determine the presence or absence of any listed species (animal or plant) which are rare, threatened or endangered under federal or state law, or sensitive species by the Board. Should field personnel detect raptor presence, they will take appropriate protection measures as outlined above for the particular specie detected.

33.

[ ] Yes [☒] No Are there any snags which must be felled for fire protection or safety reasons? If yes, describe which snags are going to be felled and why.
Snag recruitment shall be performed as part of this THP. However, snags over 20 ft. in height and 16 in. dbh shall be felled in the following locations: (1) Within 100 feet of main ridge tops that are suitable for fire suppression and (2) within 100 feet of all public roads, permanent roads, seasonal roads, and landings.

34.

[ ] Yes [☒] No Are any Late Succession Forest Stands proposed for harvest? If yes, describe the measures to be implemented by the LTO that avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with late succession forests.

35.

[ ] Yes [☒] No Are any other provisions for wildlife protection required by the rules? If yes, describe.

36.

Appendix D

SECTION IV

STATE OF CALIFORNIA BOARD OF FORESTRY
CUMULATIVE IMPACTS ASSESSMENT
for the BLUEBERRY HILL TIMBER HARVEST PLAN

Cumulative Impacts Assessment Checklist	Yes	No
(1) Do the assessment area(s) or resources that may be affected by the proposed project contain any past, present, or reasonably foreseeable, probable, future projects? If the answer is yes, identify the Project(s) and affected resource subject(s).	X	
(2) Are there any continuing, significant adverse impacts from past land use activities that may add to the impacts or the proposed project? If the answer is yes, identify the activities and affected resource subject(s).		X

(3) Will the proposed project, as presented, in combination with past, present, and reasonably foreseeable, probable, future projects identified in items (1) and (2) above, have a reasonable potential to cause or add to significant cumulative impacts in any of the following resource subjects?

Resource Subjects	Yes - After Mitigation (a)	No - After Mitigation (b)	No Reasonably Potential Significant Effects (c)
1. Watershed		X	
2. Soil Productivity			X
3. Biological			X
4. Recreation			X
5. Visual			X
6. Traffic			X
7. Other			X

a) Yes, means that potential significant adverse impacts are left after application of the forest practice rules and mitigations or alternatives proposed by the plan submitter.
b) No after mitigations means that any potential for the proposed timber operation to cause significant adverse impacts has been substantially reduced or avoided by mitigation measures or alternatives proposed in the THP and application of the forest practice rules.
c) No reasonably potential significant effects means that the operations proposed under the THP do not have a reasonable potential to join with the impacts of any other project to cause cumulative impacts.

CUMULATIVE IMPACT ASSESSMENT
(TECHNICAL RULE ADDENDUM NO. 2)

Past, Present & Future Activities

Assessment Area Boundary: The Past, Present & Future Activities resources assessment area is defined as the "CAL WATER" watershed of Brandy Creek (Calwater ID# 5517.510103 consisting of 11,392 acres). This project area accounts for less than 2% of the total watersheds combined.

PAST ACTIVITIES: Proper scoping of "past" and/or "present" activities in relation to the Calwatershed associated with this timber harvest plan relied on information provided at the following website:

http://egis.fire.ca.gov/watershed_mapper/
ftp://ftp.fire.ca.gov/forest/Yuba/KMZ_files/
ftp://ftp.fire.ca.gov/forest/Sierra/KMZ_files/

The intent of this research was to determine if any timber harvest plans/nonindustrial timber management plans had been approved within the last ten years whose boundaries are included within the Calwatershed associated with this THP. It is evident that there has been, in the last ten years, a move to create a more effective fire safe zone and, in conjunction with that objective, a chance to bring the timber site ground into better productivity throughout portions of the watershed. There have also been trees removed and houses built sparingly within the assessment area, but the actual extent is difficult to assess because almost all of this activity has been done on private property. There are no listed NTMP's associated with the assessed watershed.

It should be noted that even though a THP has been approved within the last 10 years and is found in the following table, there are no guarantees that operations have been completed in any THP (this is especially true for plans that are considered still active). This also refers to past plans that never were completed (due to bad markets, expiration of THP's before operations were completed, etc.). Presently, active THP's could be considered "future projects" if they are harvested after 2014. In the future it is hoped that Cal Fire data bases will expand and offer actual percentages of THP's (and NTMP's) harvested in each year (by project or by watershed) in order to determine actual activity effects on the watershed(s).

Within the Brandy Creek Calwatershed assessment area the following THP's/NTMP's are on file. The following table lists information on THP's/NTMP's that were reasonably available before submission of this THP.

DETAILED SUMMARY OF THP/NTMP APPROVAL WITHIN THE ASSESSMENT AREA (2005 - 2015)

THP/NTMP Number	THP/NTMP (or Landowner) Name	Acres of harvest approved within assessment area	Silvicultural System Class (acres)			Yarding System (acres)			
			A	B	C	Heli	Cable	Tractor	Other
2-11-029-YUB	SPI	300	69		231		71	229	
2-14-064-YUB	Soper-Wheeler	298	43		255			298	
	TOTALS	598	112	0	486	0	71	527	0

The silvicultural treatments applied in these harvests are grouped into three basic classes of treatments with similar levels of vegetation removals and other site disturbances. As shown in the table below, class A includes clearcut, rehabilitation of understocked areas, shelterwood seed step, road right of way, seed tree seed step, and substantially damaged timberland. Class B includes shelterwood prep. step, shelterwood removal step, and alternative methods. Class C includes seed tree removal step, transition, selection, sanitation salvage, group selection, fuel break, special treatment area, and commercial thinning.

Key to Silviculture Classification System	
Class A	
Clearcut	Road Right of Way
Rehabilitation of Understocked Areas	Seed Tree Seed Step
Shelterwood Seed Step	Conversion
Substantially Damaged Timberland	Alternative (Clearcut)
Class B	
Shelterwood Prep. Step	Alternative (Shelterwood Removal)
Shelterwood Removal Step	
Class C	
Seed Tree Removal Step	Selection
Transition	Sanitation Salvage
Group Selection	Commercial Thinning
Fuelbreak	Special Treatment Area

Summary - Please review the following table to reveal specific THP activity within the last 10 years within the Brandy Creek Calwatershed.

SUMMARY OF HARVEST ACTIVITY FOR ENTIRE WATERSHED (expressed as percent)									
	Total Watersheds' Acres	% of acres approved for harvested within watershed	Silvicultural System Class (see above chart)			Yarding System			
			A	B	C	Helicopter	Cable	Tractor	Other
TOTALS	11,392	5.2%	0.9	0%	4.3%	0.0%	0.6%	4.6%	N.A.

Note: A portion of this property (approximately 9 acres) was harvested under the 2-93-008-YUB timber harvest plan utilizing a shelterwood removal step silviculture prescription. As is generally the case from that era this harvest was more of a "high grade" cut, not removing all trees from the overstory (some co-dominants, intermediates and suppressed trees were left). At the time of the cut I would venture to say there were at least three age classes present in the original stand.

Present Activities - Although there is very little development going on in 2015, evidence and demographics show that the rural residential lifestyle that is in place within this area of Yuba County will continue to grow (most likely at a slower pace than that near larger communities). No new construction has been noted within the watershed, which is not to say that there is not homes or businesses being built, it is just the data to confirm or deny is not available. I have queried the Yuba County Planning/Building Department but have received no word at the time of submission of this THP. It is surmised "there are no planning projects that have been submitted in the proposed area." In my best estimate, there are no MAJOR land use activities scheduled in the present which might combine with the effects of timber harvest associated with this THP which shall cause harmful cumulative watershed effects.

Future Activities - An agency's consideration of cumulative effects is required to include "reasonable foreseeable probable future projects" (14 § CCR 15355). Probable future projects includes those that have an application on file with a public agency at a specific point in time; projects that are identified in a plan, projects that are later phases of an earlier approved project; and/or budgeted public agency projects. Future projects include those under review by the lead agency as well as other agencies; projects that may be found to be exempt by a public agency from further CEQA review; and includes projects that may never be carried out. Presently, through research, I have determined that there are no MAJOR land use activities scheduled in the near future which might combine with the effects of timber harvest associated with this THP which shall cause harmful cumulative watershed effects.

CUMULATIVE IMPACT ASSESSMENT
(TECHNICAL RULE ADDENDUM NO. 2)

The purpose of this addendum is to guide the assessment of cumulative impacts as required in 14 CCR 898 and 1034 that may occur as a result of the proposed timber operations. This assessment includes an evaluation of both on-site and off-site interactions of the proposed project activities with the impacts of past and reasonably foreseeable future projects. I have conducted an assessment based on information that is reasonably available before submission of this THP. Information used in the assessment of cumulative impacts maybe supplemented during the THP review period. Agencies participating in the plan review may provide input into the cumulative impacts assessment based on their area of expertise. Agencies should support their recommendations with documentation.

Description Of Project Area

The project is located on the Camptonville U.S.G.S. 7.5' Quadrangle in a rural area of Yuba County, California. The plan area is accessed along Highway 49 travelling approximately 4 miles north of the community of Camptonville. The legal description for this project includes a portion of section 24, T19N, R8E, M.D.B.M. This THP is part of Yuba County Assessor's parcel numbers 054-240-008 & 009.

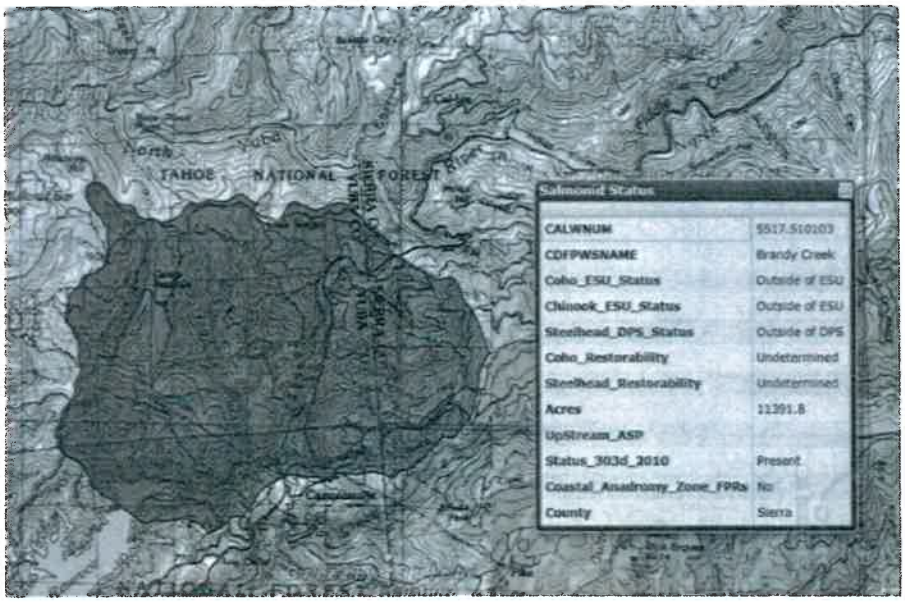
A. WATERSHED RESOURCES ASSESSMENT AREA

Assessment Area Boundary: Assessment Area Boundary: The watershed resources assessment area is defined as the Brandy Creek Calwatershed (Calwater ID# 5517.510103) consisting of 11,392 acres. This project area accounts for less than .2% of the total watershed land area.

The Yuba River is a tributary of the Feather River in the Sacramento Valley of the U.S. state of California. It is one of the Feather's most important branches, providing about a third of its flow. The main stem of the river is about 40 miles (64 km) long, and its headwaters are split into North, Middle and South forks; the confluence of the former two is considered the beginning of the Yuba. The river drains about 1,339 square miles (3,470 km2) of the western slopes of the Sierra Nevada mountain range as well as a small portion of the Sacramento Valley.

The Yuba was probably named by early Spanish or Mexican scouting expeditions in the region who found wild grapes growing along the banks of the river, and dubbed it using a variant spelling of the Spanish word uva (grape).

Most of the Yuba's flow is incorporated from its three main tributaries, the North Yuba, Middle Yuba and South Yuba. All three rivers run westwards from the crest of the Sierra Nevada to form the main stream of the Yuba. The beginning of the main stem is defined as the confluence of the North and Middle Yuba Rivers. The North Fork is longer, but the Middle Fork is considered the main stem.



NORTH FORK

The North Yuba River, 61.0 miles (98.2 km) long, rises near the eastern border of the Tahoe National Forest, on a mountainside along California State Route 49. It flows southwest then west through a 3,000-foot-deep (910 m) canyon past the small villages of Downieville, where it receives the Downie River, and Goodyears Bar. It then incorporates the flow of Canyon Creek and Slate Creek, two of its main tributaries, and very soon after widens into New Bullards Bar Reservoir, which is impounded by the 645-foot (197 m) New Bullards Bar Dam. Very soon after leaving the dam it joins with the Middle Yuba to form the Yuba River.

MIDDLE FORK

Originating in a bowl-shaped valley in Moscove Meadow, the 55.4-mile-long (89.2 km) Middle Yuba River flows north into Jackson Meadows Reservoir, then turns west, descending steeply into a gorge, defining over almost its entire length the boundary of Nevada County in the north and Yuba County in the south. The river bends to the southwest, then west again, receiving Kanaka Creek from the right and Grizzly Creek from the left. It intersects California State Route 49 about 2 miles (3.2 km) northwest of North San Juan, then a few miles after joins with the North Yuba River.

SOUTH FORK

The 65.0-mile-long (104.6 km) South Yuba River originates at Donner Pass at the crest of the Sierra Nevada, near the town of Soda Springs. Gathering numerous snowfed tributaries, it runs west through a marshy, lake-filled valley, shadowed by Interstate 80. The river then flows into Lake Spaulding, which is formed by Spaulding Dam. After escaping from the dam the river plunges northwards into a steep-sided valley. Canyon Creek enters from the right, then Poorman Creek also from the right near the town of Washington. The river continues west into the foothills, crossing under State Route 49. Its mouth is on the east shore of Englebright Lake, formed by a dam across the Yuba River.

MAIN STEM

From the joining of the North and Middle forks, the Yuba flows southwards, then southwest, through the Sierra Nevada foothills, forming the Yuba-Nevada County border. The river widens into the main arm of Englebright Lake near French Bar, and is joined by the South Yuba within the reservoir. The Yuba leaves the Englebright Dam near Lake Wildwood, California and is then joined by Deer Creek, the stream flowing from that lake, on the left. The Yuba slows down as it flows from the mountains out into the Sacramento Valley near the Yuba Goldfields, a section of the Yuba River valley consisting of dredged sediments washed down by hydraulic mining in the 19th century. The river then turns southwest, flowing through irrigated farmland. It then skirts the south side of Marysville and reaches its destination at the Feather River between the cities of Marysville, Yuba City and Linda.

HISTORY

The Yuba River valley was originally situated in one of California's largest Native American population centers. Historians divide the natives living in the Yuba area into several groups – the Konkow, Maidu, Nisenan and Miwok. Despite the connotations of these names, they are only used for reference purposes. The truth about pre-19th century Yuba River peoples was that they were divided into hundreds of small villages, with distinct names but similar customs. Like other Sierra Nevada people, their staple food were acorns, but they also hunted and gathered for other foods from the environment in which they lived.

The California Gold Rush brought some of the first American settlers into the area, followed by many Mexican, African and Chinese emigrants. Within a few years diseases which the Native Americans had no immunity over, brought by the incoming people, wiped out most of the native population. The Yuba River and its forks were one of the more popular destinations for the gold miners, who poured to the region in great numbers. Although first gold was extracted by simple methods such as panning and sluicing, mining

operations quickly turned into large-scale industrial hydraulic mining. About 685,000,000 cubic feet (19,400,000 m3) of debris was carried down the Yuba alone. Hundreds of acres of land were covered, the riverbed was raised by tens of feet in places and flooding events became more severe for the river was no longer in its old channel. After farmers whose fields had been buried under the onslaught sued the gold mining companies, the practice ended. The debris left by the destruction of hydraulic mining still remains as the Yuba Goldfields.

RIVER MODIFICATIONS

Like the majority of California rivers, the Yuba is dammed at many points along its length and irrigation agriculture in the Sacramento Valley takes a heavy draw of water from the river. The first significant man-made changes to the watershed came with gold mining practices in the 19th century, specifically hydraulic mining. Basically consisting of washing down entire hillsides with high-pressure hoses in search of gold pockets, hydraulic mining was profitable, but caused massive physical and environmental damage. Millions of tons of sediment were carried down the Yuba and other Central Valley rivers, eventually ending up in places ranging from the original riverbed to San Francisco Bay, creating enormous difficulties for water-borne transportation.

In the more recent past, the Yuba's periodic rages have been subdued by the construction of many dams. The largest of these are the New Bullards Bar Dam, which lies on the North Fork directly above the confluence with the Middle Fork; and the Englebright Dam, situated on the main stem as it winds its way south through the Sierra Nevada foothills. Both are large concrete arch structures standing hundreds of feet high. Other dams include Jackson Meadows Reservoir on the Middle Fork; Scotts Flat and Wildwood on Deer Creek; and Mildred and Virginia Ranch on Dry Creek, a lower tributary of the Yuba.

The rationale for choosing the size and location of this analysis for this watershed is a direct result of a preset series of watersheds as dictated by the Forest Practice Rules which has established these watersheds mostly based on major waterbodies and surrounding topography. The topography of the plan area consists of gentle to moderate slopes (<5 to 65%). In the paragraphs following in this report, which are found in the section entitled "Specific Beneficial Uses Evaluated for This Watershed" I have used the immediate waters of the Yuba River for the evaluation, however, some of the uses are clearly not specific to this watershed. This evaluation meets certain criteria established in the THP/NTMP process pertaining to watershed assessment.

The question, from a timber management and a watershed management perspective, is can the area be harvested and managed long term for high quality forest products, and still provide adequate protection to keep as much soil as possible from finding it's way down in to the watercourses causing damage to the watershed through siltation.

Beneficial Uses of Watershed

Specific Beneficial Uses Evaluated for this Watershed: The Yuba River Watershed system is a primary drainage for Yuba County (as well as other surrounding counties). This essential watershed does provide hundreds (or perhaps thousands) of consumers with a variety of beneficial uses. These benefits are analyzed in the following pages and include evaluations of municipal and domestic operations; irrigation and stock watering; aggregate mining; hydroelectric power generation; and a source for recreational activities. The natural disposition of tributaries of the Yuba River water system is almost completely regulated by storage reservoirs and diversions. The closest point of the project area is approximately .7 of a mile from the North Fork of the Yuba River.

Beneficial uses are critical to water quality management in California. State law defines beneficial uses of California's waters that may be protected against quality degradation to include (and not be limited to) "...domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050(f)). Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning. Significant points concerning the concept of beneficial uses are: ❶ All water quality problems can be stated in terms of whether there is water of sufficient quantity or quality to protect or enhance beneficial uses. ❷ Beneficial uses do not include all of the reasonable uses of water. For example, disposal of waste waters is not included as a beneficial use. This is not to say that disposal of wastewater is a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses. Similarly, the use of water for the dilution of salts is not a beneficial use although it may, in some cases, be a reasonable and desirable use of water. ❸ The protection and enhancement of beneficial uses require that certain quality and quantity objectives be met for surface and ground waters. ❹ Fish, plants, and other wildlife, as well as humans, use water beneficially.

Specific Beneficial Uses Evaluated for this Watershed: For Bullards Bar and Willow Creek the following existing and potential beneficial uses have been addressed. The 1st part of each beneficial use defines the use as per CRWQCB 15 September 1998 (revised

September 2004) report on Basin Plans. The 2nd part of each item is my evaluation of how and/or why this NTMP, as proposed, will not have a significant impact on each beneficial use.

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. ***The use of the WLPZ is designed to restrict sediment from being introduced into watercourses by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This protection zone also restricts canopy reduction which is beneficial to stream temperature maintenance. The waters of both Bullards Bar and Willow Creek do directly feed to domestic water supplies and waters of the Yuba River most likely feed to some municipal water supplies downstream and away from the project area. People within the area drink well water. Minimum hardwoods are scheduled for removal. Given the maximum protection of stream courses through proper watercourse and lake protection zones, I conclude activities associated with this THP will not have a significant impact on municipal and domestic water supplies.***

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing. ***The use of the WLPZ is designed to restrict sediment from being introduced into watercourses by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This protection zone also restricts canopy reduction which is beneficial to stream temperature maintenance. The waters of both Bullards Bar and Willow Creek do directly feed to agriculture water supplies. These supplies include (but are not limited to) watering for livestock, farming and orchards. Minimum hardwoods are scheduled for removal. Given the maximum protection of stream courses through proper watercourse and lake protection zones, I conclude activities associated with this THP will not have a significant impact on agricultural supplies.***

Hydropower Generation (POW) - Uses of water for hydropower generation. ***Activities associated with this proposed THP will not increase or decrease stream flow within either Bullards Bar nor Willow Creek. The waters of the Yuba River are directly used for hydropower generation. Both Willow Creek and Bullards Bar feed the Yuba River. The protection zones for watercourses of the plan area should prevent any increases in runoff or increases in large organic material to the watershed. Therefore, it is concluded that hydropower generation will not be negatively affected as a result of this proposed project.***

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs. ***The waters of the Yuba River (to a certain extent) are used for water contact recreation, however, the use of the watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. These protection zones also restricts canopy reduction which is beneficial to stream temperature maintenance. Very few hardwoods are scheduled for removal. The distance to any waters that might be used for such beneficial uses make it impossible to accept that these uses would be compromised.***

Non-contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities. ***The waters of the Yuba River are used for non-contact water recreation, however, the use of the watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. These protection zones also restricts canopy reduction which is beneficial to stream temperature maintenance. Few hardwoods are scheduled for removal. The distance to any waters that might be used for such beneficial uses make it impossible to accept that these uses would be compromised.***

Warm Freshwater Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. ***Again, the use of the WLPZ is designed to restrict sediment from being introduced into the watercourse by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This action is important to maintain aesthetics, soil stability, diverse wildlife habit, and to provide for proper filtration of winter rain runoff. The use of these watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. Few hardwoods are scheduled for removal. The best management practices (BMP's) stated above should prevent activities associated with this THP from negatively affecting the waters of any watercourse downstream and away from the plan area in relation to warm freshwater habitat downstream.***

Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. ***Again, the use of the WLPZ is designed to restrict sediment from being introduced into the watercourse by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This action is important to maintain aesthetics, soil stability, diverse wildlife habit, and to provide for proper filtration of winter rain runoff. The use of these watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. Few hardwoods are scheduled for removal. The best management practices (BMP's) stated above should prevent activities associated with this THP from negatively affecting the waters of any watercourse downstream and away from the plan area in relation to cold freshwater habitat downstream.***

"Potential" Migration of Aquatic Organisms for Warm and/or Cold Waters (MIGR) - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish. ***Again, the use of the WLPZ is designed to restrict sediment from being introduced into the watercourse by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This action is important to maintain aesthetics, soil stability, diverse wildlife habit, and to provide for proper filtration of winter rain runoff. The use of these watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. Few hardwoods are scheduled for removal. The best management practices (BMP's) stated above should prevent activities associated with this THP from negatively affecting the waters of any watercourse downstream and away from the plan area in relation to potential migration of aquatic organisms for warm and/or cold waters.***

"Potential" Spawning, Reproduction, and/or Early Development for Warm and/or Cold Waters (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.***Again, the use of the WLPZ is designed to restrict sediment from being introduced into the watercourse by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This action is important to maintain aesthetics, soil stability, diverse wildlife habit, and to provide for proper filtration of winter rain runoff. The use of these watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. Few hardwoods are scheduled for removal. The best management practices (BMP's) stated above should prevent activities associated with this THP from negatively affecting the waters of any watercourse downstream and away from the plan area in relation to potential spawning, reproduction, and/or early development for warm and/or cold waters.***

Wildlife Habitat (WILD) - Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources. ***Again, the use of the WLPZ is designed to restrict sediment from being introduced into the watercourse by limiting the proximity of heavy equipment near water which could introduce heavy deposition of deleterious materials into the streams. This action is important to maintain aesthetics, soil stability, diverse wildlife habit, and to provide for proper filtration of winter rain runoff. The use of these watercourse protection zone(s), properly designed and applied erosion control structures and facilities, and adherence to strict soil erosion control measures as set forth in this THP are designed to restrict sediment from being introduced into watercourses. No hardwoods are scheduled for removal. The best management practices (BMP's) stated above should prevent activities associated with this THP from negatively affecting wildlife habitat within the project area and for areas in close proximity to the project area.***

Associated Streams Channel Assessment

Potential On-Site Effects: Based on current conditions and knowledge of the impacts of similar past projects in the area, the potential of the proposed project, as described and mitigated, has the potential to produce the following individual effects as described in the following table. Due to the location of the project area, it is highly unlikely that any potential negative on-site effects from operations associated with this THP will combine with any other activities to do harm to any beneficial uses downstream and away from the plan area if proper mitigations and constraints fo the Forest Practice Rules are implemented properly. There is only one class III watercourse associated with this plan. It is actually off-site but with 25 feet of the upper NW corner of the property.

Impacts evaluation:

Sediment Effects - No **major** sediment deposits were observed within the downstream (and away from the THP area) watercourses which may receive runoff from the project area. Transport capacity should remain constant within the watercourses. No sediment-induced cumulative watershed effects (CWE's) should combine with this THP to have a negative effect on this watershed.

Water Temperature Effects - No water was observed within the THP area which would have it's chemistry or biological properties altered as a result of this THP. Overstory and understory canopy retention described in this THP will provide protection to any increases in water temperature downstream and away from the project area as a result of the operations associated with this proposed plan. No biological thresholds could be readily identified. No water temperature induced CWE's should combine with this THP to have a negative effect on this watershed.

Organic Debris Effects - It is concluded no organic debris induced CWE's will combine with this THP to have a negative effect on this watershed.

Chemical Contamination Effects - Roads will not be treated with oil or other dust-retarding materials. It is concluded no chemical contamination induced CWE's will combine with this THP to have a negative effect on this watershed.

Peak Flow Effects - Due to preventative measures taken in erosion control structures it is concluded this THP will have no affect on large sediment inputs or large openings, causing runoff routing, within any watercourses downstream and away from the plan area which may receive runoff from the THP area. No peak flow induced CWE's should combine with this THP to have a negative effect on this watershed.

Conclusion:

The proposed project, as presented, in combination with the impacts of past and future projects, will not have reasonably potential to cause or add to the significant cumulative impacts to watershed resources.

Watercourse Conditions

The watershed impacts of past upstream and on-site projects are often reflected in the condition of stream channels on the project area. Following is a list of channel characteristics and factors that may be used to describe current watershed conditions and to assist in the evaluation of potential project impacts. The off-site unnamed tributary which passes through Oak Valley and empties into Willow Creek shows signs of past mining activity. After closer inspection of this off-site watercourse I have determined the class III has rehabilitated and has not had any type of land use activity associated with it in quite some time.. I herein provide a channel inventory evaluation of that portion of this tributary.

CHANNEL INVENTORY FORM		
Channel or Segment Name	Unnamed tributary to Willow Creek	
Class/order	Class III - 1st order	
Gravel embeddedness	moderate	
Pool filling	none	
Aggrading	moderate	
Bank cutting	moderate	
Bank mass wasting	moderate	
Downcutting	moderate	
Scouring	moderate	
Debris clearing	slight	
Debris jamming	slight	

CHANNEL INVENTORY FORM		
Canopy reduction	slight	
Recent flooding	slight	
Condition rating (optional)		
Other		
Comments		

Gravel Embedded - Spaces between stream gravel filled with sand or finer sediments. Gravel are often in a tightly packed arrangement.
Pools Filled - Former pools or apparent pool areas filled with sediments leaving few areas of deep or "quiet" water relative to stream flow or size.
Aggrading - Stream channels filled or filling with sediment that raises the channel bottom elevation. Pools will be absent or greatly diminished and gravel may be embedded or covered by finer sediments. Streamside vegetation may be partially or completely buried, and the stream may be meandering or cutting into its banks above the level of the former streambed. Depositional areas in aggrading channels are often increasing in size and number.
Bank Cutting - Can either be minor or severe and is indicated by areas of fresh, unvegetated soil or alluvium exposed along the stream banks, usually above the low-flow channel and often with a vertical or undercut face. Severe bank cutting is often associated with channels that are downcutting, which can lead to over-steepened banks, or aggrading, which can cause the channel to migrate against slopes that were previously above the high flow level of the stream.
Bank Mass Wasting - Channels with landslides directly entering the stream system. Slide movement may be infrequent (single events) or frequent (continuing creep or periodic events).
Downcutting - Incised stream channels with relatively clean, uncluttered beds cut below the level of former streamside vegetation and with eroded, often undercut or vertical, banks.
Scouring - Stream channels that have been stripped of gravel and finer bed materials by large flow events or debris torrents. Streamside vegetation has often been swept away, and the channel has a raw, eroded appearance.
Organic Debris - Debris in the watercourse can have either a positive or negative impact depending on the amount and stability of the material. Some stable organic debris present in the watercourse helps to form pools and retard sediment transport and downcutting in small to medium sized streams with relatively steep gradients. Large accumulations of organic debris can block fish passage, block or divert streamflow, or could be released as a debris flow.
Stream-Side Vegetation - Stream-side vegetation and near-stream vegetation provide shade or cover to the stream, which may have an impact on water temperature, and provides root systems that stabilize streambanks and floodplains and filter sediment from flood flows.
Recent Floods - A recent high flow event that would be considered unusual in the project area may have an impact on the current watercourse condition.

303(d) Impaired Watersheds

Based on an assessment of cumulative impacts of a proposed project on any portion of a waterbody that is located within or downstream of the proposed timber operation and that is listed as water quality limited under Section 303(d) of the Federal Clean Water Act (USEPA Approval Date of the list is November 12, 2010) the following items are submitted to be used in conjunction with this THP.

Name of waterbody affected:

Englebright Lake

Name of hydrologic unit where plan area is located, size affected, and priority:

Brandy Creek (Calwater ID# 5517.510103 consisting of 11,392 acres), affecting 754 acres; LOW priority

Pollutant/stressor of affected hydrologic unit (source notes):

Mercury

The degree to which the proposed operations will result in impacts that may combine with existing stressors to impair the waterbody's beneficial use:

I have assessed the degree to which the proposed operations will result in impacts that may combine with existing listed stressors (in this case - mercury) to impair a waterbody's beneficial uses, thereby causing a significant adverse effect on the environment. Englebright Lake, a dammed waterbody found on the main stem of the Yuba River is listed under Section 303(d) of the Clean Water Act as "impaired" due to elevated mercury levels. According to published reports elemental mercury, Hg0, released during mining activities is oxidized in the presence of water to Hg2+ and bonds to elements such as Cl and S. Anaerobic bacteria, found in reservoirs at the bottom of the water column and in bottom sediment metabolize organics and convert the Hg2+to CH3Hg, methyl mercury. The methyl mercury is then absorbed by aquatic organisms and moves up the food chain, eventually reaching fish and finally humans. Some specific conditions that enhance the growth of anaerobic bacteria in reservoirs include: low dissolved oxygen, high nutrient levels, low pH, and high temperature. In October of 2011 the Department of Fish and Game planted Rainbow Trout in the Lake, an interesting scenario given the reported state of the water of the lake. Most rules associated with the California Forest Practice Rules seek to prevent increased water runoff into major streams. I believe the choice of silviculture prescriptions in association with larger diameter retention of trees throughout the plan area will help to prevent increased water runoff. This project will not increase water levels in Englebright Lake, therefore, I conclude that operations of this THP will not negatively affect Englebright Lake.

Feasible mitigation references implemented within the plan area to reduce impacts from the plan to a level of insignificance:

Strict enforcement of the WLPZ rules should provide protection enough to reduce impacts to Willow Creek, Bullards Bar, the Yuba River and Englebright Lake.

Conclusion:

Based on the above listed items it is felt that the plan, as proposed, will not combine with the listed impairments to contribute to significant negative effects on this watershed.

B. Soil Productivity Assessment

Assessment Area Boundary: Limited to the area of the THP.

GEOLOGY

The North Yuba Watershed is contained within the Northern Sierra Nevada geologic province. This watershed is comprised mainly of metamorphic rocks of the Western Sierra Nevada Metamorphic Belt, with smaller amounts of volcanic and granitic rocks. The Western Sierra Nevada Metamorphic Belt is comprised of four smaller belts, each trending roughly north-south and separated from each other by steeply dipping faults. These smaller belts are the Western, Central, Feather River, and Eastern Belts.

The western half of the watershed lies in the Western and Central Belts and is primarily volcanic and metavolcanic rocks of Paleozoic and Mesozoic age. The Feather River Belt traverses the center of the watershed. This is a narrow zone of ultramafic Cenozoic rocks, chiefly serpentinite with lesser amounts of peridotite and gabbro. The majority of the eastern half of the watershed is marine sedimentary rocks of the Eastern Belt. Significant amounts of volcanic and metavolcanic rocks of Mesozoic to Paleozoic age are also present near the eastern edge of the watershed, and there are some glacial deposits in the higher elevations near the Sierra Buttes. Significant amounts of Mesozoic granitic rocks and Tertiary volcanic rocks (mainly mudflow and pyroclastic deposits) are present throughout the watershed. These Tertiary volcanic rocks buried portions of the ancestral Yuba River channel, preserving the auriferous gravels until they were mined hydraulically in the late 1800s.

The term "auriferous gravel" is not a formally accepted geologic formation name. It has no strict nomenclatural significance because there are other gold-bearing gravels in California of different age. But, through long usage and tacit acceptance by local California geologists, the term has come to connote a very specific rock deposit. The auriferous gravels accumulated approximately 50 to 40 million years ago during the Eocene Epoch of the Cenozoic Era. Based on the traditional interpretation of the geologic evidence, the gravels were deposited along the flood plains of aggrading streams--that is, water courses which were building up sediments instead of eroding their channels. Most of the gold recovered by hydraulic methods came from the so-called "inner channel" of the auriferous gravel, a relatively narrow zone only a few feet deep and tens of feet wide situated at the base of the gravels, near bedrock. Above the inner channel, or "blue ground"--as the miners referred to this unbelievably rich zone--younger gravels accumulated to a thickness of 400 feet. These "bench gravels" contained much lower concentrations of gold, although there were a few reported localities where it was abundant.

One of the great mysteries confronting geologists who've studied the auriferous gravel is why rivers that for millions of years were eroding their channels would suddenly begin to aggrade, or build up sediments. Several explanations have been considered to account for this occurrence, but only one model, proposed by the late geologist Cordell Durrel in his classic work *Geologic History of the Feather River Country*, seems to fulfill the equation, answer all the questions.

Durrel suggested that a change of climate from one of regular wet-and-dry seasons to one of irregular wet-and-wetter cycles may have triggered catastrophic flooding, much like that which occurs in the vicinity of Rio De Janeiro, Brazil, a region with a climate and vegetation similar to that inferred for the Sierra Nevada area some 50 million years ago. Such floods are very local, of course, but Durrel pointed out that no single flood need cover a large area to account for the accumulation of auriferous gravel. All that was needed was to have a sufficient number of floods cover every part of the region where auriferous gravels now occur--in other words, the 10 northern counties of the Sierra Nevada, or an area of roughly 12,000 square miles. At first, this might seem to represent a prohibitively extensive area for floods to affect. But consider Durrel's calculations. Deposition of the auriferous gravel probably lasted

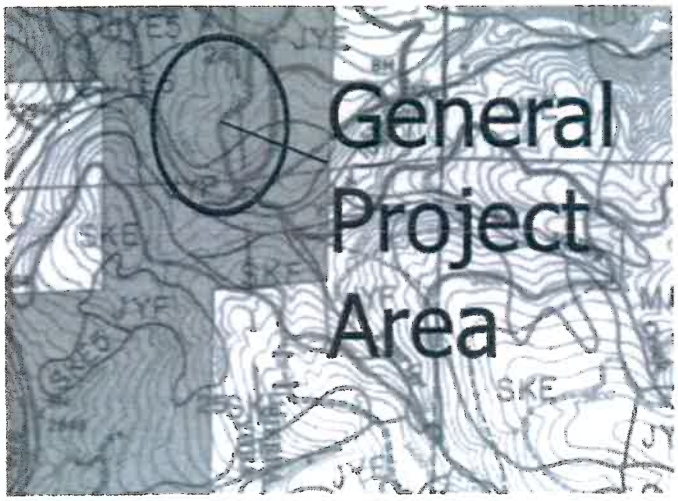
for as long as 10 million years, or all of the middle Eocene. Therefore, there was ample time for periodic flooding to account for the gold-bearing gravels. Durrel suggested that if only one catastrophic flood occurred every 50 years, there could have been as many as 200,000 floods. If the rain gods were more generous and the figure was more like one flood every 20 years, then the total climbs to a possible 500,000 floods.

Now, Durrel introduces us to some basic arithmetic. Suppose each flood deposited an average of only two feet of sediment affecting an area of 10 square miles. That would mean that it would require 250,000 floods to bury the 10 northern counties of the Sierra Nevada to a depth of 400 feet, the actual measured thickness of the auriferous gravels we see today in California. Durrel pointed out that this figure is well within the realm of reason, but admitted that the whole analysis was "mere speculation." He concluded that "the cause or the causes of deposition of the auriferous gravel remains unknown."

Durrel was a very modest geologist. His analysis is probably the best model we have to account for deposition of perhaps the single most-investigated rock deposit in all of California.

Still, some questions remain concerning the gold contained in the auriferous gravel. For one, where did it come from? It is generally believed that the original gold concentrated in the inner channel was derived from gold-bearing quartz veins in metamorphic rocks east of, or upstream from where it was eventually mined by hydraulic means. The gold was likely released from the veins by an extended period of weathering which preceded the accumulation of the auriferous gravel. Although there was fine gold contained in the overlying bench gravels, the concentrations were far inferior to those of the inner channel. Yet, the fact that it did contain quantities of gold is important to note, because much of the bench gravel is believed by many investigators to have been derived from sources east of the present-day Sierra Nevada. This certainly suggests that most if not all the gold contained in the auriferous gravel was brought in by streams from sources further east.

SOILS



Cumulative impacts to soil productivity can occur when the effects of two or more activities, from the same or different projects, combine to produce a significant decrease in the biomass production potential of the soil on a site. Factors influencing soil productivity that can be affected by timber operations include: organic matter loss, surface soil loss, soil compaction, and growing space loss. Recovery from these impacts is often slow, so mitigation measures must focus on prevention and limits on the extent of impact.

The Soil Productivity Assessment Area is limited to the area of the proposed project area. Rational for choosing this as the assessment area is that the project area is the only area to be impacted by activities associated with this project.

Environmental Setting

Soils are an important environmental variable in that they reflect many of processes that shape the natural landscape. They are good indicators of the parent geologic formations beneath them and thus can aid in defining geologic strata. Soils are also the products of topography, hydrology, climate and flora which allows them to be used as general environmental indicators. In a cooperative project between the Department of Soils and Plant Nutrition at the University of California - Davis and the County of Yuba, a publication was released entitled "Soils of the Yuba Area, California". This publication was used to determine soil types within the property.

CUMULATIVE SOILS EFFECTS EVALUATION

An increase in erosion from on-site logging activities, beyond natural levels, can result in the decrease of soil depth and an increase of sedimentation into watercourses. Loss of soil depth can decrease the available water capacity, nutrient storage and rooting volume. The end result of decreasing soil depth is decreased soil productivity.

Timber harvest, fuel reduction and reforestation activities result in direct, indirect and cumulative soil effects. Direct effects on soils include: reduction of soil cover and increase in compaction due to the construction of new or re-opening of existing roads, skid trails and landings; loss of nutrients and organic material through the removal of small material, such as tree tops and limbs and reduction in the number of trees available for recruitment of large woody debris. Indirect effects include acceleration of erosion from overland flow due to increased compaction and reduction in infiltration. Together, these direct and indirect effects may result in the reduction of overall long term productivity of the soil.

Soil compaction is one of several types of closely related physical soil disturbances that can occur during timber harvesting and forest management activities. The other types of physical soil disturbance include puddling, rutting and displacement. These disturbances often occur simultaneously and are almost exclusively caused by movement of heavy equipment during felling, forwarding, skidding and site preparation operations. Vehicle tires bearing heavy loads compress and pack down the soil, resulting in soil compaction. The number of passes a machine makes over a soil is a major factor in causing compaction. The greatest increases in soil bulk density occur in the first few passes. Therefore, dispersed skidding operations can cause more compaction over an area than concentrated skidding operations. If the number of skid trails are minimized, the area compacted can be greatly reduced.

Soils most susceptible to compaction and rutting include fine-textured soils (silty clay, sandy clay and clay) and medium-textured soils (fine sandy loam, very fine sandy loam, loam, silt loam, silt, silty clay loam, clay loam, and sandy clay loam).

Reduction in tree growth is the most prominent effect related to soil compaction, most often caused by heavy equipment and loss of surface organic matter. Soil compaction results in the decreased movement of water into and through the soil. A decrease in available water capacity results in an increased surface runoff leading to accelerated erosion. Compaction also results in decreased soil aeration which can decrease microbial activity and root growth penetration which decreases plant growth. The loss of organic matter from increased surface runoff or logging activities can also affect the short- and long-term nutrient supply to vegetation. Surface organic matter acts as erosion protection and can decrease the compacting effects of ground-based heavy equipment. Organic matter in the soil increases water storage and soil stability.

Recovery of compacted soil is variable depending on the severity of the compaction and local conditions. Compaction is a long-term rather than short-term effect. The susceptibility of soil to compaction and rutting is primarily dependent on soil texture and moisture content. Soils are most susceptible to compaction, puddling and rutting when they are saturated. Such conditions occur during spring and early summer months, immediately following heavy rains, and in the fall after transpiration has ceased and before freeze-up. Timing of forest management activities, development of infrastructure, and selection of equipment and operating techniques are all critical factors that affect the soil resource. It's important to avoid operating heavy equipment on a site when adverse soil impacts are likely, and to limit direct trafficking of a site to the smallest area possible.

Another mechanism that decreases soil productivity is alteration of chemical properties of soil. The most important group of chemical inputs to the soil is nutrients. Presence or absence of nutrients can determine the long-term productivity of the soil. Nutrients are governed by input and output, resulting in nutrient cycling. If timber harvest over several rotations decreases the biomass input of nutrients to soil, a deficiency results.

The following factors were used to evaluate soil productivity impacts:

Organic Matter Loss. Displacement or loss of organic matter can result in a long term loss of soil productivity. Soil surface litter and downed woody debris are the store-house of long term soil fertility, provide for soil moisture conservation, and support soil microorganisms that are critical in the nutrient cycling and uptake process. Much of the chemical and microbial activity of the forest nutrient cycle is concentrated in the narrow zone at the soil and litter interface.

Impacts that can lead to organic matter loss can be avoided or reduced by promoting re-use of existing skid trails, reduced reliance on clearcut harvesting, and minimizing the use of broadcast burning for slash control and site preparation.

Surface Soil Loss. Soil erosion, the detachment of particles of soil and surficial sediments and rocks, occurs by hydrological (fluvial) processes of sheet erosion, rilling and gully erosion, and through mass wasting and the action of wind. The soil is the storehouse of current and future site fertility, and the majority of nutrients are held in the upper few inches of the soil profile. Topsoil displacement or loss can have an immediate effect on site productivity, although effects may not be obvious because of reduced brush competition and lack of side-by-side comparisons or until the new stand begins to fully occupy the available growing space.

Impacts that can lead to surface soil loss can be avoided or reduced by limiting or excluding logging activities in sensitive areas such as steep slopes, unstable soils, wet areas and unnecessary stream crossings. Furthermore, the proposed project will utilize

existing roads and stream crossings. When using existing roads, the LTO shall reconstruct only to the extent necessary to provide adequate drainage. Soil erosion can further be minimized by the reduced emphasis on use of broadcast burning and other intensive site preparation methods within the proposed project area. The loss of surface soil by mechanical displacement can be avoided or reduced by re-use of existing skid trails, use of yarding systems that reduce or eliminate operations on steep slopes, and reduced use of mechanical site preparation to remove logging slash. Soil displacement can also be further reduced by avoiding operating heavy equipment during wet periods. Dispersing harvest units through space and time also helps to spread out potential impacts and to allow recovery. Generally, the Forest Practice Rules provide adequate watercourse protection to trap sediment and prevent its entry into the stream.

Soil Compaction. Compaction affects site productivity through loss of large soil pores that transmit air and water in the soil and by restricting root penetration. More frequent use of heavy equipment in intensive forest practices can lead to soil compaction and reduced productivity.

Compaction affects nearly all properties and functions of the soil, physical as well as chemical and biological. Compaction causes a rearrangement of the soil particles resulting in the alteration of pore size distribution, decreased porosity, and changes in the movement and content of heat, air, water, and nutrients in the soil. These changes in bulk density affect infiltration, drainage, water availability, aeration, root exploration, and nutrient uptake, all of which can directly influence soil productivity.

The amount of compaction will depend on how efficiently skid trails are planned and used. Since tractor logging can cause significant amounts of compaction, this could result in locally significant effects on soil productivity. Best management practices can alleviate or minimize soil compaction, although some compaction and erosion cannot be avoided, due to the nature of timber harvest methods.

Impacts that can lead to soil compaction can be avoided or reduced by controlling the location and amount of ground disturbance by ground-based equipment. This is accomplished by re-use of existing skid trails in areas that are tractor logged, minimizing the construction of new roads and landings, and reduced use of site preparation to remove logging slash. Potential loss of timber productivity due to soil effects can be more than offset by management practices that increase growth rates such as control of stocking density and competing vegetation and by planting of improved (faster growing) seedlings.

Growing Space Loss. Forest growing space is lost to roads, landings, permanent skid trails, and other permanent or non-restored areas subjected to severe disturbance and compaction. The conversion of 7 acres and 2 acres of clearcut will certainly impact forest growing space. With time the land will be converted to blueberry farm (plus other orchard crops). The clearcut unit will remove the entire area in one cutting. Natural seedfall from the surrounding stand will eventually result in re-establishment of a future stand of conifer trees and at some point within five years, if poorly stocked, will be hand planted with preferred conifer species. Thus, growing space loss within this unit will be for a short duration. Other impacts that can lead to growing space loss can be avoided or reduced by minimizing the number of roads, landings, and skid trails used for the timber operations in the alternative prescription unit and by re-use of existing landings and skid trails. A minimal amount of road construction (350') outside the conversion area is presently planned for this THP.

Mitigation & Residual Impact: No potentially significant impacts have been identified and no mitigation measures are proposed in addition the current Forest Practice Rule requirements.

SOIL PRODUCTIVITY IMPACTS EVALUATION

It has been determined that implementation of the proposed project would not exacerbate current organic matter loss, surface soil loss, soil compaction, and growing space loss with implementation of the avoidance and minimization measures described in Section II of the THP. Therefore, the proposed project would not result in adverse impacts to soil productivity.

C. Biological Resources Assessment

Assessment Area Boundary: Assessment area includes at least 1.5 mile radius (generally more like 1.7 or 1.8) around plan area for 6,340 acres. Scoping for plants includes two 9 quad searches (for a total of 12 quads) which encompasses 332,145 acres.

Identification of Resource Area

The Biological Assessment Area (BAA) for animals is limited to terrestrial and aquatic biological resources known or suspected to occur within **at least** 1.5 mile radius around the project area. The Biological Assessment Area encompasses approximately 6,340 acres (9.9 sq. mi.). Refer to the map at the end of this section for a depiction of the area of the Biological Assessment Area.

The Department of Fish and Wildlife has requested that a nine quad search be performed as proper scoping for plants known or suspected of occurring within the project area. The quads searched for preparation of this scoping include Camptonville, Strawberry Valley, Cascade, American House, La Porte, Goodyears Bar, Clipper Mills, Challenge, Pike, French Corral, Nevada City, and North Bloomfield. Total acreage in this form of scoping equals **332,145** acres. The California DFG Natural Diversity Data Base was queried for the Chicago Park USGS Quad and information was received in my office which expires on April 2, 2016.

Special status terrestrial and aquatic biological resources were evaluated at the local and watershed landscape scales. Based on the known occurrence of various habitat types and the documented geographic distributions and habitat associations of various species based on available scientific literature, the California Department of Fish and Wildlife (CDFW), Natural Diversity Data Base (NDDB), and observations by the RPF, no species of concern where identified to be present within the actual project area. This biological evaluation was prepared in accordance with 14 CCR 898 and 1034.

Project-Specific Setting

Habitat types within the vicinity of the project area can be described as Sierran mixed conifer as defined by the Wildlife Habitat Relationship System (WHR). The WHR defines habitats based on the composition and structure of the dominant vegetation of any given areas and provides generalized information pertaining to wildlife value and use of these habitats.

Stand structure of this project area is characterized by many little even-aged groups of trees occupying areas that are located throughout the project area. Much of the establishment of these stands are associated with past fires, mining and timber harvesting. It is safe to say that, based on trees bored within the plan area, many of the trees of this stand began growing just after the California gold rush era. Natural regeneration has occurred on the disturbed areas of the plan following the succession of good cone crop years. Young seedlings stands have thinned themselves through competition for soil moisture. Canopy is open to dense. The plan area is located in a transition zone between low and moderate elevation mixed conifer timber stands and habitat types.

A high degree of age groups of this timber stand greatly influences it's uneven-aged appearance. This possibly could be termed an irregular stand in the classic sense. The understory is directly influenced by stand density. Except for bear clover found throughout the project area dense conifer stands contain sparse understory vegetation and, as the stand opens up the understory consists of a mix of sapling to pole sized conifer with ground cover occupied with varying amounts of manzanita, ceanothus, whitethorn, shrub tanoak (chinquapin), bitter cherry, currant, rose, and gooseberry. There are no late successional forest stands present on site as defined in 895.1 of the forest practice rules.

The Sierran mixed conifer forest supports some 355 species of animals. Sensitive species inhabiting mixed conifer include spotted owl, fisher and pine marten. Endangered species include bald eagle and peregrin falcon.

Evaluation of Cumulative Biological Impacts

1. Any known rare, threatened, or endangered species or sensitive species (as described in the Forest Practice Rules) that may be directly or indirectly affected by project activities. Significant cumulative effects on listed species may be expected from the results of activities over time which combine to have a substantial effect on the species or on the habitat of the species.

No rare, threatened or endangered biological species are known to inhabit the project area.

2. Any significant, known wildlife or fisheries resource concerns within the immediate project area and the biological assessment area (e.g. loss of oaks creating forage problems for a local deer herd, species requiring special elements, sensitive species, and significant natural areas). Significant cumulative effects may be expected where there is a substantial reduction in required habitat or the project will result in substantial interference with the movement of resident or migratory species.

The significance of cumulative impacts on non-listed species viability should be determined relative to the benefits to other non-listed species. For example, the manipulation of habitat results in conditions which discourage the presence of some species while encouraging the presence of others.

This THP is small in comparison to most THP's being prepared and submitted today in the Cascade Region of CAL-FIRE. However, the size of the project does not mean as much as a proper scoping of the project and assessment area to determine if all significant cumulative effects of the project area have been substantially reduced to prevent negative cumulative effects to all wildlife species. The use of this silviculture prescription in the alternative prescription unit, with retention of various sizes and species of trees, will aid in substantially reducing negative effects on wildlife and possibly could provide benefits to some wildlife species. It is the landowners' desire to retain trees in all size classes (where logically possible) throughout the alternative prescription area and this shall be accomplished within the scope of this prescription. The main hardwood specie which shall be removed is tanoak. It is felt this tanoak reduction will allow for future conifer growth, but, at the same time, also allow for expanded growth of other hardwood species (in particular Pacific madrone). The tanoak reduction should not significantly reduce the forage availability for species dependent on such. Some downed logs, standing snags and live cull trees shall be retained on site based on Landowner's desires to provide shelter for small mammals and rodents. There are a moderate amount of brush patches on site in the alternative prescription unit and we shall attempt to retain those wherever possible. There will not be a substantial reduction in any required habitats for any species as a result of this project as presented.

3. The aquatic and near-water habitat conditions on the THP and immediate surrounding area. Habitat conditions of major concern are: pools and riffles, large woody material in the stream and near-water vegetation. Much of the information needed to evaluate these factors is described in the preceding Watershed Resources section. A general discussion of their importance is given below:

a. Pools and Riffles. Pools and riffles affect overall habitat quality and fish community structure. Streams with little structural complexity offer poor habitat for fish communities as a whole, even though the channel may be stable. Structural complexity is often lower in streams with low gradients, and filling of pools can reduce stream productivity.

There are no defined pools or riffles associated with the project area.

b. Large Woody Material. Large woody debris in the stream plays an important role in creating and maintaining habitat through the formation of pools. These pools comprise important feeding locations that provide maximum exposure to drifting food organisms in relatively quiet water. Removal of woody debris can reduce frequency and quality of pools.

Some large woody debris is found in the class III (just off-site) and that large woody element will remain intact.

c. Near-Water Vegetation. Near-water vegetation provides many habitat benefits, including: shade, nutrients, vertical diversity, migration corridors, nesting, roosting, and escape. Recruitment of large woody material is also an important element in maintaining habitat quality.

The vegetation found in association with the class III watercourse just off-site will not be disturbed in association with harvest activities of this plan. The class III watercourse has been greatly influenced by past mining, having recovered from activities associated with this land use.

4. The biological habitat condition of the THP and immediate surrounding area. Significant factors to consider are:
◊ Snags/den trees ◊ Hardwood cover ◊ Downed, large woody debris ◊ Late seral (mature) forest characteristics.
◊ Multistory canopy ◊ Late seral habitat continuity ◊ Road density

The following general guidelines may be used when evaluating biological habitat. The factors described are general and may not be appropriate for all situations. The THP preparer must also be alert to the need to consider factors which are not listed below. Each set of ground conditions are unique and the analysis conducted must reflect those conditions.

a. Snags/Den/Nest Trees: Snags, den trees, nest trees and their recruitment are required elements in the overall habitat needs of more than 160 wildlife species. Many of these species play a vital role in maintaining the overall health of timberlands. Snags of greatest

The following general guidelines may be used when evaluating biological habitat. The factors described are general and may not be appropriate for all situations. The THP preparer must also be alert to the need to consider factors which are not listed below. Each set of ground conditions are unique and the analysis conducted must reflect those conditions.

a. Snags/Den/Nest Trees: Snags, den trees, nest trees and their recruitment are required elements in the overall habitat needs of more than 160 wildlife species. Many of these species play a vital role in maintaining the overall health of timberlands. Snags of greatest value are >16" DBH and 20 ft. in height. The degree of snag recruitment over time should be considered. Den trees are partially live trees with elements of decay which provide wildlife habitat. Nest trees have importance to birds classified as a sensitive species.

Snags are always a controversy in relation to fire prevention. On one hand their importance in the wildlife community is well documented. On the other hand they can cause a lot of anguish to landowners because of their threat in a fire situation and the fear of them falling on people who might either walk, hike, bike or horseback ride within the property. It is a general practice to fall snags in an area under these conditions. Generally, I, the RPF, like for the felled snags to remain on site after felling. We shall attempt to leave snags throughout the property. I do all my own field work and am constantly searching for occupied and recently occupied nest trees. If found, they will be protected. Den trees are always searched out during the marking phase of my projects to be saved unless the tree is determined to be a safety hazard. Snag recruitment shall be performed as per this THP. Snags over 20 ft. in height and 16 in. dbh shall be felled in the following locations: (1) Within 100 feet of main ridge tops that are suitable for fire suppression and (2) within 100 feet of all public roads, permanent roads, seasonal roads, and landings. All other snags >20' in height and 16" DBH and greater were evaluated. Presently there are approximately 0.5 snags/acre found within the alternative prescription unit of this THP project area. It shall be my attempt to maintain this snag/acre aggregate throughout the life of this THP.

b. Downed large, woody debris: Large downed logs (particularly conifers) in the upland and near-water environment in all stages of decomposition provide an important habitat for many wildlife species. Large woody debris of greatest value consists of downed logs >16" diameter at the large end and >20 feet in length.

There is a minor amount of downed large, woody debris found in the upland and near-water environment(s) of the project area (near the class III off-site). There is no intention of removing any of this material (except in incidental amounts as dictated by various skidding situations whereby equipment [outside of the watercourse protection zone] may have to maneuver in a non-planned fashion due to safety reasons, thereby disturbing downed woody material [but not removing this material]). There is no downed large, woody material debris found in the conversion area.

c. Multistory canopy: Upland multistoried canopies have a marked influence on the diversity and density of wildlife species utilizing the area. More productive timberland is generally of greater value and timber site capability should be considered as a factor in an assessment. The amount of upland multistoried canopy may be evaluated by estimating the percent of the stand composed of two or more tree layers on an average per acre basis. Near-water multistoried canopies in riparian zones that include conifer and hardwood tree species provide an important element of structural diversity to the habitat requirements of wildlife. Near-water multistoried canopy may be evaluated by estimating the percentage of ground covered by one or more vegetative canopy strata, with more emphasis placed on shrub species along Class III and IV streams (14 CCR 936.5).

Multistory canopy shall still be retained throughout the project area in both the alternative silviculture and special treatment prescription units. These silviculture prescriptions are tailored to the characteristics of the entire stand in the unit. Within the alternative unit tanoak shall be removed in sufficient quantity to provide small openings (a desirable quality of multi-storied canopies in general). Other hardwoods are not scheduled for removal, thus contributing to a true multi-storied canopy affect. Multistoried canopy will not be retained in either the conversion area or clearcut unit although the clearcut unit in itself will eventually establish another valued story in the canopy.

d. Road Density: Frequently traveled permanent and secondary roads have a significant influence on wildlife use of otherwise suitable habitat. Large declines in deer and bear use of areas adjacent to open roads are frequently noted. Road density influence on large mammal habitat may be evaluated by estimating the miles of open permanent and temporary roads, on a per-section basis, that receive some level of maintenance and are open to the public. This assessment should also account for the effects of vegetation screening and the relative importance of an area to wildlife on a seasonal basis (e.g. winter range).

Road density in the assessment area has been evaluated on miles/section basis based on my knowledge of what roads are permanent and/or temporary. The range that I have computed varies between 3 and 6 miles (averaging 4.1 miles) of per section. Of this there is an average of only 1.2 miles/section of "frequently traveled" roads within the assessment area. Without a documented comparison analysis I cannot draw a qualified conclusion about the average road density. Needless to say this represents what is required to conduct timber operations and serve the landowner(s) within this assessment area. Considering stand characteristics as a whole, roads are unlikely to have any negative effect on large mammal habitat. Individual animals may

hydrology. The higher the road density is, the greater the potential for the road system to affect the hydrology. Watersheds were classified as having high (> 4 miles/square mile), moderately high (3-4 mi./sq. mi.), moderate (2-3 mi./sq. mi.)), moderately low (1-2 mi./sq. mi.) or low (<1 mi./sq. mi.) potential for hydrological effects based on relative road densities. The average road density across the entire TNF is 2.8 miles/ square mile. At the river basin scale (see following table), the Bear River has the highest road density, followed by the Truckee. The river system with the lowest road density is the American River (North Fork American River Basin).

River Basin Name	Basin Sq. Mi.	Miles of Road *	Mi./Sq. Mi of Roads *	% of River Basin with moderately high to high road densities **
Middle Fork Feather	223	540	2.4	0%
North Fork American	628	1365	2.2	36%
Truckee	366	1315	3.6	100%
Upper Bear	76	325	4.3	100%
Yuba	**938**	**2693**	**3.0**	**40%**

*This information is based on all classified roads within the TNF boundary, not just the arterial and collector system.

e. Hardwood Cover: Hardwoods provide an important element of habitat diversity in the coniferous forest and are utilized as a source of food and/or cover by a large proportion of the state's bird and mammal species. Productivity of deer and other species has been directly related to mast crops. Hardwood cover can be estimated using the basal area per acre provided by hardwoods of all species.

Except for scheduled slight basal area reduction of tanoak stands in order to promote future conifer establishment, hardwoods will be retained on the project site where possible.

f. Late Seral (Mature) Forest Characteristics: Determination of the presence or absence of mature and over-mature forest stands and their structural characteristics provides a basis from which to begin an assessment of the influence of management on associated wildlife. These characteristics include large trees as part of a multilayered canopy and the presence of large numbers of snags and downed logs that contribute to an increased level of stand decadence. Late seral stage forest amount may be evaluated by estimating the percentage of the land base within the project and the biological assessment area occupied by areas conforming to the following definitions: Forests not previously harvested should be at least 80 acres in size to maintain the effects of edge. This acreage is variable based on the degree of similarity in surrounding areas. The area should include a multi-layered canopy, two or more tree species with several large coniferous trees per acre (smaller subdominant trees may be either conifers or hardwoods), large conifer snags, and an abundance of large woody debris. Previously harvested forests are in many possible stages of succession and may include remnant patches of late seral stage forest which generally conform to the definition of unharvested forests but do not meet the acreage criteria.

There is no late seral forest and/or habitat continuity within the project area but fractions of late seral are found (mostly on National Forest lands) to varying degrees throughout the watershed, this being due to past land management activities. The tree size within the assessment area is above average due to the high site and optimum growing conditions. There has been a low amount of harvesting within the general vicinity of the project area.

g. Late Seral Habitat Continuity: Projects containing areas meeting the definitions for late seral stage characteristics must be evaluated for late seral habitat continuity. The fragmentation and resultant isolation of late seral habitat types is one of the most significant factors influencing the sustainability of wildlife populations not adapted to edge environments. This fragmentation may be evaluated by estimating the amount of the on-site project and the biological assessment area occupied by late seral stands greater than 80 acres in size (considering the mitigating influence of adjacent and similar habitat, if applicable) and less than one mile apart or connected by a corridor of similar habitat.

There is very little late seral forest and/or habitat continuity throughout the watershed due to past fires and land management activities. There are no remnant patches of late seral forest and/or habitat continuity within the plan area. In addition there are no large old trees present within the plan area that are scheduled for harvested.

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h. Special Habitat Elements: The loss of a key habitat element may have a profound effect on a species even though the habitat is otherwise suitable. Each species may have several key limiting factors to consider. For example, a special need for some large raptors is large decadent trees/snags with broken tops or other features. Deer may have habitat with adequate food and cover to support a healthy population size and composition but dependent on a few critical meadows suitable for fawning success. These and other key elements may need special protection.

Aside from the 'timberland conversion area" we shall retain trees in various diameter classes and ages for aesthetics and wildlife purposes, thereby maintaining a multi-story canopy. I have evaluated the entire property and considered all species that are possibly present within the project area. The LTO shall use as many existing skid trails and roads as is possible to remove trees marked by either the RPF or his designee. It should be noted that the 2 acre clearcut unit will establish a habitat into itself and eventually will re-establish, thereby adding to the richness of overall habitat elements within the plan area. Key habitat for any species will not be compromised.

BIOLOGICAL SCOPING FOR WILDLIFE & PLANTS: See Section III of this THP.

Potential Impacts of Projects Occurring Within Biological Assessment Area

Technical Rule Addendum #2 specifies that I, the RPF, must disclose and evaluate the potential impacts of any project(s) that occur within each of the described assessment areas relative to the resource which has been identified. In this case, a disclosure of past, present and reasonably foreseeable future projects should include a discussion pertaining to how these projects would, in combination with the proposed project, impact biological resources.

Following studies of the California Watershed Mapper and inquiries from the USDA - Forest Service, Yuba County Conservation District, and the Yuba County Planning Department I have determined the following past, present and/or reasonably foreseeable future projects to be located within the defined Biological Resource Assessment Area.

The following table lists information on THP's that were reasonably available before submission of this THP.

DETAILED SUMMARY OF TIMBER HARVESTING WITHIN THE ASSESSMENT AREA (2004 - 2014)										
		Acres of harvest within Assessment Area	Silvicultural System Class (acres)				Yarding System (acres)			
THP Number	Landowner		A	B	C	Other	Hell	Cable	Tractor	Other
2-14-064-YUB	Soper-Wheeler	298	43		255				298	
TOTALS		298	43	0	255	0	0	0	298	0

The silvicultural treatments applied in these harvests are grouped into three basic classes of treatments with similar levels of vegetation removals and other site disturbances. As shown in the table below, class A includes clearcut, rehabilitation of understocked areas, shelterwood seed step, road right of way, and seed tree seed step. Class B includes shelterwood prep. step, shelterwood removal step, and alternative methods. Class C includes seed tree removal step, transition, selection, sanitation salvage, group selection, fuel break, special treatment area, and commercial thinning.

Key to Silviculture Classification System	
Class A	
Clearcut	Road Right of Way
Rehabilitation of Understocked Areas	Seed Tree Seed Step

Key to Silviculture Classification System	
Class C	
Seed Tree Removal Step	Selection
Transition	Sanitation Salvage
Group Selection	Commercial Thinning
Fuelbreak	Special Treatment Area

Summary - Please review the following table to reveal specific THP activity within the last 10 years within the entire biological assessment area (6,340 acres in size).

SUMMARY OF HARVEST ACTIVITY (expressed as percent)								
		Silvicultural System Class (see above chart)			Yarding System			
	Acres of harvest within Assessment Area	A	B	C	Helicopter	Cable	Tractor	Other
TOTALS	4.7%	0.7%	0.0 %	4.0%	0%	0%	4.7%	N.A.

Based on this summary it is concluded that activities associated with this THP in relation to harvest activity within this watershed will not have a negative affect biological assessment area associated with this Timber Harvest Plan.

Present Activities - Although there is very little development going on in 2016, evidence and demographics shows that the rural residential lifestyle that is in place within the Yuba County area will continue to grow. Construction has been recently a way of life in this community and much of it is difficult to report. I have visited with the Yuba County Planning Department and can say that, in my best estimate, there are no MAJOR land use activities scheduled in the present which might combine with the effects of this timber harvest to cause harmful cumulative watershed effects.

Future Activities - An agency's consideration of cumulative effects is required to include "reasonable foreseeable probable future projects" (14 § CCR 15355). Probable future projects includes those that have an application on file with a public agency at a specific point in time; projects that are identified in a plan, projects that are later phases of an earlier approved project; and/or budgeted public agency projects. Future projects include those under review by the lead agency as well as other agencies; projects that may be found to be exempt by a public agency from further CEQA review; and includes projects that may never be carried out. Presently, through research, I have determined that there are no MAJOR land use activities scheduled in the near future which might combine with the effects of timber harvesting associated with this THP to cause any future harmful cumulative watershed effects.

D. Recreation Resources Assessment

Assessment Area Boundary: The Recreation Assessment Area includes the area within the project area plus 300 feet. This area should be of sufficient size to make a determination of the impacts to recreation as a result of this proposed project.

To the best of my abilities I have determined that the following recreational activities can be found within 300' of the plan area boundaries (whether "significant numbers" of people are involved in these activities is hard to determine as there is no definition of significant numbers). It is evident that there might be some adjacent landowners, fishermen, gold pan miners, hunters and dirt bikers who use roads and trails in the area. No Special Treatment Areas, designated as such by the Board of Forestry because of recreation resource values, exist within the vicinity of the project area.

IMPACTS EVALUATION: The proposed project, as presented, in combination with the impacts of past and future projects, will not have a reasonable potential to cause or add to significant cumulative impacts to recreational resources. It seems unlikely that any recreation activities within 300' of the plan area will be negatively affected by operations associated with this THP.

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E. Visual Resources Assessment

Assessment Area Boundary: The Visual Assessment Area is the logging area that is readily visible to significant numbers of people who are no further than three miles from the proposed project area. This area should be of sufficient size to make a determination of the impacts to visual resources as a result of this proposed project.

There is a small approximate 200' swarth encompassing the lower SE corner of the plan area that has been deemed a Special Treatment Area because of it's proximity to that portion of Highway 49 beginning at the Sierra County line which has been designated as a "Scenic Highway". The selection silviculture prescription shall be used for this small area and will not negatively affect the "scenic" quality of the highway at this juncture. The project area is not visible to significant numbers of people who are no further than three miles for the plan area. Some of the surrounding area has been intensely managed for timber. This parcel is zoned "agriculture" but also contains timber stands. Over the last 150 years there is strong documentation to the fact that this area has supported a large agriculture community. Although a conversion is scheduled for a visible portion of the property from 49, the end result (blueberry farm/orchard) will eventually take on a look of it's own. Although layers and layers of trees have their own aesthetic values, a landscape mixture of timberland and farm land also has it's own visual quality. People of this local rural area in the Yuba County are familiar with the visual affects of both timber harvesting and agriculture. It is felt that not only will the local constituents embrace the undertaking of converting the land to what it is zoned for, it may move many to attempt similar endeavors, thereby creating a more self sustaining local population. I have received no letters in regards to any visual issues of this THP. As of 10/01/16 there have been no comments about the activities associated with this timber harvest directed to either myself or the Landowner.

IMPACTS EVALUATION: The proposed project, as presented, in combination with the impacts of past and future projects, will not have a reasonable potential to cause or add to significant cumulative impacts to visual resources.

F. Vehicular Traffic Impacts Assessment

Assessment Area Boundary: The traffic assessment area involves the first roads, not part of the logging area, on which log truck traffic must travel. These roads should be sufficient to make a determination of the impacts to vehicular traffic resources as a result of this proposed project.

Log trucks will leave the THP area along State Highway 49. From the project area it is 76 miles to Quincy, California, 41 miles to Oroville, California, 57 miles to Lincoln, California and 72 miles to the McClellan log yard site in Sacramento. These are the closest destinations where log trucks might haul their products, although there could be other destinations. Once on Highway 49 all traveling is done on County or State highways.

Obviously logging trucks need to exercise great caution on ALL ROADS and beware of other vehicles traveling in either direction. Log trucks have been using this road in the past and this should not be an issue.

1. Will any publicly owned roads will be used for the transport of wood products. **YES**

2. Identify any public roads that have not been used recently for the transport of wood products and will be used to transport wood products from the proposed timber harvest. **NOT APPLICABLE**

3. Identify any public roads that have existing traffic or maintenance problems. **NO PUBLIC ROADS HAVE EXISTING TRAFFIC OR MAINTENANCE PROBLEMS**

Assessment Area Boundary: Limited to the area of the THP.

Greenhouse Gas Emmission

Evaluation of the potential cumulative impacts associated with climate change and increased Green House Gas emissions:

There is considerable scientific debate as to whether human caused greenhouse gas emissions are causing climate change or if it is just a natural phenomenon including studies showing that the medieval warm period was warmer than present (Harvard-Smithsonian Center for Astrophysics 2003), erroneous readings from temperature monitoring equipment (Surface Stations.org), and the fact that the amount humans are influencing the climate remains un-quantified (EPA 2007).

The rational that green house gas emissions are causing harmful climate change and therefore need to be mitigated for is highly politicized and far from being proven however it is a scientifically proven fact that trees can store carbon. Forests can be either a carbon "sink" or a source of atmospheric carbon. Trees absorb or "uptake" carbon dioxide (CO2) from the atmosphere during photosynthesis, emitting oxygen while using carbon to build woody stems, branches, roots, and leaves. Trees release CO2 during respiration and after they die through decomposition or when they burn. When carbon uptake in a forest exceeds respiration and other carbon losses, forest carbon pools are increasing and carbon "sequestration" is occurring. Young forests sequester carbon faster than old forests because CO2 uptake greatly exceeds respiration, but old forests store more total carbon than young ones. In very old forests respiration may exceed uptake, and such forests have switched from being sinks to sources of atmospheric carbon. When trees are harvested, carbon is extracted from the forest but not necessarily returned directly to the atmosphere. If trees are used to make wood products, a portion of the sequestered carbon is stored in solid form for several or more decades in the wood products carbon pool or even longer in the landfill carbon pool. If wood is used to produce energy, carbon released through combustion offsets or displaces carbon that otherwise would have been released through the burning of fossil fuels (O'Laughlin & Mahoney). This THP will provide for the harvest of wood products including lumber (long term carbon storage), biomass chips for cogeneration of electricity (offset use of petrochemicals for energy production), and provide for increased growing space encouraging the timber stand to absorb CO2.

Unmanaged forests, whether over-stocked or under-stocked sequester carbon at a lower rate than fully stocked, managed industrial forests. There are several reasons for this. Tree mortality within over-stocked unmanaged stands is greater than that within managed stands. This higher volume of decaying matter emits more carbon per acre than on managed lands, so the amount of atmosheric carbon that that the unmanaged stand can sequester is less than that of a managed stand. Another factor is growth rate. Volume growth rate of over-stocked forests decreases over time, and therefore take up carbon at a lower rate. On the other hand, managed industrial forests have a higher volume growth rate by design, and therefore have a higher carbon sequestration rate.

Most of the wood removed from the forest is converted to products that sequester carbon. The half-life of carbon stored in wood products used in home construction is estimated to be between 80 and 100 years. Wood waste products contribute to this as well. Wood and paper products in landfills experience very little decay, effectively placing carbon in long-term storage (USDA Forest Service Gen. Tec. Rep. RMRS-GTR-59.2000). Continuing to sequester carbon in this manner is an integral part of storing carbon. In 1990, enough carbon was removed from US forests to equal 10.6% of US carbon emissions (USDA Forest Service Gen. Tec. Rep. RMRS-GTR-59.2000). With respect to biomass chips for cogeneration of electricity, Dr. Steven Chu, US Secretary of Energy and Nobel Laureate states "Because biomass is a renewable resource that can achieve low or near zero carbon emissions (provided appropriate conversion technologies are used and feedstocks are sustainably managed), expanded reliance on biomass in modern applications is widely viewed as playing an important role in the transition to more sustainable energy systems." (Lighting the Way to a Sustainable Energy Future, UN InterAgency Council, 2007). In short, managed industrial forests are much more effective in sequestering carbon than over-stocked unmanaged forests.

Catastrophic wildfires are a large source unregulated carbon emissions that are not adequately represented in California Air Resources Board estimates.(CLFA 2008) Wildfires emitted an annual average of 65 million tons of carbon between 2002 and 2006 (O'Laughlin & Mahoney). Industrial timberlands have a lower wildfire risk than unmanaged non-industrial forests. This THP helps reduce wildfire risk by lowering stand density in the group selection areas and by maintaining the road system. Access is key in helping firefighters quickly respond to and contain a wildfire.

Silviculture: The Alt Rx prescription will reduce competition between trees allowing them to grow faster and will focus harvest on mature trees with reduced growing rates and damage trees with poor vigor and reduced growth potential. The clearcutting regeneration method involves the removal of a stand in one harvest. Regeneration after harvesting shall be obtained by direct seeding, planting, sprouting, or by natural seed fall. The pre-harvest stand is presently in a state of reduced carbon intake due to slowing growth rates and unutilized wood fiber being lost to decay. The post harvest stand shall be in a state of increased carbon uptake as a result of improved stand vigor from removal of over-mature and damaged trees and increased growing space for the healthier residual trees. The conversion area will remove trees, but will be replaced with agriculture crops. Although these orchard trees and bushes will not have much impact at first, eventually the crops will produce a benefit.

Maintaining stand growth at 70 cu ft per acre per year represents one ton of C removed annually per acre (Niel Sampson). These timber stands will meet or exceed that growth rate in the post harvest condition.

Greenhouse Gas Emissions from operations associated with the THP are insignificant compared to the carbon storage facilitated by the project. Broadcast burning or pile and burn methods of hazard reduction do emit GHG's however they reduce wildfire risk and free up growing space for trees. Chips and Biomass burned at cogeneration plants do emit GHG's however they reduce the amount of fossil fuels needed to be consumed for electricity generation. Based on company records fuel consumption represents 2.39% of the weight of C to go from the stump to the mill. In other words, 42 lbs of carbon were moved from the stump to the mill by 1lb worth of C from fuel being spent. Present day wood processing facilities utilizing forest by products such as sawdust and bark for energy production resulting in a significant offset to petrochemical usage.

To continue to sequester carbon forest must be managed, have wood products removed for off-site carbon storage and protected from wildfire and deforestation through conversion.

As pointed out by Sathre (2007): ***"The substitution effect of forest product use is cumulative; i.e. carbon emissions are avoided during each rotation period due to substitution for fossil fuel and material by the harvested biomass. Thus, not harvesting the forest would cumulatively increase carbon emissions over what would otherwise be possible if forests were harvested and used on a regular rotation period. Because the substitution benefits of forest product use are cumulative, and the carbon sink in the forest biomass and soil limited, non-management and non-use of forest biomass becomes less attractive as the time horizon increases. Over the long term, active and sustainable management of forests, including their use as a source of wood products and biofuels, allows the greatest potential for reducing net carbon emissions."***

In conclusion the net result of this project would be a positive impact on the amount of Carbon released into the atmosphere, by sequestering a much greater amount of carbon, when contrasted to the alternative of no project. If the alternative of no project were chosen it would allow the stand to develop into an unmanaged state with no access for fire control, no forest products generated for long term carbon storage, and a much lower growth rate thus reducing the net carbon sequestering of the forested area.

References:

Official Response to AB32 Draft Scoping Plan-Sustainable Forests, California Licensed Foresters Association, 8-1-2008

US EPA Climate Change State of Knowledge http://www.epa.goviclimatechange/science/stateofknowledge.html

Forests and Carbon, Jay O'Laughlin & Ron Mahoney, University of Idaho Policy Analysis Group Issue Brief No, 11

20th Century Climate Not So Hot, Harvard-Smithsonian Center For Astrophysics Press Release No: 03-10, 3-31-2003

Carbon Sequestration in Wood and Paper Products, Kenneth E. Skog & Geraldine A. Nicholson, USDA Forest Service Gen.

Tec. Rep. RMRS-GTR-59.2000

Surveyed CRN Site Quality Rating, Surface Stations.Org, 1-25-2009

Wood Products and Carbon Protocols Carbon Storage and Low Energy Intensity Should be Considered by DR. Jim Bowyer

Monitoring and Measuring Wood Carbon by Neil Sampson Colorado SWCS Conference on Carbon as a potential Commodity Dec.4, 2002.

Conclusion: It is my conclusion that the mitigations included in this plan, when correctly followed will reduce the potential adverse impacts of this project to a low level of significance which is acceptable under the Forest Practice Rules of the State. The assessment area contains a range of topographic conditions, most of which somewhat limit any intensive use of the land. Larger tracts maintained for commercial timber production have a much reduced potential impact when compared to residential development in the area. The continuation of forest management activities within the assessment area meets the landowner's goal for economic benefit from their lands without the need to subdivide and develop for residential use of this property. Timberland management, when contrasted with conversion to residential or commercial use, greatly increases the stability of water quality and the biological resources within the assessment area. And, although the Landowner is converting almost half of his property from a timber growing use, his interest in growing food crops is a sound management decision which far outweighs the negative affects of converting 7 acres of land out of forest. Although there is a lost opportunity to sequester carbon through forest management, carbon will eventually be sequestered through agriculture (and especially an "organic" blueberry farm). I have attached a document concerning research for GHG emissions associated with blueberry production (please read pages 97.5 - 97.6) . It is my conclusion that the project as proposed will not negatively impact the assessment area.

CAL-FREE GHG Calculator Summary

Based on the GHG calculator, the Blueberry Hill THP 20 acre timber harvest plan, utilizing an alternative silviculture prescription, a special treatment area and clearcut for the area not being converted to another land use (13 acres) will recoup carbon stocks from the initial harvest after 9 years. The non-biologic emissions associated with harvesting for this actual future timber management area totals -0.82 metric tons with the non-biologic emissions associated with milling totaling another -1.14 metric tons. The sum of the emissions from the harvest cycle for the 13 acre forest management phase of this property will total 414.96 metric tons. The sum of the emissions from the harvest cycle for the 7 acre timberland conversion phase of this property will total -73.16 metric tons (see pages 97.1 through 97.4). The total of the actual timber management area of 13 acres will sequester over the 100 year harvest cycle will be 5,394 metric tons. In summary it is the RPF's opinion that after having performed the Cumulative Impacts Assessment, that the proposed project as presented and mitigated, in combination with past, present, and reasonably foreseeable probable future projects will not cause, or add to significant cumulative impacts within the assessment area.

Cumulative Impact Assessment Contacts & Records & Reference Material Examined

PEOPLE CONTACTED

Agency/Company	Address	Telephone
Yuba County Resource Conservation District	1511 Butte House Road Yuba City, CA 95993	530.273-6185
Yuba River Ranger Station, USDA- Forest Service	15924 Highway 49 Camptonville, CA 95922	530.288.3231

INTERNET SOURCES

http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

http://www.frap.cdf.ca.gov/projects/esu

http://www.swrcb.ca.gov/

http://www.CaliforniaHerps.com

http://www.werc.usgs.gov

http://www.audubon2.org

http://wilderness.org/content/yuba-river-ranger-district-biological-resources-overlay-map

http://www.dfg.ca.gov/whdab/html/lifehistmammal.html

http://www.dfg.ca.gov

http://www.nccn.net

http://www.calflora.org

http://www.yubanet.com

http://cnps.web.aplus.net

http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/schwy.htm

http://ecos.fws.gov/speciesProfile/profile

REFERENCE MATERIAL

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Summary			Years until Carbon Stocks are Recouped from Initial Harvest (Includes Carbon in Live Trees, Harvested Wood Products, and Landfill)
	Beginning Stocks	Ending Stocks	
Emissions Source/Sink/Reservoir	Metric Tonnes CO2 Equivalent Per Acre Basis		9 Years
Live Trees (Conifers and Hardwoods)	182.84	436.89	
Wood Products		85.36	
Site Preparation Emissions		-2.49	
Non-biological emissions associated with harvesting		-0.82	
Non-biological emissions associated with milling		-1.14	
Sum of Net Emissions/Sequestration over identified Harvest Cycles (CO2 metric tonnes)		414.96	
Project Summary			
Project Acres	Step 17- Insert the acres that are part of the harvest area.	13	
Total Project Sequestration over defined Harvesting Periods (CO2 metric tonnes)		5,394	

011

Project Carbon Accounting: Inventory, Growth, and Harvest

This worksheet addresses the sequestation and emissions associated with the project area's balance of harvest, inventory, and growth plus any emissions associated with site preparation. Complete the input for Steps 0- 8 on this worksheet.

Forest Type

Multipliers to Estimate Carbon Tonnes per MBF (Sampson, 2002)

Forest Type	Step 0. Identify the approximate percentage of conifers by volume within the harvest plan. Must sum to 100%	Multiplier from Cubic Feet (merchantable) to Total Biomass	Pounds Carbon per Cubic Foot
Douglas-fir	25%	1.675	14.06
Incense cedar	10%	1.675	13.42
Pines	52%	2.254	12.14
True firs	3%	2.254	11.16
Hardwoods		2.214	11.76
Conversion of Board Feet to Cubic Feet	0.165	Pounds per Metric Tonne	2,204
Multipliers to Estimate Total Carbon Tonnes per MBF	Conifer	1.95	
	Hardwoods	1.95	
Multipliers to Estimate Merchantable Carbon Tonnes per MBF	Conifer	0.96	
	Hardwoods	0.88	

Harvest Periods

Time of Harvest (years from project approval)

Step 1. Enter the anticipated future harvest entries. The re-entry cycles should be supported by management plan, if available

User must enter harvest cycles to 100 years and/or at least three entry cycles.

Inventory

Harvest Periods	Conifer Live Tree Volume (MBF/Acre) - Prior to Harvest	Hardwood Live Tree Volume (BA square feet/Acre) - Prior to Harvest
	Step 2. Enter the estimated conifer inventory (mbf/acre) present in project area prior to harvest	Step 3. Enter the estimated hardwood inventory (basal area per acre) present in project area prior to harvest
0	13.8	8
40	35.2	22
70	45.6	33
100	57.6	40
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Growth Rates

Harvest Periods	Conifer Growth Rate BF/Acre/Year	Hardwood Growth Rate BA/Acre/Year
	Step 4. Enter the average annual periodic growth of conifers between harvests based on estimated growth in management plan, if available. Must be entered for each harvest cycle identified in Step 1	Step 5. Insert average annual periodic growth of hardwoods between harvests based on estimated growth in management plan, if available
0	700	0.5
40	600	0.5
70	600	0.5
100	600	0.5
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Harvest Volume

Harvest Periods	Conifer Harvest Volume (MBF/acre)	Hardwood Harvested / Treated Basal Area (SA/Acre)
	Step 6. Enter the estimated conifer harvested per acre of current and future entries. This estimate should be based on projections from the management plan if available	Step 7. Enter estimated hardwood basal area harvested/treated per acre
0	9	0
40	14	0
70	12	0
100	12	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Inventory Conversion to Carbon (prior to harvest)

Harvest Periods	Conifer Live Tree Tonnes (C/acre)	Hardwood Live Tree Tonnes (C/acre)
Item above (Time of Harvest as years from project approval)	Computed: MBF * Conifer Multiplier from Step 0	Computed: BA*Volume/Basal Area Ratio (to convert to MBF) * Hardwood Multiplier from Step 0
0	27	1
40	69	3
70	89	5
100	112	7
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
Difference between ending stocks and beginning stocks		

Inventory Conversion to Carbon Dioxide Equivalent (prior to harvest)

Harvest Periods	Conifer Live Tree Tonnes (CO_2 equivalent/acre)	Hardwood Live Tree Tonnes (CO_2 equivalent/acre)
	Computed: Conversion of carbon to CO_2 (3.67 tonnes CO2 per 1 tonne Carbon)	Computed: Conversion of carbon to CO_2 (3.67 tonnes CO2 per 1 tonne Carbon)
0	99	4
40	254	12
70	327	18
100	413	24
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
	314	19.85

Site Preparation

Step 8. Enter the value (in bold) for each harvest event that best reflects the site preparation activities, as averaged across the project area

Heavy - 50% or more of the project area is covered with brush and removed as part of site preparation or stumps are removed (mobile emissions estimated at 429 metric tonnes CO2e per acre, biological emissions estimated at 2 metric tonnes CO2e per acre)

Medium - >25% <50% of the project area is covered with brush and removed as part of site preparation (mobile emissions estimated at 262 metric tonnes CO2e per acre, biological emissions estimated at 1 metric tonne per acre).

Light - 25% or less of the project area is covered with brush and is removed as part of site preparation (mobile emissions estimated at 66 metric tonnes CO2e per acre, biological emissions estimated at 5 metric tonnes per acre)

None - No site preparation is conducted

Harvest Periods	Site Preparation	
0	Heavy	2.46
40	None	0
70	None	0
100	None	0
0	None	0
0	None	0
0	None	0
0	None	0
0	None	0
0	None	0
0	None	0
	Sum of emissions (Metric Tonnes CO2e) per acre	2.46

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Project Carbon Accounting: Harvesting Emissions

This worksheet addresses the non-biological emissions associated with the project area's harvesting activities. Complete the input for Steps 9- 14 on this worksheet.

Harvest Periods	Falling Operations	Production per Day	Emissions Associated with Yarders and Loaders			Emissions Associated with Tractors and Skidders			Emissions Associated with Helicopters			Landing Saws	Trucking Emissions		
from Inventory, Growth, and Harvest Page (Time of Harvest as years from project approval)	Assumption: ((25 gallons gasoline per MBF harvested * 5.33 (pounds carbon per gallon))/2205(conversion to metric tonnes)* mbf per acre harvested	MBF (all species) Yarded Delivered to Landing	Assumption ((35 gallons diesel per day per piece of equipment * 6 12 pounds carbon / gallon)/2205 to convert to metric tonnes carbon)* 3 67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption: ((155 gallons diesel per day per piece of equipment * 6 12 pounds carbon / gallon)/2205 to convert to metric tonnes carbon)* 3.67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption: ((200 gallons jet fuel per day per piece of equipment * 9 pounds carbon / gallon)/2205 to convert to metric tonnes carbon)* 3 67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption ((16 gallons gasoline per MBF * 5.33 (pounds carbon per gallon))/2205(conversion to metric tonnes)* 3 67 to convert to metric tonnes CO2 equivalent)/mbf per acre harvested Applies to all species whether harvested or not	Assumption: Round Trip Hours/Load average (from below, to compute the mbf/hour) ((6 gallons diesel/hour * 6 12 pounds carbon/gallon)/2205 (conversion to metric tonnes carbon))*3.67 (conversion to metric tonnes carbon dioxide equivalent)		
	Computed. Metric Tonnes CO2 equivalent per mbf harvested Applies to all species whether harvested or treated	Step 9. Enter the estimated volume delivered to the landing in a day	Step 10. Enter number of pieces of equipment in use per day for each harvest entry	Computed. Yarders and Loaders CO2 equivalent/mbf (metric tonnes)	Computed. Yarders and Loaders CO2 equivalent per Acre Harvested (metric tonnes)	Step 11. Enter number of pieces of equipment in use per day for each harvest entry	Computed Tractor and skidder CO2 equivalent/mbf (metric tonnes)	Computed. Tractors and Skidders CO2 equivalent per Acre Harvested (metric tonnes)	Step 12 Enter number of pieces of equipment in use per day for each harvest entry	Computed Helicopter CO2 equivalent/mbf (metric tonnes)	Computed. Helicopters CO2 equivalent per Acre Harvested (metric tonnes)	Computed. Landing Saws CO2 equivalent per Acre Harvested (metric tonnes)	Steps 13 and 14 below		Computed Estimated Metric Tonnes CO2e per harvested acre for each harvesting period
0	(0.02)	11	1	-0.03	-0.31	1	-0 05	-0.48	0	0.00	0.00	-0.01	Step 13. Enter Estimated Load Average MBF/Truck	4.3	1.401704082
40	(0.03)	11	1	-0.03	-0.46	1	-0.05	-0.73	0	0.00	0.00	-0 02			0.712428571
70	(0.03)	11	1	-0.03	-0.40	1	-0.05	-0.62	0	0.00	0 00	-0 02	Step 14 Enter Estimated Round Trip Haul in Hours	7	0.492568776
100	(0.03)	11	1	-0.03	-0.40	1	-0.05	-0 63	0	0.00	0.00	-0.02			0.767938776
0	-	0	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00			0
0	-	0	0	0.00	0.00	0	0.00	0 00	0	0 00	0.00	0 00			0
0	-	0	0	0.00	0.00	0	0.00	0 00	0	0.00	0.00	0 00			0
0	-	0	0	0 00	0.00	0	0.00	0 00	0	0.00	0.00	0.00			0
0	-	0	0	0.00	0.00	0	0.00	0.00	0	0 00	0.00	0.00			0
0	-	0	0	0.00	0.00	0	0.00	0 00	0	0.00	0.00	0.00			0
Sum Emissions	-0.11				-1.58			-2.46			0.00	-0.07			3.37

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Project Carbon Accounting: Harvested Wood Products and Processing Emissions

This worksheet addresses the non-biological emissions associated with the project area's harvesting activities. Complete the input for Steps 15- 16 on this worksheet.

Harvest Periods	Quantity of Forest Carbon Delivered to Mills				Non-Biological Emissions Associated with Mills	Quantity of Forest Carbon Remaining Immediately After Milling (Mill Efficiency)		Long-Term Sequestration in Wood Products	
	Conifer Percentage Delivered to Mills	Hardwood Percentage Delivered to Mills	Conifer CO2e Delivered to Mills / Acre	Hardwood CO2 equivalent Delivered to Mills / Acre	**Assumption.** 20 kwh/hour (mill energy use) /(40mbf lumber processed/hour) *(.05 metric tonnes/kw hour) * mbf processed	**Computed.** Remaining CO2 equivalent after Milling Efficiency for Conifers	**Computed.** Remaining CO2 equivalent after Milling Efficiency for Hardwoods	**Computed.** CO2 Equivalent Tonnes in Conifer Wood Products in Use- 100 Year Weighted Average / Acre and Landfill	**Computed.** CO2 Equivalent Tonnes in Hardwood Wood Products in Use- 100 Year Weighted Average / Acre
from Inventory, Growth, and Harvest Page (Time of Harvest as years from project approval)	**Step 15.** Insert the percentage of conifer trees harvested that are subsequently delivered to sawmills	**Step 16.** Insert the percentage of hardwoods harvested or treated that are subsequently delivered to sawmills	**Computed:** The merchantable portion determined by the conversion factors (Sampson, 2002) on the Inventory, Growth, and Harvest worksheet. This is multiplied by the percent delivered to mills to reflect the carbon delivered to mills.	**Computed:** The merchantable portion determined by the conversion factors (Sampson, 2002) on the Inventory, Growth, and Harvest worksheet. This is multiplied by the percent delivered to mills to reflect the carbon delivered to mills	**Calculated.** The CO2e associated with processing the logs at the mill	The difference between carbon delivered to mills and carbon remaining after milling is assumed to be emitted immediately		**Estimate.** The weighted average carbon remaining in use at year 100 is 45.3%	**Estimate.** The weighted average carbon remaining in use at year 100 is 23.0%
						The efficiency rating from mills in California is 0.67 (DOE 1605b) for conifers	The efficiency rating from mills in California is .5 (DOE 1605b) for hardwoods	**Estimate.** The carbon in landfills at year 100 is 29.8% of the initial carbon produced in wood products.	**Estimate.** The carbon in landfills at year 100 is 29.8% of the initial carbon produced in wood products.
0	100%	100%	31.65	1.45	-0.21	21.21	0.73	16.14	0.38
40	100%	100%	49.23	0.97	-0.34	32.99	0.48	25.10	0.26
70	100%	100%	42.20	0.73	-0.29	28.27	0.36	21.52	0.19
100	100%	100%	42.20	0.97	-0.29	28.27	0.48	21.52	0.25
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Sum of emissions associate with processing of lumber			-1.14	Sum of CO2 equivalent in wood products		84.27	1.09

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Project Carbon Accounting: Inventory, Growth, and Harvest

This worksheet addresses the sequestation and emissions associated with the project area's balance of harvest, inventory, and growth plus any emissions associated with site preparation. Complete the input for Steps 0- 8 on this worksheet.

Forest Type

Multipliers to Estimate Carbon Tonnes per MBF (Sampson, 2002)

Forest Type	Step 0. Identify the approximate percentage of conifers by volume within the harvest plan. Must sum to 100%	Multiplier from Cubic Feet (merchantable) to Total Biomass	Pounds Carbon per Cubic Foot
Douglas-fir	44%	1.875	14.36
Incense cedar	5%	1.575	13.47
Pines	31%	2.254	12.14
True fir	9%	2.254	11.18
Hardwoods	[redacted]	2.214	11.75
Conversion of Board Feet to Cubic Feet	0.165	Pounds per Metric Tonne	2.204
Multipliers to Estimate Total Carbon * Tonnes per MBF	Conifer	1.92	
	Hardwoods	1.95	
Multipliers to Estimate Merchantable Carbon Tonnes per MBF	Conifer	0.99	
	Hardwoods	0.88	

Harvest Periods

Time of Harvest (years from project approval)

Step 1. Enter the anticipated future harvest entries. The re-entry cycles should be supported by management plan, if available.

User must enter harvest cycles to 100 years and/or at least three entry cycles.

Harvest Periods
0

Inventory

Conifer Live Tree Volume (MBF/Acre) - Prior to Harvest	Hardwood Live Tree Volume (BA square feet/Acre) - Prior to Harvest
Step 2. Enter the estimated conifer inventory (mbf/acre) present in project area prior to harvest	Step 3. Enter the estimated hardwood inventory (basal area per acre) present in project area prior to harvest.
8.5	16

Growth Rates

Conifer Growth Rate BF/Acre/Year	Hardwood Growth Rate BA/Acre/Year
Step 4. Enter the average annual periodic growth of conifers between harvests based on estimated growth in management plan, if available. Must be entered for each harvest cycle identified in Step 1.	Step 5 Insert average annual periodic growth of hardwoods between harvests based on estimated growth in management plan, if available

Harvest Volume

Conifer Harvest Volume (MBF/acre)	Hardwood Harvested / Treated Basal Area (BA/Acre)
Step 6. Enter the estimated conifer harvested per acre at current and future entries. The estimate should be based on projections from the management plan, if available	Step 7. Enter estimated hardwood basal area harvested/treated per acre

Inventory Conversion to Carbon (prior to harvest) / Inventory Conversion to Carbon Dioxide Equivalent (prior to harvest) / Site Preparation

Harvest Periods	Conifer Live Tree Tonnes (C/acre)	Hardwood Live Tree Tonnes (C/acre)	Conifer Live Tree Tonnes (CO_2 equivalent/acre)	Hardwood Live Tree Tonnes (CO_2 equivalent/acre)	Step 8. Enter the value (in bold) for each harvest cycle that best reflects the site preparation activities, as averaged across the project area.	
from above (Time of Harvest as years from project approval)	Computed: MBF * Conifer Multiplier from Step 0.	Computed: BA/Volume/Basal Area Ratio (to convert to MBF) * Hardwood Multiplier from Step 0.	Computed: Conversion of carbon to CO_2 (3.67 tonnes CO2 per 1 tonne Carbon)	Computed: Conversion of carbon to CO_2 (3.67 tonnes CO2 per 1 tonne Carbon)	Heavy: 50% or more of the project area is covered with brush and removed as part of site preparation or stumps are removed (mobile emissions estimated at .423 metric tonnes CO2e per acre, biological emissions estimated at 2 metric tonnes CO2e per acre)	
					NeoBurn - >25% <50% of the project area is covered with brush and removed as part of site preparation (mobile emissions estimated at .202 metric tonnes CO2e per acre, biological emissions estimated at 1 metric tonne per acre)	
					Light - 25% or less of the project area is covered with brush and is removed as part of site preparation (mobile emissions estimated at .06 metric tonnes CO2e per acre, biological emissions estimated at .5 metric tonnes per acre).	
					None - No site preparation is conducted	
0	17	2	62	9	Heavy	-2.49
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
0	0	0	0	0	None	0
	Difference between ending stocks and beginning stocks		-67	-8.59	Sum of emissions (Metric Tonnes CO2e) per acre	-2.49

1.26

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Project Carbon Accounting: Harvesting Emissions

This worksheet addresses the non-biological emissions associated with the project area's harvesting activities. Complete the input for Steps 9-14 on this worksheet.

Harvest Periods	Felling Operations	Production per Day	Emissions Associated with Yarders and Leaders			Emissions Associated with Tractors and Skidders			Emissions Associated with Helicopters			Landing Saws	Trucking Emissions		
from Inventory, Growth, and Harvest Plan (Total of harvest est. grams from project approved)	Assumption: (1.29 gallons gasoline per MBF harvested * 8.33 pounds carbon per gallon)/2205 conversion to metric tonnes/MBF mbf per day harvested	MBF (off loaded) Yarded Delivered to Landing	Assumption: (535 gallons diesel per day per piece of equipment * 8.12 pounds carbon / gallon)/2205 to convert to metric tonnes carbon/ * 3.67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption: (550 gallons diesel per day per piece of equipment * 8.12 pounds carbon / gallon)/2205 to convert to metric tonnes carbon/ * 3.67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption: ((290 gallons jet fuel per day per piece of equipment * 8.3 pounds carbon / gallon)/2205 to convert to metric tonnes carbon)* 3.67 to convert to metric tonnes CO2 equivalent)/Production per Day			Assumption: (8.10 gallons gasoline per MBF * 8.33 pounds carbon per gallon)/2205/Conversion to metric tonnes * 3.67 to convert to metric tonnes CO2 equivalent/unit per acre harvested. Applies to all species whether harvested or not	Assumption: Hours trip (round trip) average from below, to calculate the emissions (gallons gasoline * 8.12 pounds carbon/gallon)/2205 conversion to metric tonnes carbon)/3.67 conversion to metric tonnes carbon dioxide equivalent)		
	Computed: Metric Tonnes CO2 equivalent per mbf harvested Applies to all species whether harvested or treated	Step 9 Enter the estimated volume delivered to the landing in a day	Step 10. Enter number of pieces of equipment in use per day for each harvest entry	Computed: Yarders and Leaders CO2 equivalent/unit (metric tonnes)	Computed: Yarders and Leaders CO2 equivalent per acre Harvested (metric tonnes)	Step 11. Enter number of pieces of equipment in use per day for each harvest entry	Computed: Tractor and skidder CO2 equivalent/unit (metric tonnes)	Computed: Tractors and Skidders CO2 equivalent per Acre Harvested (metric tonnes)	Step 12 Enter number of pieces of equipment in use per day for each harvest entry	Computed: Helicopter CO2 equivalent/unit (metric tonnes)	Computed: Helicopter CO2 equivalent per Acre Harvested (metric tonnes)	Computed: Landing Saws CO2 equivalent per Acre Harvested (metric tonnes)	Steps 13 and 14 below		Computed: Estimated Metric Tonnes CO2e per harvested area for each harvesting period
0	-	72	2	-0.05	0.00	1	-0.05	0.00	0	0.00	0.00	0.00	Step 13. Enter Estimated Load Average MBF/Truck	4.5	0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00	Step 14. Enter Estimated Round Trip Haul in Hours	*	0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
0	-			0.00	0.00		0.00	0.00	0	0.00	0.00	0.00			0
Sum Emissions	0.00				0.00			0.00			0.00	0.00			0.00

Breakout into multiple production sites and by harvest year

97.2

115

Project Carbon Accounting: Harvested Wood Products and Processing Emissions

This worksheet addresses the non-biological emissions associated with the project area's harvesting activities. Complete the input for Steps 15- 16 on this worksheet.

Harvest Periods	Quantity of Forest Carbon Delivered to Mills				Non-Biological Emissions Associated with Mills	Quantity of Forest Carbon Remaining Immediately After Milling (Mill Efficiency)		Long-Term Sequestration in Wood Products	
	Conifer Percentage Delivered to Mills	Hardwood Percentage Delivered to Mills	Conifer CO2e Delivered to Mills / Acre	Hardwood CO2 equivalent Delivered to Mills / Acre	**Assumption.** 20 kwh/hour (mill energy use) /(40mbf lumber processed/hour) *(.05 metric tonnes/kw hour) * mbf processed	**Computed.** Remaining CO2 equivalent after Milling Efficiency for Conifers	**Computed.** Remaining CO2 equivalent after Milling Efficiency for Hardwoods	**Computed.** CO2 Equivalent Tonnes in Conifer Wood Products in Use-100 Year Weighted Average / Acre and Landfill	**Computed.** CO2 Equivalent Tonnes in Hardwood Wood Products in Use-100 Year Weighted Average / Acre
from Inventory, Growth, and Harvest Page (Time of Harvest as years from project approval)	**Step 15.** Insert the percentage of conifer trees harvested that are subsequently delivered to sawmills	**Step 16.** Insert the percentage of hardwoods harvested or treated that are subsequently delivered to sawmills	**Computed:** The merchantable portion determined by the conversion factors (Sampson, 2002) on the Inventory, Growth, and Harvest worksheet. This is multiplied by the percent delivered to mills to reflect the carbon delivered to mills.	**Computed:** The merchantable portion determined by the conversion factors (Sampson, 2002) on the Inventory, Growth, and Harvest worksheet. This is multiplied by the percent delivered to mills to reflect the carbon delivered to mills.	**Calculated.** The CO2e associated with processing the logs at the mill	The difference between carbon delivered to mills and carbon remaining after milling is assumed to be emitted immediately		**Estimate.** The weighted average carbon remaining in use at year 100 is 46.3%	**Estimate.** The weighted average carbon remaining in use at year 100 is 23.8%
						The efficiency rating from mills in California is 0.67 (DOE 1605b) for conifers	The efficiency rating from mills in California is .5 (DOE 1605b) for hardwoods	**Estimate.** The carbon in landfills at year 100 is 29.8% of the initial carbon produced in wood products.	**Estimate.** The carbon in landfills at year 100 is 29.8% of the initial carbon produced in wood products.
0	100%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0		0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Sum of emissions associate with processing of lumber			0.00	Sum of CO2 equivalent in wood products		0.00	0.00

97.4

L11

Summary			Years until Carbon Stocks are Recouped from Initial Harvest (Includes Carbon in Live Trees, Harvested Wood Products, and Landfill)
	Beginning Stocks	Ending Stocks	
Emissions Source/Sink/Reservoir	Metric Tonnes CO2 Equivalent Per Acre Basis		1 Years
Live Trees (Conifers and Hardwoods)	70.67	FALSE	
Wood Products		0.00	
Site Preparation Emissions		-2.49	
Non-biological emissions associated with harvesting		0.00	
Non-biological emissions associated with milling		0.00	
Sum of Net Emissions/Sequestration over Identified Harvest Cycles (CO2 metric tonnes)		-73.16	
Project Summary			
Project Acres	Step 17- Insert the acres that are part of the harvest area.	7	
Total Project Sequestration over defined Harvesting Periods (CO2 metric tonnes)		(512)	

Excerpted from: A Life Cycle Assessment of Non-renewable Energy Use and Greenhouse Gas Emissions Associated with Blueberry and Raspberry Production in Northern Italy (2013)

by

Vincenzo Girgenti, Cristiana Peano, Michele Bounous and Claudio Baudino

from Science of the Total Environment (Journal homepage: www.elsevier.com/ locate/scitotenv)

3.1. Pre-farm

When we examine the impacts during the nursery phase (Table 2), we can deduce that the production of a raspberry plant is associated with a global warming potential (GWP) of 0.011 kg of CO2eq and a requirement for non-renewable energy (NRE) equivalent to 1.095 MJ. The effect of the substratum, consisting mainly of peat and perlite, amounts to 79% of the NRE impact and 12% of GHG emissions. The tubing for the irrigation system represents 10% of the NRE impact and 24% of GHG emissions (Fig. 1).c In examining the impacts of the nursery phase for the blueberry (Table 2), we can conclude that the production of a single plant is associated with a GWP of 0.023 kg of CO2eq and a requirement for nonrenewable energy equivalent to 11.952 MJ. The effect of the substratum (mainly peat) amounts to 97% of the NRE impact and 30% of the GWP. The only significant NRE impact relates to the substratum, while the GWP impacts of the nozzles and tubing for the irrigation system are 22% and 16%, respectively.

Table 2
Impacts in relation to functional units for 1 raspberry plant and 1 giant American blueberry plant at the farm, ready for transplantation.

Input	Category of impact			
	Non-renewable energy MJ UF^{-1}		IPCC GWP 100a kg CO_2eq UF^{-1}	
	Raspberry	Blueberry	Raspberry	Blueberry
Tubing	0.111	0.130	0.003	0.004
Substratum	0.869	11.56	0.002	0.007
Irrigation	0.013	0.019	0.001	0.001
Covering	0.000	0.037	0.000	0.001
Supports	0.000	0.014	0.000	0.001
Fertiliser (N)	0.000	0.013	0.000	0.002
Nozzles	0.000	0.173	0.000	0.005
End of life	0.002	0.001	0.005	0.002
Other	0.000	0.000	0.000	0.000

3.2. Farm

If we add the impacts of nursery production (standardized to the functional unit) to those associated with cultivation, we can infer that 125 g of raspberries entering the warehouse displays a carbon footprint of 0.027 kg of CO2eq and requires 0.529 MJ of energy from non-renewable sources (Table 3). Analysis of the impacts shows that the nitrogen fertilizer and the tubing for the drip system represent 26% and 11% of the GWP and 7% and 20% of the NRE impacts, respectively. The other significant impacts are shown in Table 3. It can also be noted that important impacts with regard to climate change are associated with the irrigation systems (11%), supports (10%) and covering (9%), while the non-renewable energy source impacts are related, in particular, to the covering (17%), nursery (14%) and irrigation system (10%). Consider the whole raspberry production chain, the GWP is 0.053 kg of CO2eq. Over the raspberry life cycle, approximately 1.119 MJ of non-renewable energy is consumed.

Table 3
Impact in relation to functional units for a 130-gramme container of raspberries and a 125-gramme container of giant American blueberries, delivered to the warehouse.

Input	Category of impact			
	Non-renewable energy MJ UF^{-1}		IPCC GWP 100a kg CO_2eq UF^{-1}	
	Raspberry	Blueberry	Raspberry	Blueberry
Compost mix	0.000	0.067	0.000	0.01
Fertiliser (N)	0.037	0.000	0.007	0.000
Tubing	0.106	0.092	0.003	0.003
Covering	0.088	0.000	0.002	0.000
Supports	0.042	0.000	0.003	0.000
Anti-hail netting	0.035	0.028	0.001	0.001
Mulching	0.000	0.025	0.000	0.001
Soil preparation	0.033	0.035	0.002	0.002
Irrigation	0.052	0.038	0.003	0.002
Nursery	0.076	0.041	0.001	0.000
Organic fertiliser	0.000	0.008	0.000	0.001
Diesel	0.000	0.075	0.000	0.001
End of life	0.001	0.001	0.002	0.001
Other	0.039	0.000	0.002	0.000

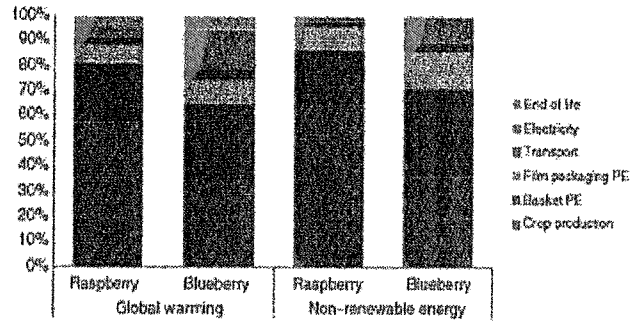


Fig. 1. Representation of the main impacts associated with the production of 250 g of raspberries and 125 g of giant American blueberries (UF) at the distribution platform.

If we add the impacts of nursery production to those resulting from the agricultural phase, we can infer that 125 g of blueberries emits 0.023 kg of CO2eq and requires 0.444 MJ of energy from non-renewable sources. Analysis of the impacts shows that the nitrogen fertilizer and the tubing for the drip system contribute 43% and 11% of the GWP and 21% and 11% of the NRE impact, respectively. It is possible to infer that with regard to climate change, the main impacts come from processing (10%) and irrigation (9%), while the impacts of using energy from non-renewable sources are principally related to diesel (17% data not shown) and to the nursery phase (9%).

3.3. Post-farm

97.5

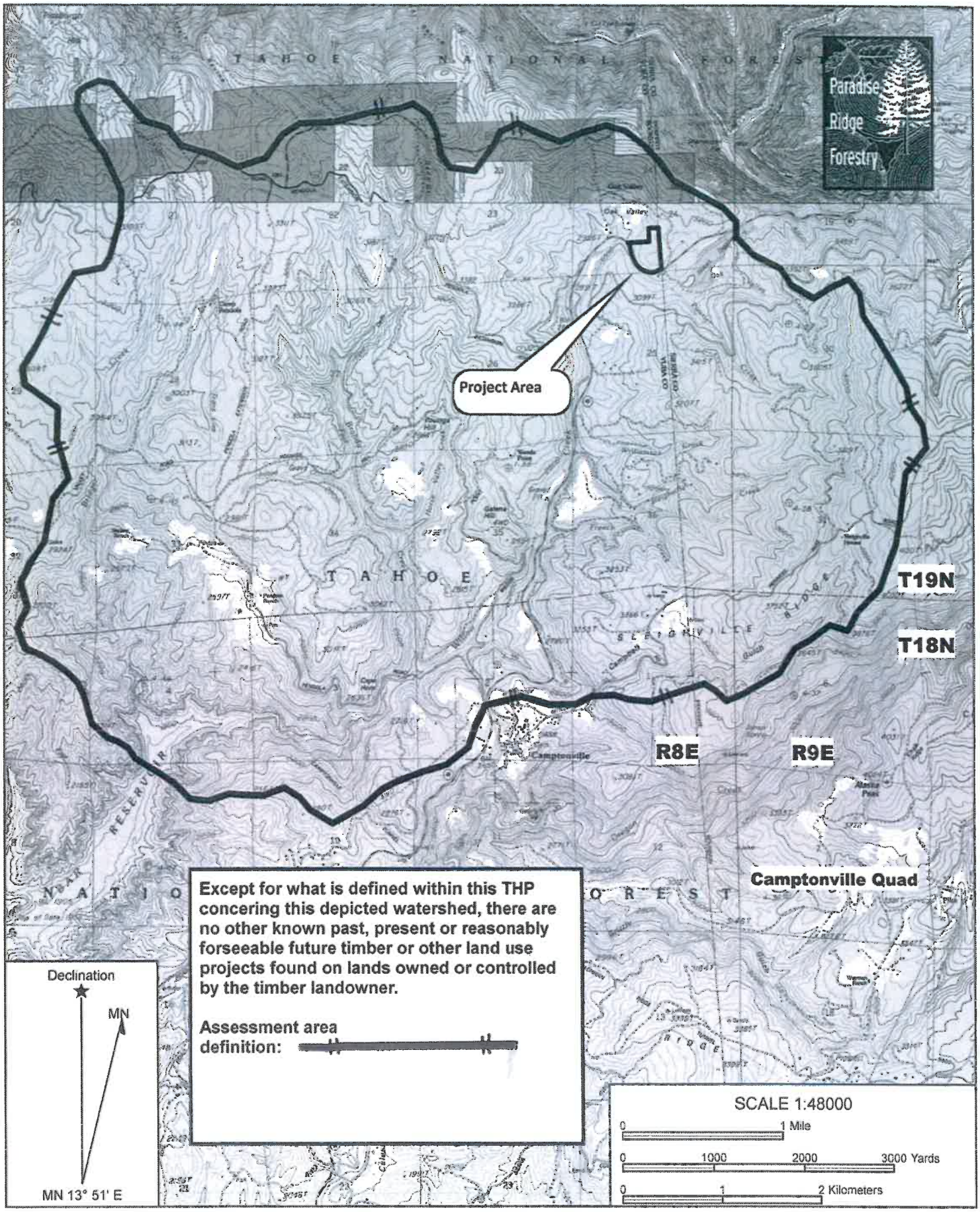
With regard to raspberries, the effects of the field and nursery phases, considered together, are 46% for GWP and 43% for NRE. The types of impact regarded as prevalent in the post-harvesting phase in percentage terms represent the last remaining part of the impact distribution. It can be observed that the PE plastic trays and PE plastic film used in packaging contribute 30% and 9% of the GWP and 35% and 15% of the NRE impact, respectively. When we examine the whole blueberry production chain, we can highlight that the GWP (IPCC) corresponds to 0.055 kg of CO2eq, while the chain consumes 1.123 MJ of non-renewable energy. The effect of the feld and nursery phases, considered together, is 38% for GWP and 36% for NRE. The types of impact regarded as prevalent in the post-harvesting phase in percentage terms represent the last remaining part of the impact distribution (Table 3). It can be observed that the PE plastic trays and PE plastic film used in packaging contribute 29% and 9% of the GWP and 35% and 15% of the NRE impacts, respectively.

4. Conclusion and recommendations

The LCA methodology was applied to the production chains of raspberries and blueberries grown in Italy using integrated cultivation methods to quantify the associated emissions. As a result of this study, it is possible to assess the environmental impact of the products in question to identify the weak points in the systems and suggest suitable options to help reduce the environmental impacts of these production systems. Taking the entire production chain into account, the LCA results show us that the most significant impacts are related to the use of plastic materials derived from fossil fuels during all phases (pre-farm, farm and post-farm).

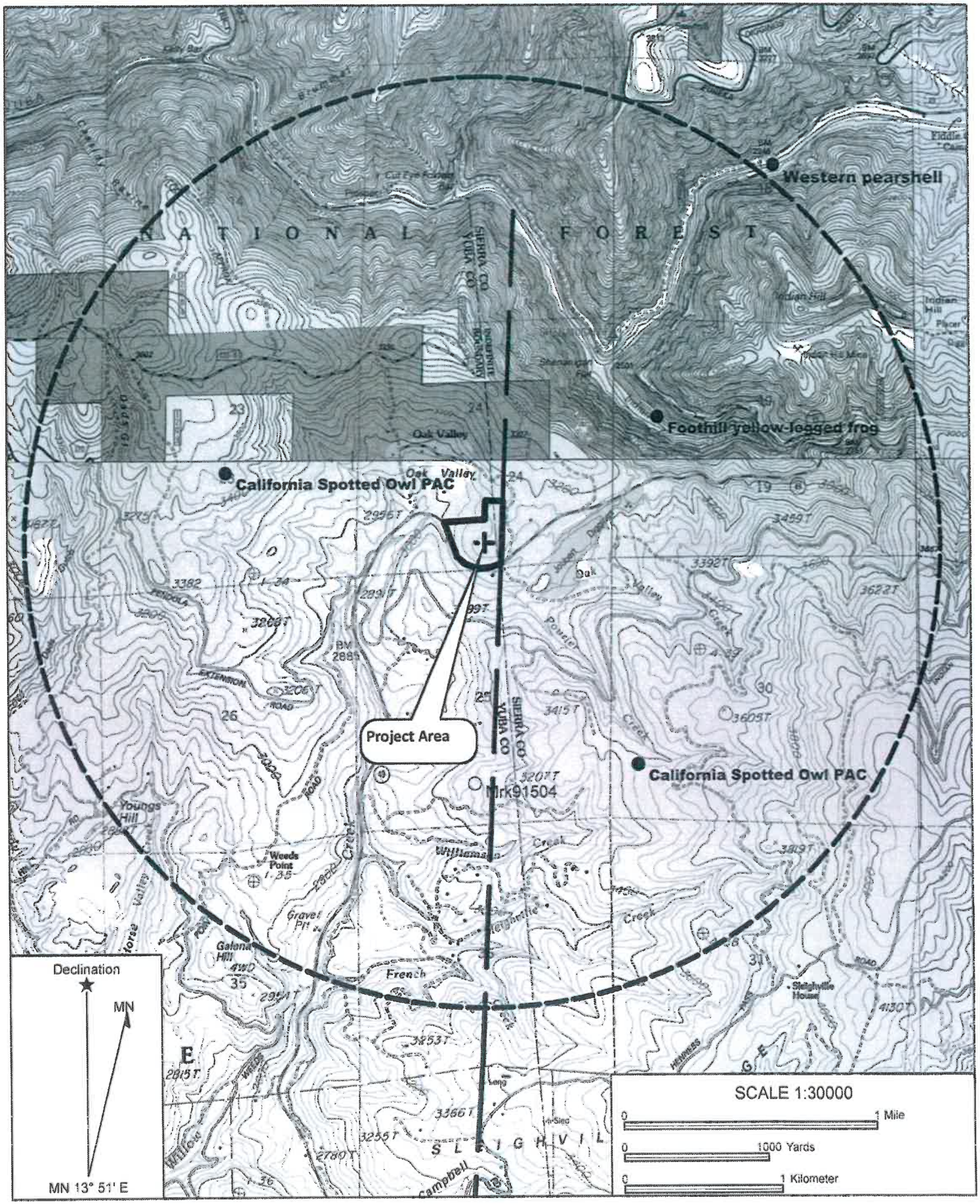
By examining the individual steps in the chain, it is possible to envisage certain methods for improvement. For example, during the nursery phase, it might be feasible to reduce the quantity of substratum used (mainly peat), whose production and transportation involve the main concentration of energy use. This effect is especially noticeable with regard to extraction and transport in view of the low weight per unit of volume of this particular material. In the field phase, the main impacts in terms of both energy and GWP are related to the agronomic operations that involve the use of plastics derived from fossil fuels, such as irrigation (tubes), mulching and covering. In these cases, we suggest the adoption of an innovative approach, involving the testing of biodegradable plastics for possible introduction as an alternative material. At present, such materials are associated with significant use limitations due to their lack of durability, making them more suited for short production cycles, such as those of vegetables. In addition, although the lesser impact of biodegradable materials is demonstrated in the literature (Razza et al., 2010), if these materials were to be employed, their entire production chain and the emissions produced during the biodegradation phase would have to be taken into account. The substitution of current materials with biodegradable and/or compostable materials should nevertheless be borne in mind for the future, as in addition to the environmental benefits produced, it could lead to a reduction of costs for farming enterprise through decreasing the labor required for removal work. The phase in which intervention would produce the greatest environmental benefits is the post-harvesting stage. For raspberries and blueberries to be sold through the major retail chains, it is necessary for packaging to be used for technical reasons. Possible solutions to this issue would mainly involve the substitution of PE with biodegradable materials such as PLA or other low-impact materials, which would allow disposal of the whole package as organic waste (Madival et al., 2009). Williams et al. (2008) reported that there is clear potential here for increasing customer satisfactionwhile, at the same time, reducing environmental impacts by designing new, eco-friendly packaging systems for foods.

Finally, based not only on this study but also on an analysis of the key literature regarding sustainable fruit production (Granatstein and Kupferman, 2006; Mila i Canals and Clemente Polo, 2003; Mouron et al., 2006), it can be observed that the raspberry and blueberry chains are amongst the production systems showing the greatest interaction with natural systems. Indeed, these types of fruit farms, more than many other agri-food chains, can be seen in terms of a relationship between nature and the technical sphere.



Name: CAMPTONVILLE
Date: 01/22/16
Scale: 1 inch = 4,000 ft.

Brandy Creek Calwatershed (Calwater I.D. 5517.510103)
11,392 acres



Camptonville & Strawberry Valley USGS 7.5' Quads
Contour interval: 40'
Scale: 1 inch = 2,500 ft.

Blueberry Hill THP Biological Assessment Area Map
6340 acres

Appendix E

BLUEBERRY HILL THP EHR

ESTIMATED SURFACE SOIL EROSION HAZARD
RM-87 (4/84)

STATE OF CALIFORNIA
BOARD OF FORESTRY

As per Soils of the Yuba Area, California by University of California, Davis and County of Yuba, California

A: Jocal-Sites Mariposa complex (2-30%)

I. SOIL FACTORS				FACTOR RATING BY AREA				
A. SOIL TEXTURE	Fine	Medium	Coarse	A	B	C	D	E
1. DETACHABILITY	Low	Moderate	High	17				
Rating	1-9	10-18	19-30					
2. PERMEABILITY	Slow	Moderate	Rapid	2				
Rating	5-4	3-2	1					
B. DEPTH TO RESTRICTIVE LAYER OR BEDROCK								
	Shallow	Moderate	Deep	12				
	1"-19"	20"-39"	40"-60" (+)					
Rating	15-9	8-4	3-1					
C. PERCENT SURFACE COARSE FRAGMENTS THAN 2 MM IN SIZE INCLUDING ROCKS OR STONES								
	Low	Moderate	High	5				
	(-) 10-39%	40-70%	71-100%					
Rating	10-6	5-3	2-1					
				FACTOR RATING BY AREA				
				A	B	C	D	E
			SUBTOTAL	36				

II. SLOPE FACTOR

Slope	5-15%	16-30%	31-40%	41-50%	51-70%	71-80% (+)	3				
Rating	1-3	4-6	7-10	11-15	16-25	26-35					

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

	Low	Moderate	High	4				
	0-40%	41-80%	81-100%					
Rating	15-8	7-4	3-1					

IV. TWO-YEAR, ONE-HOUR RAINFALL INTENSITY (Hundredths Inch)

	Low	Moderate	High	Extreme	12				
	(-) 30-39	40-59	60-69	70-80 (+)					
Rating	1-3	4-7	8-11	12-15					
				TOTAL SUM OF FACTORS	55				

EROSION HAZARD RATING

	<50	50-65	66-75	>75	M				
	LOW (L)	MODERATE (M)	HIGH (H)	EXTREME (E)					
				THE DETERMINATION IS					

CALIFORNIA STATE BOARD OF FORESTRY

TECHNICAL RULE ADDENDUM NUMBER 1

Revised
February 1, 1990

Procedure for Estimating Surface Soil Erosion Hazard Rating

Note: The procedure noted in this addendum is to be used in application of rules 14 CCR 912.5, 932.5 and 952.5.

Introduction

The purpose of this addendum is to guide calculation of the surface soil erosion hazard rating.

Determination of the Surface Soil Erosion Hazard Rating

The proposed rating system form [form is attached to addendum] for use in making the Erosion Hazard Rating has been prepared in a manner to allow the RPF to make an assessment of each of the erosion factors. These factors which are significant determinats in erosion hazard include:

(1) The inherent characteristics of the soil, including soil texture, depth to restrictive layer or bedrock, and percent of coarse surface fragments.

(2) Slope of the land surface.

(3) Protective vegetative cover.

(4) Precipitation characteristics.

Each of the factors has been weighed in relation to: (1) the within-factor range; and (2) the relative importance between factors. These relative weights have been field tested, checked against various soil series of generally known erosion hazard, and compared to the accepted theoretical basis of the erosional process.

In order to complete the hazard rating form, the user shall estimate the level for each factor and sum the ratings. This sum is then used to determine the proper adjective. As an aid to the user in selecting the proper level for each factor, the discussions and descriptions have been provided in Appendix I.

APPENDIX I

I. Soil Factors: Soil factors are rated individually.

A. Soil Textures

1. Detachability

Detachability refers to the ease or difficulty with which soil materials are dispersed or detached by rain-drop impacts and/or overland flow water. Soil detachability and texture are closely related.

Soil texture refers to a range, percentage by weight, of soil fractional particle sizes of sand, silt, and clay which make up the natural soil material. Various specific size range percentages have been established for the existing soil textural classes. For example, sandy loams, loams, or clay textural classes.

(a) Field Determination of Soil Texture Class

Soil material used for textural determinations is that material which passes 2mm sieve. Field sample should be spread out in palm of hand and all course fragments over 2mm in size (approximately 1/10 of an inch) separated from the 2mm size material. Ocularly estimate percent of coarse fragment material. Also estimate total percent of surface occupied by stones, boulders, and rock fragments; add this percent to the total percentage of coarse fragments. Make soil textural determination on material estimated to pass the 2mm sieve.

The determination of soil class is made mainly by feeling the soil with the fingers, sometimes supplemented by examination under the hand lens. Moist soil feels different to the fingers than dry soil.

The following descriptions can be used when making such textural determinations by feel.

<u>Sand</u>: Sand is loose and single grained. The individual grains can readily be seen or felt. Squeezed in the hand when dry, it will fall apart when the pressure is released. Squeezed when moist, it will form a cast, but will crumble when touched.

<u>Sandy Loam</u>: A sandy loam is a soil containing much sand, but which has enough silt and clay to make it somewhat coherent. The individual sand grains can readily be seen and felt. Squeezed when dry, it will form a cast which will readily fall apart, but if squeezed when moist, a cast can be formed and will bear careful handling without breaking.

Loam: A loam is a soil having a relatively even mixture of different grades of sand and of silt and clay. It is fairly smooth and slightly plastic, with a somewhat gritty feel. Squeezed when dry, it will form a cast that will bear careful handling, while the cast formed by squeezing the moist soil can be handled quite freely without breaking.

Silt Loam: A silt loam is a soil having a moderate amount of fine grades of sand and only a small amount of clay, over half of the particles being of a size called "silt". When dry, it may appear cloddy, but the lumps can be readily broken, and when pulverized it feels soft and floury. When wet the soil readily puddles. Either dry or moist, it will form casts that can be freely handled without breaking, but when moistened and squeezed between thumb and finger, it will not "ribbon", but will give a broken appearance.

Clay Loam: A clay loam is a fine-textured soil which usually breaks into clods or lumps that are hard when dry. When the moist soil is pinched between the thumb and finger, it will form a thin "ribbon" which will break readily, barely sustaining its own weight. The moist soil is plastic and will form a cast that will bear much handling. When kneaded in the hand it does not crumble readily, but tends to work into a compact mass.

Clay: A clay is a fine-textured soil that usually forms very hard lumps or clods when dry and is quite plastic and usually sticky when wet. When the moist soil is pinched out between the thumb and fingers, it will form a long flexible "ribbon".

(b) Rating Factor Determination

As indicated previously, there is a strong correlation between soil texture and detachability. For example, the coarse sandy loams, etc. are, for the most part, single grained and normally easily detached. The fine clayey-textured soils on the other hand, are detached with difficulty. Using these relationships, rather than requiring an empirical field test for determining detachability, the following subjective Table 1 relating soil texture classes to detachability values is provided as part of the rating system. The common soil textural classes found in each of the broad texture groups have been assigned values. The user can select the detachability which best fit the surface soil textural class.

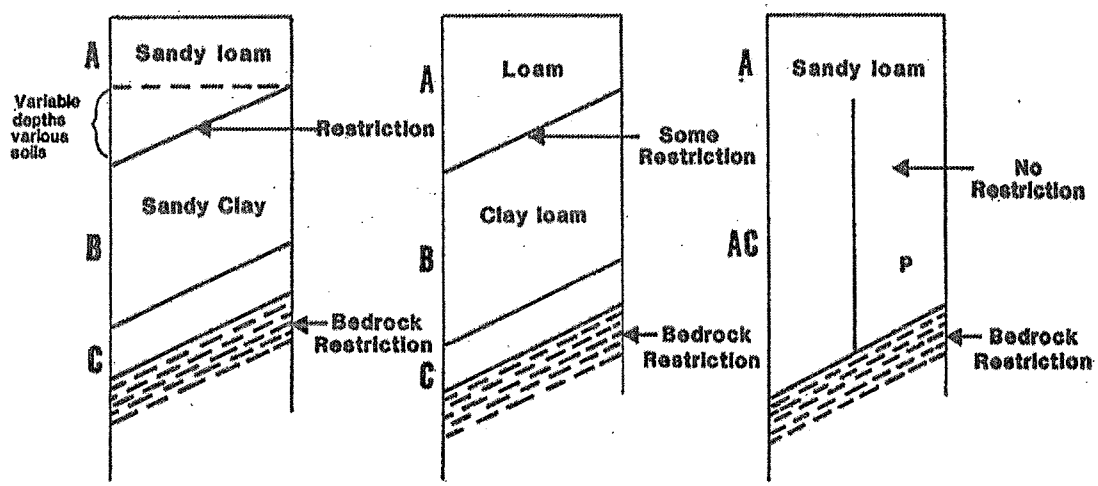
B. Depth to Restrictive Layer or Bedrock

This is related to the changes in soil permeability as well as to the depth of bedrock. For example, a soil profile having a sandy loam surface layer and a sandy clay subsoil would have restriction to water movement through the profile at the upper section of the sandy clay layer (Figure 1.).

Figure 1.

Examples of Various Soil Profile Configurations

Soil Profile Diagramatic Sketches.



A soil profile having a loam-textured surface soil underlain by a clay loam or clay subsoil would also be restrictive to water movement at the upper section of the clay loam or clay subsoil.

Should there be no obvious soil textural difference between the surface of the soil to the underlying bedrock, then the depth to the bedrock would be the restrictive difference.

Existing soil survey maps and report information, as well as close examination of existing road cuts of the area in question or an actual excavated soil pit will reveal the information required.

C. Surface Coarse Fragments Including Rocks or Surface Stones

The degree of surface coarse fragments or surface rockiness or stoniness has a pronounced effect on surface erosion in reducing rain-drop impact as well as reducing the erosion potential of overland flow.

II. Slope Factor

Other than the inherent properties of soil, the slope factor is one of the most important of the erosion factors. The kinetic energy attributed to overland water is direct relation to velocity and volume. For the purpose of EHR determinations, general slope characteristics are considered in making slope measurements. For example, a generally smooth mountainside slope is measured by taking the predominant slope and length condition.

III. Vegetative Cover

- This refers to all organic material both living and dead which protects soils from rain-drop impact and/or overland flow, e.g., overstory vegetation, the understory of younger and smaller trees and shrubs, the ground cover of forbs, and grasses, and the litter, duff, slash and stumps. The vegetative factor is an estimate of the residual organic material likely to exist in the area immediately after timber operations. All roads, landings and skid trails are included as part of the disturbed area. Where a Timber Harvesting Plan includes a Site Preparation Addendum, the vegetative cover used in calculating the erosion hazard rating shall be based on the amount of vegetative cover reasonably expected to be present immediately following completion of site preparation activities.

IV. Rainfall

This refers to rainfall intensity based on a two-year return period. Attached is a rainfall intensity map of California. The information was taken from Technical Paper No. 28, U.S. Weather Bureau. This presented only as a guide. Should more localized information be available for a specific area, it should be used, especially to adjust for snowfall conditions.

TABLE 1

Soil Textural classes and Associated Suggested Ratings [1,2,3]

Broad Class	Texture	Rating
Coarse	Sands	30
	Loamy Sands	27
	Sandy Loams	23
	Fine Sandy Loams	20
Medium	Loams	17
	Silt Loams	14
	Silty Clay Loams	11
Fine	Clay Loams	8
	Clays	5
	Extremely Fine Clays	1

1 The amount of organic matter incorporated with the soil mass has an effect on the ease or difficulty of soil particle detachment.

2 Also, nonwettable or difficult to wet soils will resist detachment. This phenomenon is lessened with continual wetting.

3 It is not unusual for soils to become nonwettable within the surface layer following a wildfire or broadcast burning where spot areas have burns too hot.

2. Permeability

This is a measure of the rate at which water moves through soil. On a broad basis, soil textural classes can be used to estimate permeability and the associated factor.

TABLE 2

Soil Textures and Associated Permeabilities and Rating Factors

Soil Texture	Permeability	Factor
Sands) Loamy Sands) Sandy Loams) Fine Sandy Loams)	Rapid	1
Loams) Silt Loams) Silty Clay Loams)	Moderate	2-3
Clay Loams) Clays) Extremely Fine Clays)	Slow	4-5

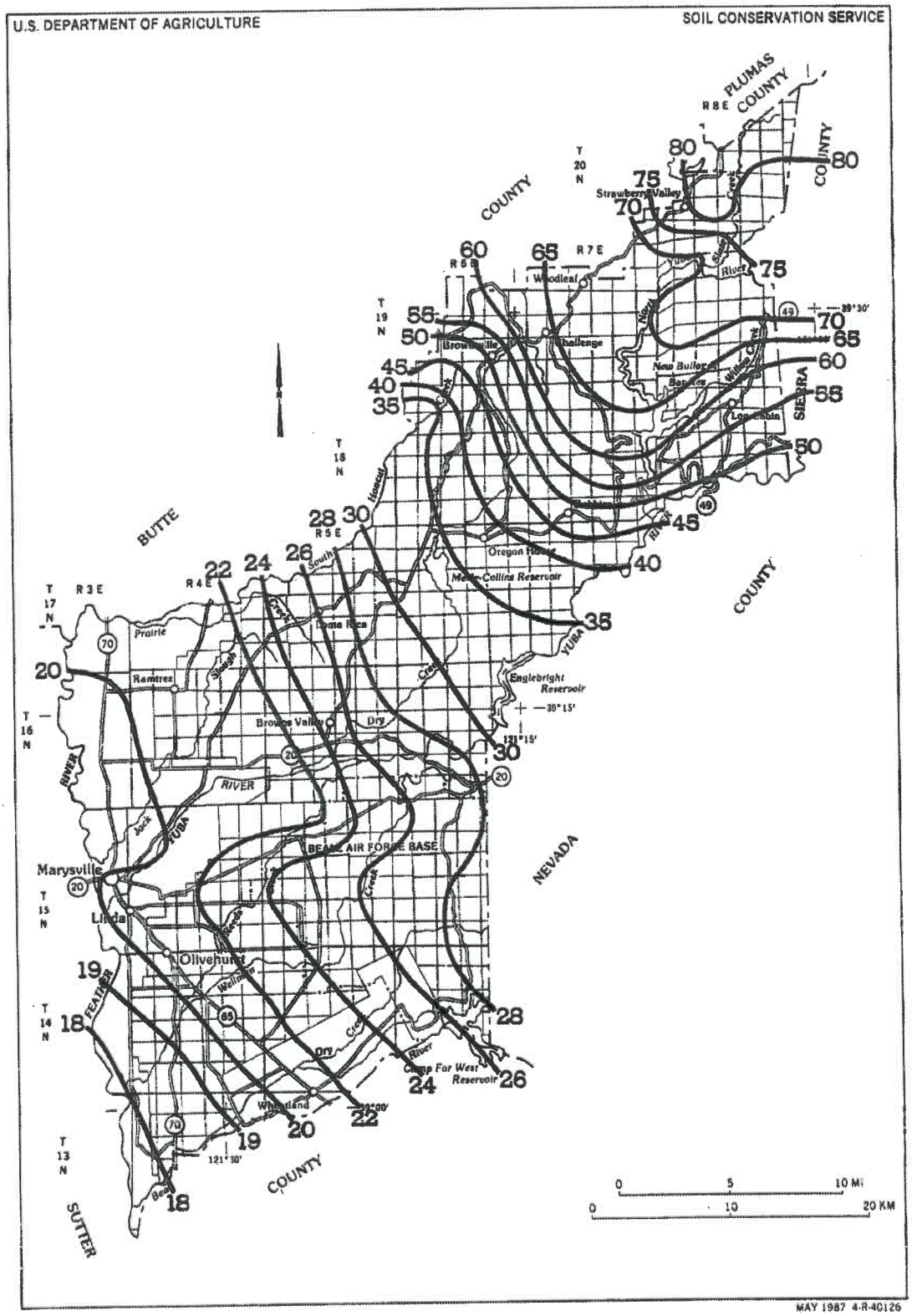


Figure 3.—Annual precipitation, in inches, in Yuba County.

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Paradise Ridge Forestry
1715 Grand Court
Paradise, CA 95969
530.321.1401

March 15, 2016

Anders M. Dupen
P.O. Box 44
Camptonville, CA 95922

RE: Blueberry Hill THP Landowner Responsibility

Dear Anders:

This letter is written to you as a reminder and to inform you that you have been listed as the Timber Owner, Timberland Owner, and Plan Submitter for the afore mentioned THP which is to be submitted to Cal Fire on your behalf. As any one of the above listed titles you have certain responsibilities (required by Forest Practice Law). Please be advised of the following:

Your parcels (Yuba County: 054-240-008 & 009) consists of 20 acres.

---STOCKING---

As presented in this THP and at completion of operations, the following stocking standards are to be met:

For **Alternative Prescription:** - On this qualifying Site II land at least 80 square feet per acre of basal area and/or 300 point count shall be retained. The residual stand shall contain at least 15 s.f. of basal area per acre of trees that are 18" DBH and greater and which are of full crown, capable of seed production and representative of the best phenotypes available in the preharvest stand.

For **Conversion:** Timber operations conducted under this subsection shall be exempt from conversion permit and timber harvesting plan requirements of this article except no tree that existed before 1800 A.D and is greater than sixty (60) inches in diameter at stump height for Sierra or Coastal Redwoods, and forty-eight (48) inches in diameter at stump height for all other tree species shall be harvested unless done so under the conditions or criteria set forth in subsection 1104.1 (i).

Timber operations shall comply with all other applicable provisions of the Z'berg-Nejedly Forest Practice Act, regulations of the Board and currently effective provisions of county general plans, zoning ordinances and any implementing ordinances. The Notice of Conversion Exemption Timber Operations shall be considered synonymous with the term "plan" as defined in 14 CCR 895.1 when applying the operational rules and regulations of the Board. In this case "plan" means: Timber Harvesting Plan (THP) as described in PRC 4582.

---PLAN SUBMITTER---

The plan submitter, or successor in interest, shall:

(a) Ensure that an RPF conducts any activities which require an(b) Provide the RPF preparing the plan or amendments with complete and correct information regarding pertinent legal rights to, interests in, and responsibilities for land, timber, and access as these affect the planning and conduct of timber operations.

(c) Sign the NTMP certifying knowledge of the plan contents and the requirements of this section.

(d) Within five (5) working days of change in RPF responsibilities for NTMP implementation or substitution of another RPF, file with the Director a notice which states the RPF's name and registration number, address, and subsequent responsibilities for any RPF required field work, amendment preparation, or operation supervision. Corporations need not file notification because the RPF of record on each document is the responsible person.

(e) Provide a copy of the approved NTMP and Notice of Timber Operations to the LTO.

(f) Notify the Director prior to commencement of site preparation operations. Receipt of a burning permit is sufficient notice.

(g) Provide the RPF preparing the Notice and LTO each a copy of the current NTMP and subsequent amendments.

You should also be aware that you are required by the California Forest Practice Rules in the following matter:

1. Following confirmation by the nonindustrial tree farmer that all necessary field work is functional and useable (including flagging or marking), the nonindustrial tree farmer who owns, leases, or otherwise controls or operates on all or any portion of any timberland within the boundaries of an approved Timber Management Plan shall submit a Notice of Timber Operations including the certification required by PRC § 4594.6 to the appropriate CAL FIRE Review Team Office. Timber operations may commence immediately unless the notice has been filed by mailing, in which case operations may commence three days after the notice has been mailed.

2. For each Notice of Timber Operations submitted, within fifteen days before, and not later than the day of the start up of a timber operation, the Submitter of the Notice, unless the NTMP identifies another person as responsible, shall notify CDF of the start of timber operations. The notification, by telephone or by mail, shall be directed to the appropriate CDF Ranger Unit Headquarters, Forest Practice Inspector, or other designated personnel.

---EROSION CONTROL MAINTENANCE---

Until the Work Completion Report is approved, it is the Licensed Timber Operator's responsibility to maintain erosion control structures such as seeding and mulching, waterbars, dips and culvert maintenance, and removal of any temporary culverts which might be used until the completion of operations. This applies to both the timber harvest area and any appurtenant roads that lead from the harvest area to public roads. You are not responsible for the maintenance of erosion control structures until the Work Completion Report is approved by the California Department of Forestry. It is the timberland owner's responsibility to maintain erosion control structures such as waterbars, dips, and culvert maintenance for at least one year. This applies to both the timber harvest area and any appurtenant roads that lead from the harvest area to public roads. An additional period of maintenance for a period of up to three years may be required by the California Department of Forestry following the completion of logging operations.

Erosion Controls means drainage facilities, soil stabilization treatments, road and landing abandonment, removal and treatment of watercourse crossings, and any other features or actions to reduce surface erosion, gullying, channel erosion, and mass erosion. Drainage structures, if not adequate to carry water from the fifty-year flood level, shall be removed by the first day of the winter period, before the flow of water exceeds their capacity if operations are conducted during the winter period, or by the end of timber operations whichever occurs first. Properly functioning drainage structures on roads that existed before timber operations need not be removed. If permanent crossings are established where a pipe is required, it is imperative that you realize that the pipe's size must be calculated to accommodate a 100-year flood flow. You are being notified of this fact at the demand of the California Department of Forestry, although no permanent drainage structures are being proposed as part of this timber harvest plan.

---COMPLETION OF WORK---

Within one month after completion of the work described in the timber harvesting plan or nonindustrial timber harvest notice, excluding work for stocking, site preparation, or maintenance of drainage facilities and soil stabilization treatments on skid trails, roads, and landings after the plan period, a report shall be filed by the timber owner or the owner's agent with the department that all work, except stocking, site preparation, or maintenance of drainage facilities and soil stabilization treatments, has been completed.

If all of the work described in the plan has not been completed, a report may be filed annually with respect to a portion of the area covered by the plan which has been completed. The portion completed shall be adequately identified on a map submitted with the report.

Within six months of the receipt of the work completion report specified in the above paragraph(s), the director shall determine, by inspection, whether the work described in the report has been properly completed in conformity with the rules and regulations of the board and the standards of this chapter. If the work has been so completed, the director shall issue a report of satisfactory completion of the work. If not, the director shall take such corrective action as he or she determines to be appropriate.

NOTE: The Timber Owner is responsible for payment of a yield tax. Timber Yield Tax information may be obtained at the Timber Tax Section, MIC: 60, State Board of Equalization, P.O. Box 942879, Sacramento, California 94279-0060; phone 1-800-400-7115; BOE Web Page at http://www.boe.ca.gov.

Thank you for your time and consideration. If there is any further information that you request feel free to contact me.

Sincerely,

Terry L. Rogers
Author of Blueberry Hill Timber Harvest Plan
CAL Registered Professional Forester
License #2537
ISA Certified Arborist
Cert #WE-9868A

NEVADA COUNTY PUBLISHING COMPANY
Grass Valley, CA

AFFIDAVIT OF PUBLICATION

THE UNION

Customer Account: # 9624646
Reference: REQUEST FOR INFORMATION ON DOMESTIC WATE

Legal Account
Paradise Ridge Forestry
1715 Grand Court
Pardise, CA 95969
Attn: Legal

County of Nevada, State of Calif. The undersigned, **Leslie Robbins**, being the principal clerk of the **Nevada County Publishing Co.** declares that the **Nevada County Publishing Co.** now is, and during all times herein named, was a corporation duly organized and existing under the laws of the State of California, and now is, and during all times herein named was the printer of **THE UNION**, a newspaper of general circulation, as defined by Section 6000 of the Government Code of the State of California, printed and published daily (Sundays excepted) in the City of Grass Valley, County of Nevada, State of California, and that affiant is the principal clerk of said Nevada County Publishing Co.

That the printed advertisement hereto annexed was published in the said UNION, for the full required period of **1** time(s) commencing on **1/23/2016**, and ending on **1/23/2016**, all days inclusive.

I certify, under penalty of perjury, the foregoing is true and correct.

Signed: Leslie Robbins

Legals Advertising Clerk

Proof and Statement of Publication
Ad #: 11853190D

REQUEST FOR INFORMATION ON DOMESTIC WATER SUPPLIES

A Timber Harvesting Plan (THP) will be submitted to the California Department of Forestry and Fire Protection (CALFIRE) within section 24, T19N, R8E, M.D.B.M. This project area lies approximately 1250' south of Oak Valley, the nearest recognized feature on the Camptonville 7.5' quadrangle. This notice is to request information about domestic water supplies from Class I, II, and IV watercourses that receive drainage from the THP area and are within 1000 feet downstream of the THP boundary. The main watercourse that may be affected is Willow Creek, which drains into Bullards Bar Reservoir, approximately 4.5 miles downstream. If you have any information about domestic water supplies associated with these watercourses, please contact (within 10 days): Paradise Ridge Forestry (c/o Terry Rogers) 1715 Grand Court, Paradise CA 95969 Any responses will considered for submittal with the THP to CALFIRE for review. If any domestic supplies are noted the THP shall contain mitigations necessary to protect the domestic water supply.

Publish:January 23, 2016 **Ad #11853190**

Paradise Ridge Forestry
1715 Grand Court
Paradise, CA 95969
(530) 321-1401

January 11, 2016

Soper Company
19855 Barton Hill Rd
Strawberry Valley Ca 95981

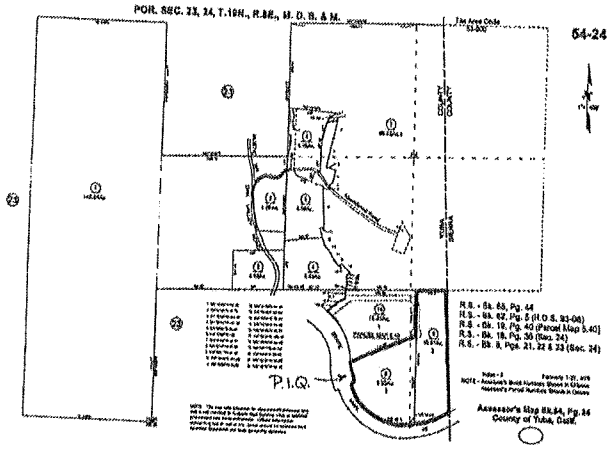
Subject: Blueberry Hill Timber Harvest Plan (THP) - Information Regarding Domes Domestic Water Supplies

Dear Gentle person(s):

A Timber Harvest Plan (THP) will be submitted to the CAL-FIRE (CDF) for a timber operation being prepared in Yuba County. Your property has been identified as possibly being within 1000 feet downstream of the project area along any of the unnamed tributaries found on site.

Location of Project:

Blueberry Hill THP
Camptonville U.S.G.S. 7.5' Quad Map
T19N, R8E, Section 24, M.D.B.& M.
Yuba County Assessor's Parcel #'s: 054-240-008 & 009



I am bringing this project to your attention and would appreciate any information that you may be able to provide regarding the existence of any domestic water supplies obtained from any tributary streams to and including Willow Creek. The waters of this stream flow in a general southwest direction. Domestic water supplies are not limited to drinking water and water for other household uses, but could also be water used for domestic animals or irrigation (these are not the only uses). The main intent with this requesting letter is to establish if there are any "domestic water supplies" within 1000' of this proposed harvest plan area which could be affected by operations associated with this activity.

If you draw water from either of these watercourses for any reason you might interpret as domestic then please contact us within 10 days at:

Paradise Ridge Forestry
1715 Grand Court
Paradise, CA 95969
(530) 321-1401

If domestic use is noted the harvest plan shall contain mitigations, if necessary, to protect domestic water use. Please feel free to contact me at my office if you have any questions.

Sincerely,

Terry L. Rogers
a California Licensed Forester #2537

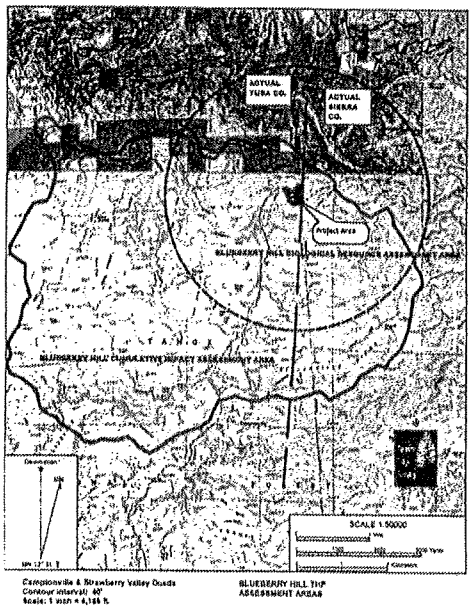
Paradise Ridge Forestry
1715 Grand Court
Paradise, CA 95969
(530) 321-1401

February 29, 2016

Yuba River Ranger Station
USDA- Forest Service
15924 CA-49
Camptonville, CA 95922

RE: The Blueberry Hill Timber Harvest Plan
Subject: Natural Resource Contact

Dear Gentleperson:



I am currently preparing a Timber Harvest Plan (THP) located on the Camptonville U.S.G.S. Quad comprised of 20 acres located in Yuba County with a legal description of a portion of section 24, T19N, R8E, M.D.B.M. This THP is part of Yuba County Assessor's parcel numbers 054-240-008 & 009. . This project is located within the planning watershed (aka as Calwatersheds) of Brandy Creek (Calwatershed #5517.510103).

If you have any information concerning any of the following items, could you please forward that information to Paradise Ridge Forestry at 1715 Grand Court, Paradise, California 95969.

1. Location, acreage, and any special consideration or significant impacts resulting from activities whether or not they were conducted as projects under CEQA or NEPA which have occurred within the planning watershed as listed above.

2. Proposed future projects within the planning watershed(s).

3. Known locations of wildlife or plant endangered, or threatened species or species of special concern within 1.5 miles of the project boundaries.

4. Locations of known archeological sites in or adjacent to the project area.

5. Significant cumulative impacts resulting from activities conducted within the planning watershed(s).

6. Any information regarding the existence of any domestic water supplies obtained from any unnamed watercourses associated with this area. The waters of this stream flow in a general southerly and southwestern direction. Domestic water supplies are not limited to drinking water and water for other household uses, but could also be water used for domestic animals or irrigation.

I have attached a map showing the location of the project area. Responses deemed *sensitive* will be submitted with the Timber Harvest Plan to the Cal Fire in a **CONFIDENTIAL** Addendum for review. Thank you for your attention to this matter. Please feel free to contact me at my office, if you have any questions.

Sincerely,

Terry L. Rogers
California Registered Professional Forester
License #2537

A letter requesting information concerning domestic water supplies was sent to the following landowner(s). A sample copy of the letter is attached to this THP. The letters were dated 01/11/2016.

Donna Pencik
411 Jordan St
Nevada City Ca 95959

Robert L & Claudia J See, Trustees
69 Acorn Ct
Walnut Creek Ca 94595

Soper Company
19855 Barton Hill Rd
Strawberry Valley Ca 95981

Forest Supervisor
USDA - Forest Service
631 Coyote Street
Nevada City, CA 95959

A letter requesting information concerning anything related to natural resources in relation to the location of this THP was sent to the following natural resource contacts. A sample copy of the letter is attached to this THP. The letters were dated 02/29/2016.

Yuba River Ranger Station
USDA- Forest Service
15924 CA-49
Camptonville, CA 95922

Bureau of Land Management
Mother Lode Field Office
5152 Hillsdale Circle
El Dorado Hills, CA 95762

Yuba County Resource Conservation District
1511 Butte House Road
Yuba City, CA 95993

Soper Company
19855 Barton Hill Rd
Strawberry Valley Ca 95981

Clarkia biloba ssp. brandegeeae

Brandegee's clarkia

Element Code: PDONA05053

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5T4
State: S4

Other Lists
CNPS List: 4.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: OFTEN IN ROADCUTS. 75-915 M.

Occurrence No. 12 Map Index: 43428 EO Index: 43428

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-13
Site: 2003-06-13
Record Last Updated: 2006-06-29

Quad Summary: Camptonville (3912141/558A)
County Summary: Nevada

Lat/Long: 39.37621° / -121.09780°
UTM: Zone-10 N4360252 E663844
Radius: 80 meters
Elevation: 2,000 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 32 Qtr: SE
Meridian: M

Location: ON STATE HIGHWAY 49 0.9 MILE NORTH OF NORTH SAN JUAN.

Location Detail: ON WEST SIDE OF ROAD ON CUT BANK. MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 32.

Ecological: ROAD CUT BANK ON GRANITIC SOIL ASSOCIATED WITH CYTISUS SCOPARIUS AND VARIOUS GRASSES AND FORBS. DOMINANTS IN SURROUNDING AREA ARE QUERCUS KELLOGGII, ACER MACROPHYLLUM, AND PSEUDOTSUGA MENZIESII.

Threat: SCOTCH BROOM IS WITHIN THE POPULATION. ROADSIDE OCCURRENCE.

General: A 1946 COLLECTION BY HOFFMAN FROM "NORTH FORK YUBA RIVER, NEAR NORTH SAN JUAN" AND A 1955 COLLECTION BY VASEK FROM "HWY 49, NEXT TOWN EAST OF NEVADA CITY" ALSO ATTRIBUTED TO THIS SITE. 300 PLANTS SEEN IN 2003 BY DAVIDSON.

Owner/Manager: UNKNOWN

Occurrence No. 20 Map Index: 43442 EO Index: 43442

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-13
Site: 2003-06-13
Record Last Updated: 2004-08-05

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba, Nevada

Lat/Long: 39.39524° / -121.08732°
UTM: Zone-10 N4362383 E664703
Area: 14.5 acres
Elevation: 1,900 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 18N
Range: 08E
Section: 28 Qtr: SE
Meridian: M

Location: MIDDLE FORK YUBA RIVER, EAST AND WEST OF RIVER IN VICINITY OF OREGON CREEK CAMPGROUND.

Location Detail: ON ROAD CUT AND SLOPES OF YUBA COUNTY ROAD 121, THE OLD TOLL ROAD OFF OF MOONSHINE ROAD. PLANTS FOUND FROM ABOUT 0.7-1.05 MILES NORTH OF MOONSHINE ROAD. ALSO FOUND NEAR CAMPGROUND AND ALONG HWY 49 JUST SOUTH OF THE RIVER.

Ecological: GROWING ON ROAD CUTS AND SLOPES IN OAK WOODLAND. ON COARSE-LOAMY GRANITIC SOILS. ASSOCIATES INCLUDE MIMULUS LONGIFLORA AND MADIA SPP.

Threat: THREAT IS LOW: ROAD IS NOT MAINTAINED AND TIMBER HARVEST POTENTIAL APPEARS LOW. SOME RECREATION AND TRAMPLING.

General: MORE THAN 150 PLANTS OBSERVED IN 1998. 12 PLANTS SEEN 2003.

Owner/Manager: USFS-TAHOE NF

Clarkia biloba ssp. brandegeeae

Brandegee's clarkia

Element Code: PDONA05053

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5T4
State: S4

Other Lists
CNPS List: 4.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: OFTEN IN ROADCUTS. 75-915 M.

Occurrence No. 21 Map Index: 43443 EO Index: 43443

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-12
Site: 2003-06-12
Record Last Updated: 2004-08-05

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba, Nevada

Lat/Long: 39.38895° / -121.09281°
UTM: Zone-10 N4361675 E664244
Area: 26.2 acres
Elevation: 1,600 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 18N
Range: 08E
Section: 33 Qtr: N
Meridian: M

Location: ROADS ON EITHER SIDE OF THE MIDDLE FORK YUBA RIVER IN GENERAL VICINITY OF FREEMANS CROSSING, SOUTH OF CAMPTONVILLE.

Location Detail: ON ROADCUT AND SLOPES EXTENDING FROM ABOUT 0.1 MILE SOUTH OF YUBA COUNTY ROAD 121 TO ABOUT 0.3 MI SOUTH OF LITTLE WILLOW CREEK. ALSO ALONG HWY 49 NORTH AND SOUTH OF FREEMANS CROSSING.

Ecological: GROWING ON ROAD CUTS AND SLOPES IN OAK WOODLAND. ON COARSE-LOAMY GRANITIC SOILS. ASSOCIATES INCLUDE MIMULUS LONGIFLORA AND MADIA SPP.

Threat: RECREATION; SLIGHT THREAT FROM COUNTY ROAD MAINTENANCE. SCOTCH BROOM INVADING.

General: MORE THAN 100 PLANTS OBSERVED IN 1998. 1500 PLANTS SEEN IN 2003.

Owner/Manager: PVT, USFS-TAHOE NF

Occurrence No. 37 Map Index: 56313 EO Index: 56329

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-13
Site: 2003-06-13
Record Last Updated: 2004-08-04

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.41724° / -121.04431°
UTM: Zone-10 N4364905 E668353
Radius: 80 meters
Elevation: 2,450 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 23 Qtr: NE
Meridian: M

Location: ALONG RIDGE ROAD 2 MILES WEST OF HIGHWAY 49, EAST OF CELESTIAL VALLEY, SOUTH OF CAMPTONVILLE.

Location Detail: MAPPED WITHIN THE NE 1/4 OF THE NE 1/4 OF SECTION 23.

Ecological: SUNNY CUT ROAD BANK. ASSOCIATES INCLUDE TRITELEIA LAXA AND CASTILLEJA. SURROUNDING VEGETATION INCLUDES QUERCUS KELLOGGII, Q. CHRYSOLEPIS, PINUS PONDEROSA, ARCTOSTAPHYLOS VISCIDA, CEANOTHUS INTEGERRIMUS, AND GRASSES.

Threat: SCOTH BROOM INVADING ALONG ROADSIDE. DEVELOPMENT SURROUNDS.

General: 200 PLANTS SEEN IN 2003.

Owner/Manager: UNKNOWN

Clarkia biloba ssp. brandegeeae

Brandegee's clarkia

Element Code: PDONA05053

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5T4
State: S4

Other Lists
CNPS List: 4.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: OFTEN IN ROADCUTS. 75-915 M.

Occurrence No. 38 Map Index: 56314 EO Index: 56330

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-13
Site: 2003-06-13
Record Last Updated: 2008-03-03

Quad Summary: Pike (3912048/557B), Camptonville (3912141/558A)
County Summary: Sierra

Lat/Long: 39.41332° / -121.00616°
UTM: Zone-10 N4364541 E671647
Area: 10.0 acres
Elevation: 2,600 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 18N
Range: 09E
Section: 19 Qtr: NE
Meridian: M

Location: ALONG OUR HOUSE DAM ROAD 0.5 & 1.1 MILES FROM RIDGE ROAD, SOUTH OF ALASKA PEAK, SOUTHEAST OF NEW BULLARDS BAR RESERVOIR.

Location Detail: TWO COLONIES ALONG ROADWAY.

Ecological: ROAD CUT BANK IN QUERCUS KELLOGGII / QUERCUS CHRYSOLEPIS FOREST. SANDY LOAM SOIL. ASSOCIATES INCLUDE CLARKIA RHOMBOIDEA, TRITELEIA LAXA, MIMULUS GUTTATUS, AESCULUS CALIFORNICA, AND CEANOTHUS SP.

Threat: SUCCESSION.

General: 500 PLANTS OBSERVED IN 2003 IN NW COLONY. 1000 PLANTS OBSERVED IN 2003 IN SE COLONY. INCLUDES FORMER OCCURRENCE #39.

Owner/Manager: PVT-SIERRA PACIFIC

Occurrence No. 40 Map Index: 56316 EO Index: 56332

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-13
Site: 2003-06-13
Record Last Updated: 2004-08-04

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.41099° / -121.07351°
UTM: Zone-10 N4364157 E665854
Radius: 80 meters
Elevation: 1,700 ft
Mapping PrecisionSPECIFIC
Symbol Type:POINT
Township: 18N
Range: 08E
Section: 22 Qtr: SW
Meridian: M

Location: HIGHWAY 49, 0.2 MILE SOUTH OF OREGON CREEK ROAD, JUST SOUTH OF CELESTIAL VALLEY, SOUTH OF CAMPTONVILLE.

Location Detail: MAPPED WITHIN THE NW 1/4 OF THE SW 1/4 OF SECTION 22.

Ecological: SUNNY ROAD CUT BANKS ON GRANITIC SOILS. ASSOCIATES INCLUDE MIMULUS LONGIFLORA AND MADIA. VEGETATION UPSLOPE IS QUERCUS KELLOGGII/QUERCUS CHRYSOLEPIS.

General: 100,000 PLANTS SEEN IN 2003.

Owner/Manager: USFS-TAHOE NF

Hallaeetus leucocephalus

bald eagle

Element Code: ABNKC10010

Status	NDDB Element Ranks	Other Lists
Federal: Delisted	Global: G5	CDFG Status:
State: Endangered	State: S2	

Habitat Associations

General: OCEAN SHORE, LAKE MARGINS, & RIVERS FOR BOTH NESTING & WINTERING. MOST NESTS WITHIN 1 MI OF WATER.

Micro: NESTS IN LARGE, OLD-GROWTH, OR DOMINANT LIVE TREE W/OPEN BRANCHES, ESPECIALLY PONDEROSA PINE. ROOSTS COMMUNALLY IN WINTE

Occurrence No. 128 Map Index: 12044 EO Index: 12262

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Stable

Dates Last Seen
Element: 1999-XX-XX
Site: 1999-XX-XX

Record Last Updated: 2005-06-06

Quad Summary: Camptonville (3912141/556A)
County Summary: Yuba

Lat/Long: 39.44774° / -121.11857°
UTM: Zone-10 N4368154 E661889
Radius: 1/5 mile
Elevation: 2,000 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 07 Qtr: NE
Meridian: M

Location: NEW BULLARDS BAR RESERVOIR TERRITORY; ON THE RIDGE LEADING TO GARDEN POINT, 3.7 MILES WEST OF CAMPTONVILLE.

Location Detail: SEVERAL EAGLES WINTER AT THIS LOCATION, AS WELL. NEST SITE DISCOVERED IN 1988. NEST LOCATED AT THE SE1/4 SE1/4 SECTION 7 DURING 1994.

Ecological: NESTING AND WINTERING TERRITORY; NEST LOCATED ABOUT 10 FT FROM THE TOP OF A PONDEROSA PINE.

General: UNSUCCESSFUL IN 1988, BUT FLEDGED 1 IN 1989, 1990. 2 FLEDGED, 1991 & 1992. 1 FLEDGED, 1993. 2 FLEDGED, 1994. STATUS UNKNOWN, 1995. UNOCCUPIED, 1996. OCCUPIED/UNSUCCESSFUL, 1997. 1 FLEDGED, 1998. 2 FLEDGED, 1999. STATUS UNKNOWN, 2000 & 2001.

Owner/Manager: USFS-TAHOE NF

Margaritifera falcata

western pearlshell

Element Code: IMBIV27020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5
State: S1S2

Other Lists
CDFG Status:

Habitat Associations
General: AQUATIC.
Micro: PREFERS LOWER VELOCITY WATERS.

Occurrence No. 29 Map Index: 85535 EO Index: 86553

Dates Last Seen
Element: 2006-08-16
Site: 2006-08-16
Record Last Updated: 2012-03-20

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.39676° / -121.08225°
UTM: Zone-10 N4362561 E685135
Radius: 80 meters
Elevation: 1,470 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 28 Qtr: E
Meridian: M

Location: OREGON CREEK NEAR THE CONFLUENCE WITH THE MIDDLE YUBA RIVER. OFF HWY 49 AT OREGON CREEK CAMPGROUND.

Location Detail: COLLECTION ID: JKH06-057.

Ecological: ALL POSSIBLE HABITATS WHERE MUSSELS COULD OCCUR WERE CHECKED, INCLUDING ROOT AND SEDGE MATS, ROCK CREVICES, UNDER WOODY DEBRIS (LOGS), WITHIN AQUATIC VEGETATION, ETC.

General: MUSSELS HAND COLLECTED BY SNORKELING OR SCUBA DIVING, & BY DIRECT OBSERVATION IN SHALLOW AREAS. 11 MARGARITIFERA FOUND ON 16 AUG 2006. MUSSELS SPARSELY DISPERSED & NOT FOUND IN DENSE BEDS.

Owner/Manager: USFS-TAHOE NF

Pyrrocoma lucida

sticky pyrrocoma

Element Code: PDASTDT0E0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3

Other Lists
CNPS List: 1B.2

Habitat Associations
General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, GREAT BASIN SCRUB.
Micro: ALKALINE FLATS, CLAY SOILS. 700-1950 M.

Occurrence No. 5 Map Index: 31154 EO Index: 3254

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1935-05-24
Site: 1935-05-24
Record Last Updated: 1995-05-08

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.45145° / -121.04932°
UTM: Zone-10 N4368692 E667840
Radius: 1 mile
Elevation: 2,500 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 02 Qtr: SE
Meridian: M

Location: NEAR CAMPTONVILLE.

General: ONLY SOURCE OF INFORMATION IS A 1935 COLLECTION BY UNKNOWN COLLECTOR.

Owner/Manager: UNKNOWN

Rana boylii

foothill yellow-legged frog

Element Code: AAABH01050

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.
Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 232 Map Index: 42692 EO Index: 42692
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1997-05-20
Site: 1997-05-20
Record Last Updated: 2000-04-04

Quad Summary: Camptonville (3912141/558A)
County Summary: Sierra

Lat/Long: 39.42585° / -121.00930°
UTM: Zone-10 N4365926 E671346
Radius: 80 meters
Elevation: 3,180 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 09E
Section: 18 Qtr: SE
Meridian: M

Location: GRIZZLY GULCH (CREEK), AT PIKE CITY ROAD, TAHOE NATIONAL FOREST.
General: ONE ADULT COLLECTED (CAS #202921), 20 MAY 1997.
Owner/Manager: USFS-TAHOE NF

Occurrence No. 617 Map Index: 74404 EO Index: 75396
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1997-06-11
Site: 1997-06-11
Record Last Updated: 2009-04-07

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.45807° / -121.06142°
UTM: Zone-10 N4369404 E666783
Radius: 80 meters
Elevation: 2,390 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 03 Qtr: NE
Meridian: M

Location: CONFLUENCE OF WILLOW CREEK AND HORSE CREEK AT PENDOLA RD; ~0.8 MILES WNW OF CAMPTONVILLE, TAHOE NF.
Location Detail: FELLERS SITE ID: T-017 MAPPED TO PROVIDED COORDINATES.
General: T-017: 1 ADULT OBSERVED ON 11 JUN 1997.
Owner/Manager: USFS-TAHOE NF

Occurrence No. 618 Map Index: 74405 EO Index: 75397
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1997-06-10
Site: 1997-06-10
Record Last Updated: 2009-04-07

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.44617° / -121.04629°
UTM: Zone-10 N4368112 E668113
Radius: 80 meters
Elevation: 2,200 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 11 Qtr: NE
Meridian: M

Location: ALONG OREGON CREEK, AT GAGING STATION; ABOUT 0.4 MI SOUTH OF CAMPTONVILLE, ABOUT 0.7 MI NE OF LOG CABIN DAM, TAHOE NF.
Location Detail: FELELRS SITE ID: T-016 MAPPED TO PROVIDED COORDINATES.
General: T-016: 3 ADULTS OBSERVED ON 10 JUN 1997.
Owner/Manager: USFS-TAHOE NF

Rana boylii

foothill yellow-legged frog — Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 619 — Map Index: 74407 — EO Index: 75398

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen — Element: 1997-06-24 — Site: 1997-06-24

Record Last Updated: 2009-04-07

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.41397° / -121.06946°
UTM: Zone-10 N4364495 E666196
Radius: 80 meters
Elevation: 1,760 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 22 — Qtr: N
Meridian: M

Location: ALONG MOSQUITO CREEK AT OREGON CREEK, NEAR HWY 49 & CELESTIAL VALLEY; ABOUT 2.8 MI SSW OF CAMPTONVILLE, TAHOE NF.

Location Detail: FELLERS SITE ID: T-035 MAPPED TO PROVIDED COORDINATES.

General: T-035: 1 ADULT & 1 SUBADULT OBSERVED ON 24 JUN 1997.

Owner/Manager: USFS-TAHOE NF

Occurrence No. 620 — Map Index: 74408 — EO Index: 75400

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen — Element: 1996-09-06 — Site: 1996-09-06

Record Last Updated: 2009-04-20

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.40285° / -121.07851°
UTM: Zone-10 N4363245 E665443
Radius: 80 meters
Elevation: 1,640 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 27 — Qtr: NW
Meridian: M

Location: ALONG OREGON CREEK; ~0.5 MI NNE OF OREGON CK CAMPGROUND, ~3.7 MI SSW OF CAMPTONVILLE, TAHOE NF.

Location Detail: FELLERS SITE ID: P-345 MAPPED TO PROVIDED COORDINATES.

General: P-345: 1 ADULT & 3 SUBADULTS OBSERVED ON 6 SEP 1996.

Owner/Manager: USFS-TAHOE NF

Occurrence No. 621 — Map Index: 74409 — EO Index: 75401

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen — Element: 2000-06-15 — Site: 2000-06-15

Record Last Updated: 2009-04-07

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.39528° / -121.08336°
UTM: Zone-10 N4362395 E665043
Radius: 80 meters
Elevation: 1,450 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 18N
Range: 08E
Section: 28 — Qtr: SE
Meridian: M

Location: OREGON CREEK AT MIDDLE YUBA RIVER, OREGON CREEK CAMPGROUND; ~1.5 MI SW OF CELESTIAL VALLEY, ~4.2 MI SSW OF CAMPTONVILLE.

Location Detail: FELLERS SITE ID: T-016B MAPPED TO PROVIDED COORDINATES.

General: T-016B: 7 ADULTS OBSERVED ON 7 JUN 1999; 10 ADULTS & 18 SUBADULTS OBSERVED ON 15 JUN 2000.

Owner/Manager: USFS-TAHOE NF

Rhynchospora capitellata

brownish beaked-rush

Element Code: PMCYP0N080

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S1

Other Lists
CNPS List: 2B.2

Habitat Associations
General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, MARSHES AND SWAMPS, UPPER MONTANE CONIFEROUS FOREST.
Micro: MESIC SITES. 45-2000 M.

Occurrence No. 6 Map Index: 50475 EO Index: 50475

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1979-06-17
Site: 1979-06-17

Record Last Updated: 2003-03-06

Quad Summary: Nevada City (3912131/558D), Camptonville (3912141/558A), North Bloomfield (3912038/557C), Pike (3912048/557B)
County Summary: Nevada

Lat/Long: 39.36591° / -121.00454°
UTM: Zone-10 N4359282 E671903
Radius: 1 mile
Elevation: 2,900 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 17N
Range: 09E
Section: 06
Meridian: M
Qtr: XX

Location: NORTH COLUMBIA DIGGINGS.

Location Detail: IN MARSH ON WEST SIDE OF EAST PIT. MAPPED BY CNDDB AS BEST GUESS AROUND NORTH COLUMBIA DIGGINGS; NEED MAP DETAIL.

General: SITE BASED ON A 1979 PENDEU COLLECTION. OTHER SITE INFO ATTRIBUTED HERE INCLUDES "MEADOW NEAR NORTH COLUMBIA ON THE SAN JUAN RIDGE", "BUCKEYE DIGGINGS", & "BUCKEYE RIDGE EAST OF DIGGINGS." NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Strix nebulosa

great gray owl — Element Code: ABNSB12040

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CDFG Status:
State: Endangered	State: S1	

Habitat Associations

General: RESIDENT OF MIXED CONIFER OR RED FIR FOREST HABITAT, IN OR ON EDGE OF MEADOWS.

Micro: REQUIRES LARGE DIAMETER SNAGS IN A FOREST WITH HIGH CANOPY CLOSURE, WHICH PROVIDE A COOL SUB-CANOPY MICROCLIMATE.

Occurrence No. 82 — Map Index: 81882 — EO Index: 82855

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Stable

Dates Last Seen
Element: 2010-XX-XX
Site: 2010-XX-XX
Record Last Updated: 2011-03-25

Quad Summary: Camptonville (3912141/558A)
County Summary: Yuba

Lat/Long: 39.42049° / -121.03849°
UTM: Zone-10 N4366277 E668846
Radius: 1/5 mile
Elevation: 2,800 ft

Mapping Precision: NON-SPECIFIC
Symbol Type: POINT

Township: 18N
Range: 08E
Section: 13 — Qtr: SW
Meridian: M

Location: 2.1 MI SE OF HWY 49 AT MARYSVILLE RD, ABOUT 2.2 MI SSE OF CAMPTONVILLE, TAHOE NATIONAL FOREST.

Location Detail: MAPPED TO PROVIDED COORDINATES.

Ecological: HABITAT CONSISTED OF MIXED OAK WOODLAND/CONIFER FOREST DOMINATED BY BLACK OAK AND PONDEROSA PINE.

Threat: POTENTIAL THREATS INCLUDED FORESTRY DEVELOPMENT, ROAD COLLISIONS, AND ROAD NOISE DISTURBANCE.

General: DETECTIONS OF SINGLE OWLS IN AREA SINCE 2005. 2 JUVENILES (FLEDGED 2-3 WKS EARLIER) & 2 ADULTS WERE OBSERVED IN DIFF TREES, BUT W/IN 30 M ON 18 JUN 2009; SEVERAL POTENTIAL NEST TREES - EXACT NEST LOCATION UNK. 3 JUV & 2 AD OBSERVED IN 2010.

Owner/Manager: PVT-SIERRA PACIFIC

Antrozous pallidus

pallid bat

Element Code: AMACC10010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.
Micro: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.

Occurrence No. 114 Map Index: 66443 EO Index: 66545

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-07-19
Site: 2005-07-19
Record Last Updated: 2006-09-27

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.57891° / -121.11821°
UTM: Zone-10 N4382713 E661616
Radius: 80 meters
Elevation: 3,310 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 19
Meridian: M
Qtr: NE

Location: SLY CREEK RESERVOIR; NEAR SLY CREEK POWERHOUSE.
Location Detail: SLY CREEK T-LINE ROW APPROXIMATELY 250 YARDS FROM SLY CREEK POWERHOUSE.
Ecological: SURROUNDING FOREST IS MIXED CONIFER.
Threat: LOGGING; LOGGING ACTIVITY WITHIN 0.5 MI IN 2005.
General: UNKNOWN NUMBER OF INDIVIDUALS DISCOVERED VIA ACOUSTIC MONITORING, 19 JUL 2005.
Owner/Manager: PVT-PGE

Buxbaumia viridis

buxbaumia moss

Element Code: NBMUS1B040

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5
State: S1

Other Lists
CNPS List: 2B.2

Habitat Associations
General: LOWER MONTANE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST, SUBALPINE CONIFEROUS FOREST.
Micro: WELL ROTTED LOGS AND IN PEATY SOIL AND HUMUS. 975-2200 M.

Occurrence No. 1 Map Index: 79137 EO Index: 80100

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-12
Site: 2005-05-12

Record Last Updated: 2010-07-12

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba

Lat/Long: 39.56869° / -121.05780°
UTM: Zone-10 N4381678 E666829
Radius: 80 meters
Elevation: 3,200 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 26 Qtr: NW
Meridian: M

Location: BRUSHY CREEK; ~0.3 MI FROM ITS JUNCTION WITH SLATE CREEK, PLUMAS NATIONAL FOREST.

Location Detail: WITHIN THE STRAWBERRY ETALS PROJECT AREA. PLUMAS NF OCCURRENCE #11-001.

Ecological: GROWING ON ROTTEN, BARKLESS, OLD-GROWTH CONIFER LOG. THIS SITE REMAINS MOIST YEAR ROUND. IN BOTTOM OF STEEP DRAW AND UNDERNEATH 80% CANOPY COVER OF PSEUDOTSUGA MENZIESII, CALOCEDRUS DECURRENS, TAXUS BREVIFOLIA, AND ALNUS RHOMBIFOLIA.

Threat: ALTERATION OF CREEK FLOW. STRAWBERRY ETALS DFPZ COULD IMPACT POPULATION IF SHADE IS REDUCED AT SITE.

General: 13 SPOROPHYTES SEEN IN 2005; 1 SPOROPHYTE WAS MATURE AND THE REMAINING 12 WERE IMMATURE. NUMEROUS LOGS WERE EXAMINED BOTH UP AND DOWN STREAM BUT NO OTHER BUXBAUMIA WERE LOCATED.

Owner/Manager: USFS-PLUMAS NF

Clarkia mosquinii

Mosquin's clarkia

Element Code: PDONA050S0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CNPS List: 1B.1

Habitat Associations
General: CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: USUALLY ON STEEP, ROCKY CUTBANKS AND SLOPES. 185-1220 M.

Occurrence No. 42 Map Index: 61569 EO Index: 61605

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-06-24
Site: 2004-06-24

Record Last Updated: 2005-06-13

Quad Summary: Strawberry Valley (3912151/574D)

County Summary: Butte

Lat/Long: 39.58127° / -121.12262°
UTM: Zone-10 N4382968 E661231
Radius: 80 meters
Elevation: 3,300 ft

Mapping Precision SPECIFIC
Symbol Type: POINT

Township: 20N
Range: 08E
Section: 19 Qtr: NE
Meridian: M

Location: LOST CREEK RESERVOIR. 0.2 AIR MILES WNW OF SLY CREEK POWERHOUSE.

Location Detail: NEAR THE SHORE.

Ecological: MOSTLY BARE, STEEPLY SLOPED CLEARING SURROUNDED BY MIXED CONIFER FOREST. ASSOC WITH PSEUDOTSUGA MENZIESII, QUERCUS KELLOGGII, CALOCEDRUS DECURRENS, ARBUTUS MENZIESII, ERIOGONUM, HYPERICUM PERFOLIATUM, SILENE CALIFORNICA, & ERIOPHYLLUM.

General: 3 PLANTS OBSERVED IN 2004.

Owner/Manager: USFS-PLUMAS NF

Darlingtonia Seep

Element Code: CTT51120CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S3.2

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 54 Map Index: 12273 EO Index: 26968

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1978-XX-XX
Site: 1978-XX-XX
Record Last Updated: 1998-07-16

Quad Summary: Strawberry Valley (3912151/574D), Goodyears Bar (3912058/573C)
County Summary: Sierra

Lat/Long: 39.621277° / -121.00245°
UTM: Zone-10 N4387629 E671455
Radius: 1/5 mile
Elevation: 4,540 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 20N
Range: 09E
Section: 06 Qtr: SE
Meridian: M

Location: ABOUT 0.25 MILE ESE OF TOWN OF POVERTY HILL. PLUMAS NF POP #11-5.

Ecological: SMALL BOG INTERSPERSED AMID EXTENSIVE UNDERBRUSH OF PRINCIPALLY HUCKLEBERRY W/ WHITE FIR OVERSTORY. SMALL COLONIES W/MANY DEAD PLANTS. EXTREMELY UNTHRIFTY COND OF POP DUE TO PREVIOUS DROUGHT; LIMITED RECOVERY (MCCORMICK 1978).

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: USFS-PLUMAS NF

Lasionycteris noctivagans

silver-haired bat

Element Code: AMACC02010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3S4

Other Lists
CDFG Status:

Habitat Associations
General: PRIMARILY A COASTAL & MONTANE FOREST DWELLER FEEDING OVER STREAMS, PONDS & OPEN BRUSHY AREAS.
Micro: ROOSTS IN HOLLOW TREES, BENEATH EXFOLIATING BARK, ABANDONED WOODPECKER HOLES & RARELY UNDER ROCKS. NEEDS DRINKING WATER.

Occurrence No. 95 Map Index: 88455 EO Index: 69011

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-06-29
Site: 2004-06-29
Record Last Updated: 2007-03-27

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.58014° / -121.11687°
UTM: Zone-10 N4382853 E661728
Radius: 1/10 mile
Elevation: 3,300 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 20N
Range: 08E
Section: 20 Qtr: XX
Meridian: M

Location: PLUMAS NATIONAL FOREST, LOST CREEK RESERVOIR, SLY CREEK DIVERSION DAM.

Location Detail: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "PLUMAS NF, LOST CREEK RESERVOIR."

Ecological: MIXED DECIDUOUS/CONIFER.

General: 1 ADULT MALE CAPTURED AND RELEASED ON 29 JUL 2004.

Owner/Manager: USFS-PLUMAS NF

Lasiurus blossevillii

western red bat

Element Code: AMACC05060

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: ROOSTS PRIMARILY IN TREES, 2-40 FT ABOVE GROUND, FROM SEA LEVEL UP THROUGH MIXED CONIFER FORESTS.
Micro: PREFERS HABITAT EDGES & MOSAICS WITH TREES THAT ARE PROTECTED FROM ABOVE & OPEN BELOW WITH OPEN AREAS FOR FORAGING.

Occurrence No. 16 Map Index: 66443 EO Index: 68757

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-07-19
Site: 2005-07-19

Record Last Updated: 2007-03-15

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.57891° / -121.11821°
UTM: Zone-10 N4382713 E661616
Radius: 80 meters
Elevation: 3,310 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 19 Qtr: NE
Meridian: M

Location: SLY CREEK RESERVOIR, NEAR SLY CREEK POWERHOUSE.
Location Detail: MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY SOURCE. DETECTED AT SLY CREEK T-LINE ROW APPROXIMATELY 250 YARDS FROM SLY CREEK POWERHOUSE.
Ecological: SURROUNDING FOREST IS MIXED CONIFER, WITH LOGGING ACTIVITY WITHIN 0.5 MILE.
Threat: LOGGING.
General: FORAGING SITE. UNKNOWN # DETECTED VIA ACOUSTING MONITORING ON 19 JUL 2005.
Owner/Manager: PVT-PGE

Lewisia cantelovii

Cantelow's lewisia

Element Code: PDPOR04020

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations

General: BROADFLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND, CHAPARRAL.

Micro: MESIC ROCK OUTCROPS AND WET CLIFFS, USUALLY IN MOSS OR CLUBMOSS; ON GRANITICS OR SOMETIMES ON SERPENTINE. 330-1370 M.

Occurrence No. 44 **Map Index:** 31179 **EO Index:** 26944

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1986-10-16
Site: 1986-10-16
Record Last Updated: 2015-04-22

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Sierra

Lat/Long: 39.51513° / -121.01285°
UTM: Zone-10 N4375829 E670822
Area:
Elevation: 2,300 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 19N
Range: 09E
Section: 18
Meridian: M
Qtr: NW

Location: SOUTH SIDE OF NORTH YUBA RIVER JUST WEST OF HIGHWAY 49 BRIDGE, ABOUT 12 MILES WEST OF DOWNIEVILLE.

Location Detail: MAPPED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 18. A 1969 HECKARD COLLECTION FROM "BRIDGE ON ROUTE 49 NE COMPTONVILLE, N FORK OF YUBA RIVER" ALSO ATTRIBUTED TO THIS SITE.

Ecological: VERTICAL MOSS-COVERED CLIFFS WITH OVERHANG OF QUERCUS CHRYSOLEPIS, PSEUDOTSUGA, AND ACER MACROPHYLLUM. FILTERED SHADE. METAVOLCANIC SOILS.

Threat: ROAD CONSTRUCTION IS A POTENTIAL THREAT.

General: 100-1000 PLANTS OBSERVED IN 1986. SOME OF THE PLANTS ARE IN THE CALTRANS RIGHT-OF-WAY FOR HWY 49. COLLECTIONS FROM "HWY 49 BRIDGE OVER N FORK YUBA RIVER, S SIDE OF RIVER" AND "BRIDGE BETWEEN COMPTONVILLE AND DOWNIEVILLE" ATTRIBUTED HERE.

Owner/Manager: USFS-TAHOE NF, CALTRANS

Occurrence No. 67 **Map Index:** 95966 **EO Index:** 97119

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2012-11-02
Site: 2012-11-02
Record Last Updated: 2015-04-23

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba, Sierra

Lat/Long: 39.52660° / -121.05273°
UTM: Zone-10 N4377027 E667366
Area: 7.0 acres
Elevation: 2,051 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 19N
Range: 08E
Section: 11
Meridian: M
Qtr: SW

Location: CANYON CREEK, FROM 0.25 TO 0.50 TRAIL MILES NORTH OF THE JUNCTION OF CANYON CREEK AND NORTH YUBA RIVER.

Location Detail: PARK AT CANYON CREEK TRAILHEAD WHERE HWY 49 CROSSES N YUBA RIVER. HIKE W ON CANYON CREEK TRAIL FOR ~3.5 MI TO CREEK. TRAVEL OFF-TRAIL UP CREEK FOR ~0.25 MI. PLANTS ARE IN PATCHES ON W SLOPE OF CANYON FOR ~0.2 MI. ONE PATCH ON E SLOPE.

Ecological: CLIFF FACES OF LOWER SLOPE OF STEEP CANYON DRAINAGE. EXPOSED ROCK FACES WHICH ARE SEASONALLY MOIST AND LARGELY COVERED IN MOSS. ASSOCIATED WITH BRYOPHYTES AND SEDUM SPATHULIFOLIUM. MIXED CONIFER FOREST DOMINATED BY QUERCUS CHRYSOLEPIS.

Threat: POSSIBLE FUTURE THREAT IS INCREASED MINING ACTIVITY.

General: APPROXIMATELY 400 PLANTS OBSERVED ON 1.2 ACRES IN 2012. MANY PLANTS WITH MINIMAL DISTURBANCE.

Owner/Manager: USFS-PLUMAS NF

Margaritifera falcata

western pearlshell — Element Code: IMBIV27020

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5	CDFG Status:
State: None	State: S1S2	

Habitat Associations

General: AQUATIC.

Micro: PREFERS LOWER VELOCITY WATERS.

Occurrence No. 27 Map Index: 85527 EO Index: 86549

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-08-15
Site: 2006-08-15
Record Last Updated: 2012-03-20

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Sierra

Lat/Long: 39.51645° / -121.01140°
UTM: Zone-10 N4375978 E670943
Radius: 80 meters
Elevation: 2,240 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 19N
Range: 09E
Section: 18 Qtr: N
Meridian: M

Location: NORTH YUBA RIVER UNDER BRIDGE AT JUNCTION OF HWY 49 & INDIAN VALLEY RD, ABOUT 10.5 AIR MILES WSW OF DOWNIEVILLE.

Location Detail: COLLECTION ID: JKH06-051.

Ecological: ALL POSSIBLE HABITATS WHERE MUSSELS COULD OCCUR WERE CHECKED, INCLUDING ROOT AND SEDGE MATS, ROCK CREVICES, UNDER WOODY DEBRIS (LOGS), WITHIN AQUATIC VEGETATION, ETC.

General: MUSSELS HAND COLLECTED BY SNORKELING OR SCUBA DIVING & BY DIRECT OBSERVATION IN SHALLOW AREAS. 51 MARGARITIFERA FOUND 15 AUG 2006 IN SEDGE ROOT WAD COVERD WITH FINE SILT ABOUT 1 M DEEP. MUSSELS SPARSELY DISPERSED & NOT FOUND IN DENSE BEDS.

Owner/Manager: USFS-TAHOE NF

Martes caurina sierrae

Sierra marten

Element Code: AMAJF01014

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T3
State: S3

Other Lists
CDFG Status:

Habitat Associations
General: MIXED EVERGREEN FORESTS WITH MORE THAN 40% CROWN CLOSURE ALONG SIERRA NEVADA & CASCADE MTNS.
Micro: NEEDS VARIETY OF DIFFERENT-AGED STANDS, PARTICULARLY OLD-GROWTH CONIFERS & SNAGS WHICH PROVIDE CAVITIES FOR DENS/NESTS.

Occurrence No. 94 Map Index: 55280 EO Index: 55280

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1986-10-05
Site: 1986-10-05
Record Last Updated: 2004-04-27

Quad Summary: Strawberry Valley (3912151/574D), Goodyears Bar (3912058/573C)
County Summary: Sierra

Lat/Long: 39.55612° / -120.99198°
UTM: Zone-10 N4380416 E672514
Area:
Elevation: 4,320 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 20N
Range: 09E
Section: 32 Qtr: XX
Meridian: M

Location: AREA APPROX 1.3 MILES EAST OF THE SIERRA/YUBA CTY LINE AND 2.6 MILES NORTH OF INDIAN VALLEY, TAHOE NATIONAL FOREST.
Location Detail: LOCATION GIVEN AS CHEROKEE CREEK AREA, TOWNSHIP 20N, RANGE 9E, SECTION 32.
General: 1 ADULT OBSERVED CROSSING ROAD IN FRONT OF VEHICLE (BY HARWOOD) ON 5 OCT 1986.
Owner/Manager: USFS-TAHOE NF

Myotis evotis

long-eared myotis — Element Code: AMACC01070

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CDFG Status:
State: None	State: S3	

Habitat Associations

General: FOUND IN ALL BRUSH, WOODLAND & FOREST HABITATS FROM SEA LEVEL TO ABOUT 9000 FT. PREFERS CONIFEROUS WOODLANDS & FORESTS.

Micro: NURSERY COLONIES IN BUILDINGS, CREVICES, SPACES UNDER BARK, & SNAGS. CAVES USED PRIMARILY AS NIGHT ROOSTS.

Occurrence No. 47 — Map Index: 68455 — EO Index: 69030

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-06-29
Site: 2004-06-29
Record Last Updated: 2007-03-21

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.58014° / -121.11687°
UTM: Zone-10 N4382853 E661728
Radius: 1/10 mile
Elevation: 3,300 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 20 Qtr: XX
Meridian: M

Location: PLUMAS NATIONAL FOREST, BELOW SLY CREEK DIVERSION DAM.

Location Detail: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE.

Ecological: MIXED DECIDUOUS/CONIFER.

General: 3 ADULT FEMALES (2 LACTATING) CAPTURED AND RELEASED ON 29 JUN 2004.

Owner/Manager: USFS-PLUMAS NF

Myotis thysanodes

fringed myotis

Element Code: AMACC01090

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S3

Other Lists
CDFG Status:

Habitat Associations
General: IN A WIDE VARIETY OF HABITATS, OPTIMAL HABITATS ARE PINYON-JUNIPER, VALLEY FOOTHILL HARDWOOD & HARDWOOD-CONIFER.
Micro: USES CAVES, MINES, BUILDINGS OR CREVICES FOR MATERNITY COLONIES AND ROOSTS.

Occurrence No. 54 Map Index: 68455 EO Index: 68705

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-06-29
Site: 2004-06-29
Record Last Updated: 2007-03-21

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.58014° / -121.11687°
UTM: Zone-10 N4382853 E661728
Radius: 1/10 mile
Elevation: 3,300 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 20 Qtr: XX
Meridian: M

Location: PLUMAS NATIONAL FOREST, SLY CREEK DIVERSION DAM.
Location Detail: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. CAPTURED BELOW THE DAM AND AT THE TUNNEL.
Ecological: MIXED DECIDUOUS/CONIFER.
General: 2 MALES CAPTURED ON 29 JUN 2004.
Owner/Manager: USFS-PLUMAS NF

Peltigera gowardii

western waterfan lichen — Element Code: NLVER00460

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3G4	CNPS List: 4.2
State: None	State: S3	

Habitat Associations

General: RIPARIAN FOREST.

Micro: ON ROCKS IN COLD WATER CREEKS WITH LITTLE OR NO SEDIMENT OR DISTURBANCE. OFTEN ASSOCIATED WITH RICH BRYOPHYTE FLORA. 106

Occurrence No. 9 — Map Index: 73447 — EO Index: 74392

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-12
Site: 2005-05-12
Record Last Updated: 2009-01-22

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba

Lat/Long: 39.57055° / -121.05459°
UTM: Zone-10 N4381902 E667100
Area: 12.0 acres
Elevation: 3,500 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 20N
Range: 08E
Section: 26 Qtr: NW
Meridian: M

Location: IN BRUSHY CREEK, W OF FS RD 20N35, NW OF OAK FLAT.

Location Detail: MAPPED BY CNDDB ACCORDING TO A 2005 DILLINGHAM MAP. THIS IS PLUMAS NF OCCURRENCE #11-007. THE POP IS NOT VIGOROUS IN THE UPSTREAM END DUE TO SEDIMENT COVERING THE BEDROCK; THE DOWNSTREAM END IS BEING MINED BY SMALL SCALE DREDGE EQUIP.

Ecological: GROWING ON SUBMERGED ROCK UNDERNEATH 90% CANOPY COVER OF PSEUDOTSUGA MENZIESII AND CALOCEDRUS DECURRENS WITH AN UNDERSTORY OF TAXUS BREVIFOLIA AND CORNUS. STREAM GRADIENT IS LOW IN THE UPPER END (2-5%) BUT STEEPER (20%) DOWNSTREAM.

Threat: THE STRAWBERRY ETALS DFPZ PROJECT COULD IMPACT THIS POP IF SEDIMENT OR WATER TEMPERATURES INCREASE.

General: ~60 PLANTS IN THE 0.43 MILES OF CREEK; CONSISTS OF ISOLATED PATCHES OF 5 OR 10 PLANTS. THIS POPULATION DOES NOT APPEAR NEARLY AS VIGOROUS AS OTHER POPS ON THE PLUMAS NF. THERE ARE LIKELY MORE PLANTS IN CREEK; ENTIRE CREEK WAS NOT SEARCHED.

Owner/Manager: USFS-PLUMAS NF

Occurrence No. 15 — Map Index: 73454 — EO Index: 74412

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-27
Site: 2005-05-27
Record Last Updated: 2009-02-11

Quad Summary: Strawberry Valley (3912151/574D), American House (3912161/574A)
County Summary: Plumas

Lat/Long: 39.63061° / -121.04106°
UTM: Zone-10 N4388594 E668117
Area: 49.0 acres
Elevation: 4,000 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 21N
Range: 08E
Section: 36 Qtr: W
Meridian: M

Location: IN ONION CREEK AND UP DIAMOND RAVINE, JUST E OF DIAMOND SPRINGS HILL.

Location Detail: MAPPED BY CNDDB ACCORDING TO A 2005 DILLINGHAM MAP. THIS IS PLUMAS NF OCCURRENCE #11-008. ONLY A SMALL PORTION OF DIAMOND RAVINE WAS SURVEYED; POPULATION PROBABLY EXTENDS FURTHER UP DIAMOND RAVINE ONTO PRIVATE LAND.

Ecological: GROWING ON SUBMERGED ROCK UNDERNEATH 50-90% CANOPY COVER OF OLD-GROWTH PSEUDOTSUGA MENZIESII, PINUS LAMBERTIANA, & ABIES CONCOLOR WITH A DENSE UNDERSTORY OF CORNUS. LOW GRADIENT IN UPPER END OF POP, BUT STEEP IN THE DOWNSTREAM END OF POP.

Threat: THE STRAWBERRY ETALS DFPZ COULD IMPACT THIS POP IF IT INCREASES SEDIMENT OR WATER TEMPERATURE IN THE STREAM.

General: ~95,751 SEEN IN 2005 OVER A ~1.74 MI STRETCH OF CREEK.

Owner/Manager: USFS-PLUMAS NF

Pohlia flexuosa

flexuose threadmoss

Element Code: NBMUS5S1D0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S1

Other Lists
CNPS List: 2B.1

Habitat Associations
General: LOWER MONTANE CONIFEROUS FOREST.
Micro: ROADSIDES, ROCKY SEEPS. 950-1025 M.

Occurrence No. 1 Map Index: 94482 EO Index: 95595

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2007-06-22
Site: 2007-06-22
Record Last Updated: 2014-11-14

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba

Lat/Long: 39.58591° / -121.05845°
UTM: Zone-10 N4383600 E666732
Radius: 80 meters
Elevation: 3,115 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 20N
Range: 08E
Section: 14
Meridian: M
Qtr: SW

Location: FOREST ROAD 35 AT SLATE CREEK, ABOUT 2 MILES EAST OF STRAWBERRY VALLEY.

Location Detail: JUST ABOVE SLATE CREEK ON EAST SIDE OF BRIDGE, ON OLD ROADBANK. MAPPED FROM 2007 TOREN COORDINATES, IN THE SW 1/4 OF THE SW 1/4 OF SECTION 14.

Ecological: NORTHERN EXPOSURE, ON PARTLY SHADED, INTERMITTENTLY SEEPY TO DAMP SOIL AND SOIL OVER ROCK IN FISSURES OF VERTICAL METAMORPHIC ROCK.

General: SEEN IN 2006 AND 2007.

Owner/Manager: PVT, USFS-PLUMAS NF?

Rana boylii

foothill yellow-legged frog — Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 224 — Map Index: 42654 — EO Index: 42654

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-10-01
Site: 1998-10-01
Record Last Updated: 2000-05-12

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba, Plumas

Lat/Long: 39.61685° / -121.04362°
UTM: Zone-10 N4387061 E667932
Area:
Elevation: 3,525 ft
Mapping Precision: NON-SPECIFIC
Symbol Type: POLYGON
Township: 20N
Range: 08E
Section: 02
Meridian: M
Qtr: SE

Location: VICINITY IF SLATE CREEK RESERVOIR, ~3 MILES EAST OF SLY CREEK RESERVOIR, PLUMAS NATIONAL FOREST.

Location Detail: COLLECTIONS FROM 6 SITES: 2.5 M NORTH OF SLATE CREEK IN A SIDE POOL, 2 SITES IN SLATE CREEK RESERVOIR, SLATE CREEK ABOVE RESERVOIR ~100 M BELOW SECOND DAM AND SE OF TAILINGS, AND ONION CREEK JUST BEFORE SECOND WATERFALL.

General: CAS #205984 COLL 8 JUL 1998. CAS #206276-77 COLL 28 SEP 1998. CAS #206297 COLL 29 SEP 1998. CAS #206308-09 COLL 30 SEP & 01 OCT 1998. BOTH ADULTS & LARVA COLLECTED.

Owner/Manager: USFS-PLUMAS NF

Occurrence No. 237 — Map Index: 42706 — EO Index: 42706

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1997-08-21
Site: 1997-08-21
Record Last Updated: 2000-04-05

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Sierra

Lat/Long: 39.53950° / -121.01971°
UTM: Zone-10 N4378521 E670173
Radius: 80 meters
Elevation: 3,475 ft
Mapping Precision: SPECIFIC
Symbol Type: POINT
Township: 19N
Range: 09E
Section: 06
Meridian: M
Qtr: SW

Location: YOUNGS RAVINE (CREEK), 100 M UPSTREAM FROM FOREST RD 491-2 & BRANDY CITY ROAD (FOREST RD 491-4), NORTH OF CAMPTONVILLE.

General: ONE SUB-ADULT COLLECTED (CAS #203371), 21 AUG 1997.

Owner/Manager: USFS-TAHOE NF

Occurrence No. 502 — Map Index: 73970 — EO Index: 74968

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2008-08-21
Site: 2008-08-21
Record Last Updated: 2009-03-17

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Sierra

Lat/Long: 39.50424° / -121.03166°
UTM: Zone-10 N4374685 E669231
Radius: 80 meters
Elevation: 3,230 ft
Mapping Precision: SPECIFIC
Symbol Type: POINT
Township: 19N
Range: 09E
Section: 24
Meridian: M
Qtr: NE

Location: OAK VALLEY, ABOUT 0.4 MI WEST OF NORTH YUBA RIVER AND INDIAN CREEK CROSSING, ABOUT 3.65 MI NNE OF CAMPTONVILLE.

Location Detail: MAPPED TO PROVIDED COORDINATES.

Ecological: DOWNSTREAM OF HWY 49 BRIDGE. ADULTS ALONG MARGIN OF POCKET WATER HABITAT WITH OVERHANGING GRASSES. JUVENILES ALONG MARGIN OF LOW GRADIENT RIFFLE HABITAT. ISOLATED WILLOWS, GRASS CLUMPS & BLACKBERRIES ALONG MARGIN OF LOW GRADIENT RIFFLE.

General: ON 21 AUG 2008 2 ADULTS AND 6 JUVENILES OBSERVED.

Owner/Manager: USFS-TAHOE NF

Rana boylii

foothill yellow-legged frog — Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 806 — Map Index: 76098 — EO Index: 77093

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-07-XX
Site: 2006-07-XX
Record Last Updated: 2009-08-04

Quad Summary: Strawberry Valley (3912151/574D), American House (3912161/574A)
County Summary: Yuba

Lat/Long: 39.62550° / -121.02124°
UTM: Zone-10 N4388064 E669831
Radius: 80 meters
Elevation: 3,950 ft
Mapping PrecisionSPECIFIC
Symbol Type:POINT
Township: 20N
Range: 09E
Section: 06
Qtr: NW
Meridian: M

Location: ALONG TRIBUTARY TO SLATE CREEK, JUST EAST OF CONFLUENCE, ~0.8 MI WNW OF POVERTY HILL, PLUMAS NF.

Location Detail: MAPPED TO PROVIDED COORDINATES AND GENERAL NAME OF LOCATION: "SLATE CREEK TRIBUTARY."

General: 1 ADULT FEMALE OBSERVED IN JULY 2006.

Owner/Manager: USFS-PLUMAS NF

Rana sierrae

Sierra Nevada yellow-legged frog — Element Code: AAABH01340

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CDFG Status: SC
State: Threatened	State: S1	

Habitat Associations

General: ALWAYS ENCOUNTERED WITHIN A FEW FEET OF WATER. TADPOLES MAY REQUIRE 2 - 4 YRS TO COMPLETE THEIR AQUATIC DEVELOPMENT.

Micro:

Occurrence No. 134 — Map Index: 45971 — EO Index: 45971

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1997-06-20
Site: 1997-06-20
Record Last Updated: 2014-09-17

Quad Summary: Clipper Mills (3912152/574C), Strawberry Valley (3912151/574D)
County Summary: Butte

Lat/Long: 39.59929° / -121.12933°
UTM: Zone-10 N4384956 E660613
Area:
Elevation: 3,500 ft
Mapping Precision: NON-SPECIFIC
Symbol Type: POLYGON
Township: 20N
Range: 08E
Section: 07
Meridian: M
Qtr: SW

Location: ALONG PINKARD CREEK NEAR USFS ROAD 22N24, NORTH OF LOST CREEK RESERVOIR, PLUMAS NATIONAL FOREST.
Location Detail: FOUND IN MEADOW SURROUNDING PINKARD CREEK.
General: DETECTIONS WERE MADE ALONG THIS STRETCH OF STREAM ON 13 & 19 AUG 1994, AS WELL AS 17 & 20 JUN 1997.
Owner/Manager: USFS-PLUMAS NF

Occurrence No. 696 — Map Index: 95810 — EO Index: 98951

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1996-06-13
Site: 1996-06-13
Record Last Updated: 2015-04-02

Quad Summary: Strawberry Valley (3912151/574D)
County Summary: Yuba, Sierra

Lat/Long: 39.61919° / -121.01326°
UTM: Zone-10 N4387378 E670531
Radius: 2/5 mile
Elevation: 4,500 ft
Mapping Precision: NON-SPECIFIC
Symbol Type: POINT
Township: 20N
Range: 09E
Section: 07
Meridian: M
Qtr: XX

Location: GOLD RUN CREEK, WEST OF POVERTY HILL MINE, PLUMAS NATIONAL FOREST.
General: DETECTIONS WERE MADE HERE 12 JUL 1995 AND 13 JUN 1996.
Owner/Manager: USFS-PLUMAS NF

9 quad search - Camptonville

Common_Name	Fed	State	CDFW	CA Rare Plant	Quad_Name
foothill yellow-legged frog	None	None	SSC	-	North Bloomfield
foothill yellow-legged frog	None	None	SSC	-	Pike
foothill yellow-legged frog	None	None	SSC	-	Goodyears Bar
foothill yellow-legged frog	None	None	SSC	-	Nevada City
foothill yellow-legged frog	None	None	SSC	-	Camptonville
foothill yellow-legged frog	None	None	SSC	-	Challenge
foothill yellow-legged frog	None	None	SSC	-	Strawberry Valley
foothill yellow-legged frog	None	None	SSC	-	Clipper Mills
California red-legged frog	Threatened	None	SSC	-	Clipper Mills
California red-legged frog	Threatened	None	SSC	-	Challenge
California red-legged frog	Threatened	None	SSC	-	North Bloomfield
Sierra Nevada yellow-legged frog	Endangered	Threatened	SSC	-	Goodyears Bar
Sierra Nevada yellow-legged frog	Endangered	Threatened	SSC	-	Strawberry Valley
Sierra Nevada yellow-legged frog	Endangered	Threatened	SSC	-	Clipper Mills
Coast Range newt	None	None	SSC	-	Clipper Mills
Coast Range newt	None	None	SSC	-	Strawberry Valley
Coast Range newt	None	None	SSC	-	Challenge
Coast Range newt	None	None	SSC	-	Camptonville
Coast Range newt	None	None	SSC	-	North Bloomfield
Coast Range newt	None	None	SSC	-	Pike
Cooper's hawk	None	None	WL	-	Pike
Cooper's hawk	None	None	WL	-	North Bloomfield
Cooper's hawk	None	None	WL	-	Goodyears Bar
Cooper's hawk	None	None	WL	-	Camptonville
Cooper's hawk	None	None	WL	-	Strawberry Valley
Cooper's hawk	None	None	WL	-	Clipper Mills
northern goshawk	None	None	SSC	-	Clipper Mills
northern goshawk	None	None	SSC	-	Strawberry Valley
northern goshawk	None	None	SSC	-	Challenge
northern goshawk	None	None	SSC	-	Camptonville
northern goshawk	None	None	SSC	-	Goodyears Bar
northern goshawk	None	None	SSC	-	North Bloomfield
northern goshawk	None	None	SSC	-	Pike
sharp-shinned hawk	None	None	WL	-	North Bloomfield
sharp-shinned hawk	None	None	WL	-	Pike
sharp-shinned hawk	None	None	WL	-	Strawberry Valley
sharp-shinned hawk	None	None	WL	-	Clipper Mills
golden eagle	None	None	FP ; WL	-	Clipper Mills
golden eagle	None	None	FP ; WL	-	Challenge
golden eagle	None	None	FP ; WL	-	Camptonville
golden eagle	None	None	FP ; WL	-	North Bloomfield
bald eagle	Delisted	Endangered	FP	-	North Bloomfield
bald eagle	Delisted	Endangered	FP	-	Pike

bald eagle	Delisted	Endangered	FP	-	Goodyears Bar
bald eagle	Delisted	Endangered	FP	-	Nevada City
bald eagle	Delisted	Endangered	FP	-	French Corral
bald eagle	Delisted	Endangered	FP	-	Camptonville
bald eagle	Delisted	Endangered	FP	-	Strawberry Valley
bald eagle	Delisted	Endangered	FP	-	Challenge
bald eagle	Delisted	Endangered	FP	-	Clipper Mills
osprey	None	None	WL	-	Strawberry Valley
osprey	None	None	WL	-	Challenge
osprey	None	None	WL	-	Camptonville
osprey	None	None	WL	-	Goodyears Bar
great blue heron	None	None	-	-	North Bloomfield
great blue heron	None	None	-	-	Challenge
great blue heron	None	None	-	-	Camptonville
great blue heron	None	None	-	-	Clipper Mills
merlin	None	None	WL	-	North Bloomfield
American peregrine falcon	Delisted	Delisted	FP	-	Camptonville
purple martin	None	None	SSC	-	French Corral
purple martin	None	None	SSC	-	Challenge
hermit warbler	None	None	-	-	Goodyears Bar
hermit warbler	None	None	-	-	Clipper Mills
White-headed woodpecker	None	None	-	-	North Bloomfield
White-headed woodpecker	None	None	-	-	Strawberry Valley
red-breasted sapsucker	None	None	-	-	Strawberry Valley
red-breasted sapsucker	None	None	-	-	Clipper Mills
flammulated owl	None	None	-	-	Pike
great gray owl	None	Endangered	-	-	Nevada City
great gray owl	None	Endangered	-	-	Camptonville
great gray owl	None	Endangered	-	-	Clipper Mills
California spotted owl	None	None	SSC	-	Clipper Mills
California spotted owl	None	None	SSC	-	Camptonville
California spotted owl	None	None	SSC	-	Challenge
California spotted owl	None	None	SSC	-	Nevada City
California spotted owl	None	None	SSC	-	North Bloomfield
olive-sided flycatcher	None	None	SSC	-	Goodyears Bar
olive-sided flycatcher	None	None	SSC	-	Challenge
olive-sided flycatcher	None	None	SSC	-	Strawberry Valley
olive-sided flycatcher	None	None	SSC	-	Clipper Mills
western bumble bee	None	None	-	-	Strawberry Valley
western bumble bee	None	None	-	-	Nevada City
western bumble bee	None	None	-	-	North Bloomfield
Sierra Nevada mountain beaver	None	None	SSC	-	Goodyears Bar
Sierra Nevada red fox	None	Threatened	-	-	North Bloomfield
Sierra Nevada red fox	None	Threatened	-	-	Pike
western white-tailed jackrabbit	None	None	SSC	-	Clipper Mills
Sierra marten	None	None	-	-	Strawberry Valley
Sierra marten	None	None	-	-	Goodyears Bar

fisher - West Coast DPS	Proposed Thi	Candidate Th	SSC	-		Challenge
pallid bat	None	None	SSC	-		Strawberry Valley
silver-haired bat	None	None	-	-		Strawberry Valley
western red bat	None	None	SSC	-		Strawberry Valley
hoary bat	None	None	-	-		Strawberry Valley
long-eared myotis	None	None	-	-		Strawberry Valley
little brown bat	None	None	-	-		Challenge
little brown bat	None	None	-	-		Camptonville
fringed myotis	None	None	-	-		Strawberry Valley
fringed myotis	None	None	-	-		Pike
fringed myotis	None	None	-	-		Clipper Mills
Yuma myotis	None	None	-	-		Challenge
Yuma myotis	None	None	-	-		Camptonville
Yuma myotis	None	None	-	-		French Corral
western pearlshell	None	None	-	-		Camptonville
western pearlshell	None	None	-	-		Pike
western pearlshell	None	None	-	-		Goodyears Bar
western pearlshell	None	None	-	-		Strawberry Valley
western pond turtle	None	None	SSC	-		Clipper Mills
western pond turtle	None	None	SSC	-		Goodyears Bar
western pond turtle	None	None	SSC	-		Nevada City
western pond turtle	None	None	SSC	-		Pike
western pond turtle	None	None	SSC	-		North Bloomfield
western pond turtle	None	None	SSC	-		Camptonville
western pond turtle	None	None	SSC	-		French Corral
western pond turtle	None	None	SSC	-		Challenge
coast horned lizard	None	None	SSC	-		Nevada City
Darlingtonia Seep	None	None	-	-		Goodyears Bar
Darlingtonia Seep	None	None	-	-		Strawberry Valley
buxbaumia moss	None	None	-	2B.2		Strawberry Valley
minute pocket moss	None	None	-	1B.2		Clipper Mills
minute pocket moss	None	None	-	1B.2		Challenge
elongate copper moss	None	None	-		4.3	Camptonville
elongate copper moss	None	None	-		4.3	Nevada City
Shevock's copper moss	None	None	-	1B.2		Camptonville
Shevock's copper moss	None	None	-	1B.2		Strawberry Valley
flexuose threadmoss	None	None	-	2B.1		Strawberry Valley
western waterfan lichen	None	None	-		4.2	Strawberry Valley
Sanborn's onion	None	None	-		4.2	Clipper Mills
Sanborn's onion	None	None	-		4.2	French Corral
Sanborn's onion	None	None	-		4.2	Challenge
Sanborn's onion	None	None	-		4.2	Nevada City
Bacigalupi's yampah	None	None	-		4.2	Challenge
Bacigalupi's yampah	None	None	-		4.2	Clipper Mills
Tracy's sanicle	None	None	-		4.2	Clipper Mills
Plumas rayless daisy	None	None	-	1B.3		Goodyears Bar
northern Sierra daisy	None	None	-		4.3	Challenge

northern Sierra daisy	None	None	-		4.3	French Corral
northern Sierra daisy	None	None	-		4.3	Clipper Mills
Layne's ragwort	Threatened	Rare	-	1B.2		Clipper Mills
Layne's ragwort	Threatened	Rare	-	1B.2		Challenge
sticky pyrrocoma	None	None	-	1B.2		Camptonville
dissected-leaved toothwort	None	None	-	1B.2		Clipper Mills
long-fruit jewelflower	None	None	-		4.3	North Bloomfield
thread-leaved beakseed	None	None	-		4.2	Nevada City
brownish beaked-rush	None	None	-	2B.2		Nevada City
brownish beaked-rush	None	None	-	2B.2		Pike
brownish beaked-rush	None	None	-	2B.2		North Bloomfield
brownish beaked-rush	None	None	-	2B.2		Camptonville
brownish beaked-rush	None	None	-	2B.2		Clipper Mills
True's manzanita	None	None	-		4.2	Clipper Mills
Siskiyou Mountains huckleberry	None	None	-		3.3	Strawberry Valley
Quincy lupine	None	None	-		4.2	Challenge
Butte County fritillary	None	None	-		3.2	Challenge
Butte County fritillary	None	None	-		3.2	Nevada City
Butte County fritillary	None	None	-		3.2	French Corral
Butte County fritillary	None	None	-		3.2	North Bloomfield
Butte County fritillary	None	None	-		3.2	Clipper Mills
Humboldt lily	None	None	-		4.2	Clipper Mills
Humboldt lily	None	None	-		4.2	French Corral
Humboldt lily	None	None	-		4.2	Camptonville
Humboldt lily	None	None	-		4.2	Challenge
inundated bog-clubmoss	None	None	-	2B.2		North Bloomfield
inundated bog-clubmoss	None	None	-	2B.2		Pike
giant checkerbloom	None	None	-		4.3	Goodyears Bar
giant checkerbloom	None	None	-		4.3	Clipper Mills
giant checkerbloom	None	None	-		4.3	Strawberry Valley
Cantelow's lewisia	None	None	-	1B.2		Strawberry Valley
Cantelow's lewisia	None	None	-	1B.2		Pike
Cantelow's lewisia	None	None	-	1B.2		Nevada City
Cantelow's lewisia	None	None	-	1B.2		Goodyears Bar
Cantelow's lewisia	None	None	-	1B.2		North Bloomfield
Brandegee's clarkia	None	None	-		4.2	North Bloomfield
Brandegee's clarkia	None	None	-		4.2	Pike
Brandegee's clarkia	None	None	-		4.2	Nevada City
Brandegee's clarkia	None	None	-		4.2	Camptonville
Brandegee's clarkia	None	None	-		4.2	French Corral
golden-anthered clarkia	None	None	-		4.2	Goodyears Bar
golden-anthered clarkia	None	None	-		4.2	Strawberry Valley
golden-anthered clarkia	None	None	-		4.2	Clipper Mills
Mosquin's clarkia	None	None	-	1B.1		Clipper Mills
Mosquin's clarkia	None	None	-	1B.1		Strawberry Valley
Sierra clarkia	None	None	-		4.3	Camptonville
California lady's-slipper	None	None	-		4.2	North Bloomfield

clustered lady's-slipper	None	None	-		4.2	North Bloomfield
clustered lady's-slipper	None	None	-		4.2	Goodyears Bar
clustered lady's-slipper	None	None	-		4.2	Nevada City
clustered lady's-slipper	None	None	-		4.2	Strawberry Valley
clustered lady's-slipper	None	None	-		4.2	Clipper Mills
Ahart's buckwheat	None	None	-	1B.2		Clipper Mills
Ahart's buckwheat	None	None	-	1B.2		Challenge
Caribou coffeeberry	None	None	-	1B.2		Clipper Mills
California pitcherplant	None	None	-		4.2	Strawberry Valley
California pitcherplant	None	None	-		4.2	Goodyears Bar
California pitcherplant	None	None	-		4.2	North Bloomfield
Sierra foothills brodiaea	None	None	-		4.3	Nevada City
Sierra foothills brodiaea	None	None	-		4.3	Challenge
Sierra foothills brodiaea	None	None	-		4.3	French Corral
Sierra foothills brodiaea	None	None	-		4.3	Clipper Mills
felt-leaved violet	None	None	-		4.2	Goodyears Bar
felt-leaved violet	None	None	-		4.2	Pike

9 Quad Search - Strawberry Valley

Common_Name	Fed	State	CDFW	CA Rare Plant	Quad_Name
foothill yellow-legged frog	None	None	SSC	-	Pike
foothill yellow-legged frog	None	None	SSC	-	Goodyears Bar
foothill yellow-legged frog	None	None	SSC	-	La Porte
foothill yellow-legged frog	None	None	SSC	-	Camptonville
foothill yellow-legged frog	None	None	SSC	-	Challenge
foothill yellow-legged frog	None	None	SSC	-	Strawberry Valley
foothill yellow-legged frog	None	None	SSC	-	Clipper Mills
foothill yellow-legged frog	None	None	SSC	-	American House
foothill yellow-legged frog	None	None	SSC	-	Cascade
California red-legged frog	Threatened	None	SSC	-	Cascade
California red-legged frog	Threatened	None	SSC	-	Clipper Mills
California red-legged frog	Threatened	None	SSC	-	Challenge
California red-legged frog	Threatened	None	SSC	-	La Porte
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	La Porte
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	Goodyears Bar
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	Strawberry Valley
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	Clipper Mills
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	American House
Sierra Nevada yellow-legged f	Endangered	Threatened	SSC	-	Cascade
Coast Range newt	None	None	SSC	-	Cascade
Coast Range newt	None	None	SSC	-	Clipper Mills
Coast Range newt	None	None	SSC	-	Strawberry Valley
Coast Range newt	None	None	SSC	-	Challenge
Coast Range newt	None	None	SSC	-	Camptonville
Coast Range newt	None	None	SSC	-	Pike
Cooper's hawk	None	None	WL	-	Pike
Cooper's hawk	None	None	WL	-	Goodyears Bar
Cooper's hawk	None	None	WL	-	La Porte
Cooper's hawk	None	None	WL	-	Camptonville
Cooper's hawk	None	None	WL	-	Strawberry Valley
Cooper's hawk	None	None	WL	-	Clipper Mills
Cooper's hawk	None	None	WL	-	American House
Cooper's hawk	None	None	WL	-	Cascade
northern goshawk	None	None	SSC	-	Cascade
northern goshawk	None	None	SSC	-	American House
northern goshawk	None	None	SSC	-	Clipper Mills
northern goshawk	None	None	SSC	-	Strawberry Valley
northern goshawk	None	None	SSC	-	Challenge
northern goshawk	None	None	SSC	-	Camptonville
northern goshawk	None	None	SSC	-	La Porte
northern goshawk	None	None	SSC	-	Goodyears Bar
northern goshawk	None	None	SSC	-	Pike
sharp-shinned hawk	None	None	WL	-	Pike

sharp-shinned hawk	None	None	WL	-	La Porte
sharp-shinned hawk	None	None	WL	-	Strawberry Valley
sharp-shinned hawk	None	None	WL	-	American House
sharp-shinned hawk	None	None	WL	-	Clipper Mills
golden eagle	None	None	FP ; WL	-	American House
golden eagle	None	None	FP ; WL	-	Clipper Mills
golden eagle	None	None	FP ; WL	-	Cascade
golden eagle	None	None	FP ; WL	-	La Porte
golden eagle	None	None	FP ; WL	-	Camptonville
golden eagle	None	None	FP ; WL	-	Challenge
bald eagle	Delisted	Endangered	FP	-	Challenge
bald eagle	Delisted	Endangered	FP	-	Strawberry Valley
bald eagle	Delisted	Endangered	FP	-	Camptonville
bald eagle	Delisted	Endangered	FP	-	La Porte
bald eagle	Delisted	Endangered	FP	-	Pike
bald eagle	Delisted	Endangered	FP	-	Goodyears Bar
bald eagle	Delisted	Endangered	FP	-	Clipper Mills
bald eagle	Delisted	Endangered	FP	-	American House
osprey	None	None	WL	-	American House
osprey	None	None	WL	-	Goodyears Bar
osprey	None	None	WL	-	La Porte
osprey	None	None	WL	-	Camptonville
osprey	None	None	WL	-	Strawberry Valley
osprey	None	None	WL	-	Challenge
great blue heron	None	None	-	-	Challenge
great blue heron	None	None	-	-	Camptonville
great blue heron	None	None	-	-	La Porte
great blue heron	None	None	-	-	American House
great blue heron	None	None	-	-	Clipper Mills
chipping sparrow	None	None	-	-	American House
merlin	None	None	WL	-	La Porte
American peregrine falcon	Delisted	Delisted	FP	-	La Porte
American peregrine falcon	Delisted	Delisted	FP	-	Camptonville
American peregrine falcon	Delisted	Delisted	FP	-	American House
common loon	None	None	SSC	-	La Porte
greater sandhill crane	None	Threatened	FP	-	La Porte
purple martin	None	None	SSC	-	Challenge
hermit warbler	None	None	-	-	La Porte
hermit warbler	None	None	-	-	Goodyears Bar
hermit warbler	None	None	-	-	American House
hermit warbler	None	None	-	-	Clipper Mills
hermit warbler	None	None	-	-	Cascade
yellow warbler	None	None	SSC	-	American House
yellow warbler	None	None	SSC	-	La Porte
American white pelican	None	None	SSC	-	La Porte
White-headed woodpecker	None	None	-	-	La Porte
White-headed woodpecker	None	None	-	-	Strawberry Valley

White-headed woodpecker	None	None	-	-	American House
White-headed woodpecker	None	None	-	-	Cascade
red-breasted sapsucker	None	None	-	-	Cascade
red-breasted sapsucker	None	None	-	-	American House
red-breasted sapsucker	None	None	-	-	Clipper Mills
red-breasted sapsucker	None	None	-	-	Strawberry Valley
red-breasted sapsucker	None	None	-	-	La Porte
long-eared owl	None	None	SSC	-	American House
long-eared owl	None	None	SSC	-	Cascade
flammulated owl	None	None	-	-	Pike
great gray owl	None	Endangered	-	-	Camptonville
great gray owl	None	Endangered	-	-	American House
great gray owl	None	Endangered	-	-	Clipper Mills
California spotted owl	None	None	SSC	-	American House
California spotted owl	None	None	SSC	-	Clipper Mills
California spotted owl	None	None	SSC	-	Cascade
California spotted owl	None	None	SSC	-	Camptonville
California spotted owl	None	None	SSC	-	Challenge
olive-sided flycatcher	None	None	SSC	-	Challenge
olive-sided flycatcher	None	None	SSC	-	Strawberry Valley
olive-sided flycatcher	None	None	SSC	-	Goodyears Bar
olive-sided flycatcher	None	None	SSC	-	La Porte
olive-sided flycatcher	None	None	SSC	-	Cascade
olive-sided flycatcher	None	None	SSC	-	American House
olive-sided flycatcher	None	None	SSC	-	Clipper Mills
riffle sculpin	None	None	SSC	-	American House
Volcano Creek golden trout	None	None	SSC	-	La Porte
western bumble bee	None	None	-	-	La Porte
western bumble bee	None	None	-	-	Strawberry Valley
western bumble bee	None	None	-	-	American House
Sierra Nevada mountain beav	None	None	SSC	-	American House
Sierra Nevada mountain beav	None	None	SSC	-	Cascade
Sierra Nevada mountain beav	None	None	SSC	-	Goodyears Bar
Sierra Nevada mountain beav	None	None	SSC	-	La Porte
Sierra Nevada red fox	None	Threatened	-	-	Pike
Sierra Nevada snowshoe hare	None	None	SSC	-	La Porte
Sierra Nevada snowshoe hare	None	None	SSC	-	American House
western white-tailed jackrabb	None	None	SSC	-	Clipper Mills
California wolverine	None	Threatened	FP	-	La Porte
Pacific marten	None	None	-	-	La Porte
Pacific marten	None	None	-	-	American House
Pacific marten	None	None	-	-	Cascade
Sierra marten	None	None	-	-	Strawberry Valley
Sierra marten	None	None	-	-	Goodyears Bar
fisher - West Coast DPS	Proposed Thr	Candidate Thi	SSC	-	Challenge
pallid bat	None	None	SSC	-	Strawberry Valley
pallid bat	None	None	SSC	-	American House

Townsend's big-eared bat	None	Candidate Thr	SSC	-	American House
Townsend's big-eared bat	None	Candidate Thr	SSC	-	Cascade
Townsend's big-eared bat	None	Candidate Thr	SSC	-	La Porte
silver-haired bat	None	None	-	-	La Porte
silver-haired bat	None	None	-	-	Strawberry Valley
silver-haired bat	None	None	-	-	American House
silver-haired bat	None	None	-	-	Cascade
western red bat	None	None	SSC	-	American House
western red bat	None	None	SSC	-	Cascade
western red bat	None	None	SSC	-	Strawberry Valley
western red bat	None	None	SSC	-	La Porte
hoary bat	None	None	-	-	La Porte
hoary bat	None	None	-	-	Strawberry Valley
hoary bat	None	None	-	-	American House
hoary bat	None	None	-	-	Cascade
long-eared myotis	None	None	-	-	American House
long-eared myotis	None	None	-	-	Strawberry Valley
little brown bat	None	None	-	-	Challenge
little brown bat	None	None	-	-	Camptonville
fringed myotis	None	None	-	-	Strawberry Valley
fringed myotis	None	None	-	-	La Porte
fringed myotis	None	None	-	-	Pike
fringed myotis	None	None	-	-	American House
fringed myotis	None	None	-	-	Clipper Mills
long-legged myotis	None	None	-	-	American House
long-legged myotis	None	None	-	-	La Porte
Yuma myotis	None	None	-	-	La Porte
Yuma myotis	None	None	-	-	Challenge
Yuma myotis	None	None	-	-	Camptonville
Yuma myotis	None	None	-	-	American House
western pearlshell	None	None	-	-	Strawberry Valley
western pearlshell	None	None	-	-	Camptonville
western pearlshell	None	None	-	-	Pike
western pearlshell	None	None	-	-	Goodyears Bar
western pond turtle	None	None	SSC	-	Goodyears Bar
western pond turtle	None	None	SSC	-	Pike
western pond turtle	None	None	SSC	-	Camptonville
western pond turtle	None	None	SSC	-	Challenge
western pond turtle	None	None	SSC	-	Clipper Mills
Darlingtonia Seep	None	None	-	-	Strawberry Valley
Darlingtonia Seep	None	None	-	-	Goodyears Bar
Bolander's bruchia	None	None	-	4.2	American House
buxbaumia moss	None	None	-	2B.2	American House
buxbaumia moss	None	None	-	2B.2	Strawberry Valley
cylindrical trichodon	None	None	-	2B.2	La Porte
minute pocket moss	None	None	-	1B.2	Challenge
minute pocket moss	None	None	-	1B.2	Clipper Mills

elongate copper moss	None	None	-		4.3	Camptonville
Shevock's copper moss	None	None	-	1B.2		Camptonville
Shevock's copper moss	None	None	-	1B.2		Strawberry Valley
flexuose threadmoss	None	None	-	2B.1		Strawberry Valley
western waterfan lichen	None	None	-		4.2	Strawberry Valley
western waterfan lichen	None	None	-		4.2	American House
western waterfan lichen	None	None	-		4.2	Cascade
western waterfan lichen	None	None	-		4.2	La Porte
Sanborn's onion	None	None	-		4.2	Challenge
Sanborn's onion	None	None	-		4.2	Clipper Mills
Bacigalupi's yampah	None	None	-		4.2	Clipper Mills
Bacigalupi's yampah	None	None	-		4.2	Challenge
Tracy's sanicle	None	None	-		4.2	Clipper Mills
Tracy's sanicle	None	None	-		4.2	Cascade
Plumas rayless daisy	None	None	-	1B.3		American House
Plumas rayless daisy	None	None	-	1B.3		La Porte
Plumas rayless daisy	None	None	-	1B.3		Goodyears Bar
northern Sierra daisy	None	None	-		4.3	La Porte
northern Sierra daisy	None	None	-		4.3	Challenge
northern Sierra daisy	None	None	-		4.3	Clipper Mills
Layne's ragwort	Threatened	Rare	-	1B.2		Clipper Mills
Layne's ragwort	Threatened	Rare	-	1B.2		Challenge
sticky pyrrocoma	None	None	-	1B.2		Camptonville
Constance's rockcress	None	None	-	1B.1		La Porte
dissected-leaved toothwort	None	None	-	1B.2		Clipper Mills
Clifton's eremogone	None	None	-	1B.3		Cascade
obtuse starwort	None	None	-		4.3	Cascade
thread-leaved beakseed	None	None	-		4.2	American House
brownish beaked-rush	None	None	-	2B.2		Cascade
brownish beaked-rush	None	None	-	2B.2		Clipper Mills
brownish beaked-rush	None	None	-	2B.2		Pike
brownish beaked-rush	None	None	-	2B.2		Camptonville
True's manzanita	None	None	-		4.2	Clipper Mills
True's manzanita	None	None	-		4.2	Cascade
Siskiyou Mountains huckleber	None	None	-		3.3	American House
Siskiyou Mountains huckleber	None	None	-		3.3	Strawberry Valley
Siskiyou Mountains huckleber	None	None	-		3.3	La Porte
Quincy lupine	None	None	-		4.2	La Porte
Quincy lupine	None	None	-		4.2	Challenge
Quincy lupine	None	None	-		4.2	American House
Quincy lupine	None	None	-		4.2	Cascade
Butte County fritillary	None	None	-		3.2	Cascade
Butte County fritillary	None	None	-		3.2	Clipper Mills
Butte County fritillary	None	None	-		3.2	Challenge
Humboldt lily	None	None	-		4.2	Challenge
Humboldt lily	None	None	-		4.2	Camptonville
Humboldt lily	None	None	-		4.2	Clipper Mills

inundated bog-clubmoss	None	None	-	2B.2		Pike
giant checkerbloom	None	None	-		4.3	Goodyears Bar
giant checkerbloom	None	None	-		4.3	Strawberry Valley
giant checkerbloom	None	None	-		4.3	Clipper Mills
giant checkerbloom	None	None	-		4.3	American House
Cantelow's lewisia	None	None	-	1B.2		Strawberry Valley
Cantelow's lewisia	None	None	-	1B.2		Goodyears Bar
Cantelow's lewisia	None	None	-	1B.2		Pike
Hutchison's lewisia	None	None	-		3.2	La Porte
Hutchison's lewisia	None	None	-		3.2	American House
Brandegee's clarkia	None	None	-		4.2	Camptonville
Brandegee's clarkia	None	None	-		4.2	Pike
golden-anthered clarkia	None	None	-		4.2	Goodyears Bar
golden-anthered clarkia	None	None	-		4.2	La Porte
golden-anthered clarkia	None	None	-		4.2	American House
golden-anthered clarkia	None	None	-		4.2	Cascade
golden-anthered clarkia	None	None	-		4.2	Strawberry Valley
golden-anthered clarkia	None	None	-		4.2	Clipper Mills
Mildred's clarkia	None	None	-	1B.3		Cascade
Mosquin's clarkia	None	None	-	1B.1		Cascade
Mosquin's clarkia	None	None	-	1B.1		Clipper Mills
Mosquin's clarkia	None	None	-	1B.1		Strawberry Valley
Sierra clarkia	None	None	-		4.3	Camptonville
upswept moonwort	None	None	-	2B.3		Cascade
mingan moonwort	None	None	-	2B.2		La Porte
western goblin	None	None	-	2B.1		La Porte
California lady's-slipper	None	None	-		4.2	Cascade
clustered lady's-slipper	None	None	-		4.2	Cascade
clustered lady's-slipper	None	None	-		4.2	American House
clustered lady's-slipper	None	None	-		4.2	Strawberry Valley
clustered lady's-slipper	None	None	-		4.2	Clipper Mills
clustered lady's-slipper	None	None	-		4.2	La Porte
clustered lady's-slipper	None	None	-		4.2	Goodyears Bar
Coleman's rein orchid	None	None	-		4.3	Cascade
cut-leaved monkeyflower	None	None	-		4.3	Cascade
Sierra blue grass	None	None	-	1B.3		Cascade
Ahart's buckwheat	None	None	-	1B.2		Cascade
Ahart's buckwheat	None	None	-	1B.2		American House
Ahart's buckwheat	None	None	-	1B.2		Clipper Mills
Ahart's buckwheat	None	None	-	1B.2		Challenge
Caribou coffeeberry	None	None	-	1B.2		La Porte
Caribou coffeeberry	None	None	-	1B.2		Clipper Mills
California pitcherplant	None	None	-		4.2	Strawberry Valley
California pitcherplant	None	None	-		4.2	American House
California pitcherplant	None	None	-		4.2	Goodyears Bar
Sierra foothills brodiaea	None	None	-		4.3	Challenge
Sierra foothills brodiaea	None	None	-		4.3	Clipper Mills

Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
BUT0008	CALIFORNIA	39.610319	-121.127442	M 20N 08E 07	Contributor
BUT0023	CALIFORNIA	39.594238	-121.100299	M 20N 08E 17	Contributor
BUT0053	CALIFORNIA	39.615540	-121.109851	M 20N 08E 05	Contributor
BUT0075	CALIFORNIA	39.580863	-121.111633	M 20N 08E 20	Contributor
SIE0017	CALIFORNIA	39.576623	-121.007118	M 20N 09E 30	Contributor
SIE0029	CALIFORNIA	39.536554	-121.038704	M 19N 08E 12	Contributor
SIE0030	CALIFORNIA	39.504145	-120.984396	M 19N 09E 20	Contributor
SIE0031	CALIFORNIA	39.498354	-121.050583	M 19N 08E 23	Contributor
SIE0033	CALIFORNIA	39.541210	-121.049325	M 19N 08E 02	Contributor
SIE0097	CALIFORNIA	39.598577	-121.005441	M 20N 09E 18	Contributor
YUB0009	CALIFORNIA	39.514209	-121.116615	M 19N 08E 17	Contributor
YUB0010	CALIFORNIA	39.514872	-121.091007	M 19N 08E 16	Contributor
YUB0011	CALIFORNIA	39.544316	-121.077865	M 19N 08E 03	Contributor
YUB0018	CALIFORNIA	39.482175	-121.093669	M 19N 08E 28	Contributor
YUB0019	CALIFORNIA	39.602788	-121.055598	M 20N 08E 11	Contributor
YUB0021	CALIFORNIA	39.578518	-121.046067	M 20N 08E 23	Contributor
YUB0023	CALIFORNIA	39.487374	-121.071807	M 19N 08E 27	Contributor
YUB0025	CALIFORNIA	39.560857	-121.087651	M 20N 08E 28	Contributor
YUB0030	CALIFORNIA	39.511179	-121.069241	M 19N 08E 15	Contributor
YUB0031	CALIFORNIA	39.489558	-121.129590	M 19N 08E 19	Contributor
YUB0032	CALIFORNIA	39.535277	-121.110223	M 19N 08E 05	Contributor

Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
SIE0009	CALIFORNIA	39.482156	-121.020283	M 19N 09E 30	Contributor
SIE0027	CALIFORNIA	39.454841	-121.014084	M 18N 09E 06	Contributor
SIE0031	CALIFORNIA	39.498354	-121.050583	M 19N 08E 23	Contributor
YUB0001	CALIFORNIA	39.466324	-121.108376	M 19N 08E 32	Contributor
YUB0002	CALIFORNIA	39.459805	-121.030447	M 18N 08E 01	Contributor
YUB0005	CALIFORNIA	39.440939	-121.082221	M 18N 08E 09	Contributor
YUB0006	CALIFORNIA	39.445323	-121.053282	M 18N 08E 11	Contributor
YUB0007	CALIFORNIA	39.409657	-121.110303	M 18N 08E 20	Contributor
YUB0018	CALIFORNIA	39.482175	-121.093669	M 19N 08E 28	Contributor
YUB0023	CALIFORNIA	39.487374	-121.071807	M 19N 08E 27	Contributor
YUB0031	CALIFORNIA	39.489558	-121.129590	M 19N 08E 19	Contributor

CNPS Inventory 9 Quad Search Camptonville Quad Elevation range: 2500' to 3500'

Common Name	Rare Plant Rank	State Rank	Global Rank	CESA	FESA	CA Endemic
buxbaumia moss	2B.2	S1	G4G5	None	None	F
dissected-leaved toothwort	1B.2	S2	G3G5T2Q	None	None	T
Sierra arching sedge	1B.2	S2S3	G2G3	None	None	T
Mosquin's clarkia	1B.1	S2	G2	None	None	T
Ahart's buckwheat	1B.2	S3	G5T3	None	None	T
minute pocket moss	1B.2	S2	G3?	None	None	F
Caribou coffeeberry	1B.2	S2	G4T2	None	None	T
Cantelow's lewisia	1B.2	S3	G3	None	None	T
inundated bog club-moss	2B.2	S1?	G5	None	None	F
Layne's ragwort	1B.2	S2	G2	CR	FT	T
flexuose threadmoss	2B.1	S1	G5	None	None	F
sticky pyrrocoma	1B.2	S3	G3	None	None	T
brownish beaked-rush	2B.2	S1	G5	None	None	F

CNPS Inventory 9 Quad Search Strawberry Valley Quad Elevation range: 2500' to 3500'

Common Name	Rare Plant Rank	State Rank	Global Rank	CESA	FESA	CA Endemic
Constance's rockcress	1B.1	S2	G2	None	None	T
buxbaumia moss	2B.2	S1	G4G5	None	None	F
dissected-leaved toothwort	1B.2	S2	G3G5T2Q	None	None	T
Sierra arching sedge	1B.2	S2S3	G2G3	None	None	T
Mildred's clarkia	1B.3	S3	G3T3	None	None	T
Mosquin's clarkia	1B.1	S2	G2	None	None	T
Clifton's eremogone	1B.3	S3?	G3?	None	None	T
Ahart's buckwheat	1B.2	S3	G5T3	None	None	T
minute pocket moss	1B.2	S2	G3?	None	None	F
Caribou coffeeberry	1B.2	S2	G4T2	None	None	T
Cantelow's lewisia	1B.2	S3	G3	None	None	T
Layne's ragwort	1B.2	S2	G2	CR	FT	T
Sierra blue grass	1B.3	S3	G3	None	None	T
flexuose threadmoss	2B.1	S1	G5	None	None	F
sticky pyrrocoma	1B.2	S3	G3	None	None	T
brownish beaked-rush	2B.2	S1	G5	None	None	F
cylindrical trichodon	2B.2	S2	G4	None	None	F

Paradise Ridge Forestry
1715 Grand Court
Paradise, CA 95969
(530) 321-1401

January 26, 2016

CAL FIRE Resource Management
Attention: Bill Solinsky
P.O. Box 944246
Sacramento, CA 94244-2460

Dear Mr. Solinsky:

I am preparing a timberland conversion permit and plan and timber harvest plan for a client in Yuba County. My client owns two parcels totaling 20 acres in size and wishes to convert approximately 9 acres of the property to land for orchards and do some timber harvest on the remaining 11 acres. The land is not zoned TPZ. It is zoned **Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial [A/RR-20 & A/RR-C]**.

The reasoning for the conversion is there are trees growing throughout the parcel (both conifer and hardwoods - including tanoak) that must be removed to prepare the land for orchard. We cannot just do a THP, including the 9 acres in that document, as the conversion lands need to be (practically) fully cleared to make the orchard viable.

According to the Yuba County Development Code and the Yuba County Zoning Ordinance (Title XII of the Yuba County Code) the following uses are allowed (encouraged) in regards to parcels with A/RR-20 and A/RR-C zoning.

Under Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code):

> Subsection 3) Growing and harvesting any agricultural crop or product.
>
> Subsection 10) Accessory buildings such as garages, carports, guest dwellings, barns, lath houses greenhouses, gardening sheds, recreation rooms and similar structures which are customarily used in conjunction with and incidental to a principal use or structure.
>
> Subsection 13) Stands for the purpose of displaying and selling agricultural, floricultural or farming products which are grown or produced on the premises as well as related agricultural products, provided that there shall not be more than one stand per lot or parcel of land. The ground coverage of the stand shall not exceed 300 square feet, and it shall be set back from the street or highway right-of-way a distance of at least 20 feet. Such stand must be of good frame construction.
>
> Subsection 14) Accessory buildings or structures required for the storage of any crops, products, equipment or uses lawfully permitted or produced on the premises.

The timberland conversion permit, under item 14c asks Has the local government agency submitted an environmental impact report or negative declaration to the State Clearinghouse as required by the California Environmental Act (CEQA) and Regulations?

My question is: If the property is already zoned for agriculture, and my client must remove some trees to allow the full potential of what the zoning is intended for (which triggers the need for a timberland conversion permit in the eyes of the State because trees are being removed), why would the County need to submit either an EIR or a negative declaration to the State Clearinghouse? I do not believe that this type of submittal would be necessary, especially given the fact I am preparing a THP for the entire property. Although 14c further states The Timberland Conversion

Permit cannot be issued until this is done and local government adopts the documents , is it not possible to waive this portion of the timberland conversion permit? The intended use for agriculture is already covered under Yuba County s Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code). No county approvals, zoning changes or permits are required.

Another quick question: Is the fee to CALFIRE $600? Is there a Department of Fish and Wildlife impact fee?

I have to ask these questions as all I have to go on is what I could get on-line concerning some older timberland conversions for vineyards. Did you know that the CALFIRE website does not allow for one to download "APPLICATION FOR TIMBERLAND CONVERSION PERMIT AND TIMBERLAND CONVERSION PLAN" (RM-53)? I cannot even find any information about this form except on the CAL FIRE website under "Environmental Protection and Resources Program" - "Timberland Conversions" - there is a small passage referring to the conversion permit and plan but no link is available.

Anyway, I appreciate you taking the time to go over these matters with me. I know you are busy. Feel free to contact me by telephone if you choose, or, an email response will be just fine.

Thank you again for your time and cosnderation.

Cordially,

Terry L. Rogers
California Registered Professional Forester
ISA Certified arborist

FOR ADMIN. USE ONLY	
TCP No.	16-628
Date Recd. Sac.	1/12/2016
Date Approved	
Date Expires	
Extension #1 Date	
THP No.	

TIMBERLAND CONVERSION PERMIT APPLICATION

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
AND FIRE PROTECTION
RM-53 (Rev 7/00)

Information for Applicants

1. This Timberland Conversion Application consists of three sections that must be completed: Timberland Conversion Application, Timberland Conversion Plat, and Timberland Conversion Plan.

2. The applicant must have a bona fide intent to complete the conversion. As defined in Title 14 California Code of Regulations (14 CCR) §§1100(b) and 1105.2, a "bona fide intention" or "bona fide intent" means a present, sincere intention of the applicant to conform with and successfully execute the conversion plan. The Director shall determine the applicant's intention in light of the present and predicted economic ability of the applicant to perform the proposed conversion; the environmental feasibility of the conversion including, but not limited to, suitability of soils, slope, aspects, quality and quantity of water and microclimate; adequacy and feasibility of possible measures for mitigation of significant adverse environmental impacts; and other foreseeable factors necessary for successful conversion to the proposed land use.

3. By law, timber operations to convert timberland to a non-timber growing use cannot begin until (1) the Director of Forestry and Fire Protection issues a Timberland Conversion Permit to the timberland owner, (2) the owner records the permit with the County Recorder, (3) owner provides a copy of the permit to the timber operator, and (4) a Timber Harvesting Plan (THP) is approved by the Director of Forestry and Fire Protection. The filing of the application and the THP may occur simultaneously, though the second review of the THP will not be scheduled and the THP cannot be approved until the Timberland Conversion Permit is issued.

4. The Timberland Conversion Permit grants exemption from the forest practice stocking requirements in the Forest Practice Act and District Forest Practice Rules. Forest practice requirements of the Act, Rules and related Board of Forestry and Fire Protection Regulations not consistent with the conversion still apply. These include, but are not limited to, such items as erosion control, fire hazard reduction, and watercourse and lake protection. A Timber Harvesting Plan approved by the Director of Forestry and Fire Protection is required for the timber operation.

5. If the conversion should fail or be abandoned, the Director of Forestry and Fire Protection may direct the permit holder to replant with trees. This requirement would apply to those parts of the conversion area where timber harvesting or other

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JAN 12 2016

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conversion activities have reduced stocking below Forest Practice standards. If the permit holder should fail to comply, the Director may have the work done. The permit holder would then be liable for the costs, including necessary site preparation.

6. Timberland Conversion Permits are subject to requirements of the California Environmental Quality Act (CEQA) and its related administrative regulations. An Environmental Impact Report (EIR) or Negative Declaration (Neg. Dec.) must be submitted to the State Clearinghouse by the lead agency for the prescribed review period of 45 days for an E.I.R., 30 days for a Neg. Dec., and then be adopted by the lead agency before the conversion permit can be issued. If a local government zoning change or use permit is required, the local government agency is the lead agency. Otherwise, the California Department of Forestry and Fire Protection is the lead agency.

7. Special requirements and procedures apply to conversion permits for immediate rezoning from TPZ, are generally required whether timber operations are involved or not.

8. DO NOT APPLY for a Timberland Conversion Permit when (1) forest lands are NOT in a Timberland Production Zone (TPZ) AND (2) when a residential subdivision is planned. Instead, the owner should first apply to county government for the proper (subdivision) use permits and approval of a tentative subdivision map. With these documents, the owner is eligible to file, with the Department, the "Notice of Exemption for Timberland Conversion Permit for Subdivision", and a "Timber Harvesting Plan".

9. NOTICE: The above information is only a summation for general situations in timberland conversion. For detail, and the supporting authorization, see:

Timberland Conversion: Public Resources Code §§4621-4628

Forest Practice Rules, 14 CCR:
Coast District, §§911-929.7
Northern District, §§931-949.7
Southern District, §§951-969.7

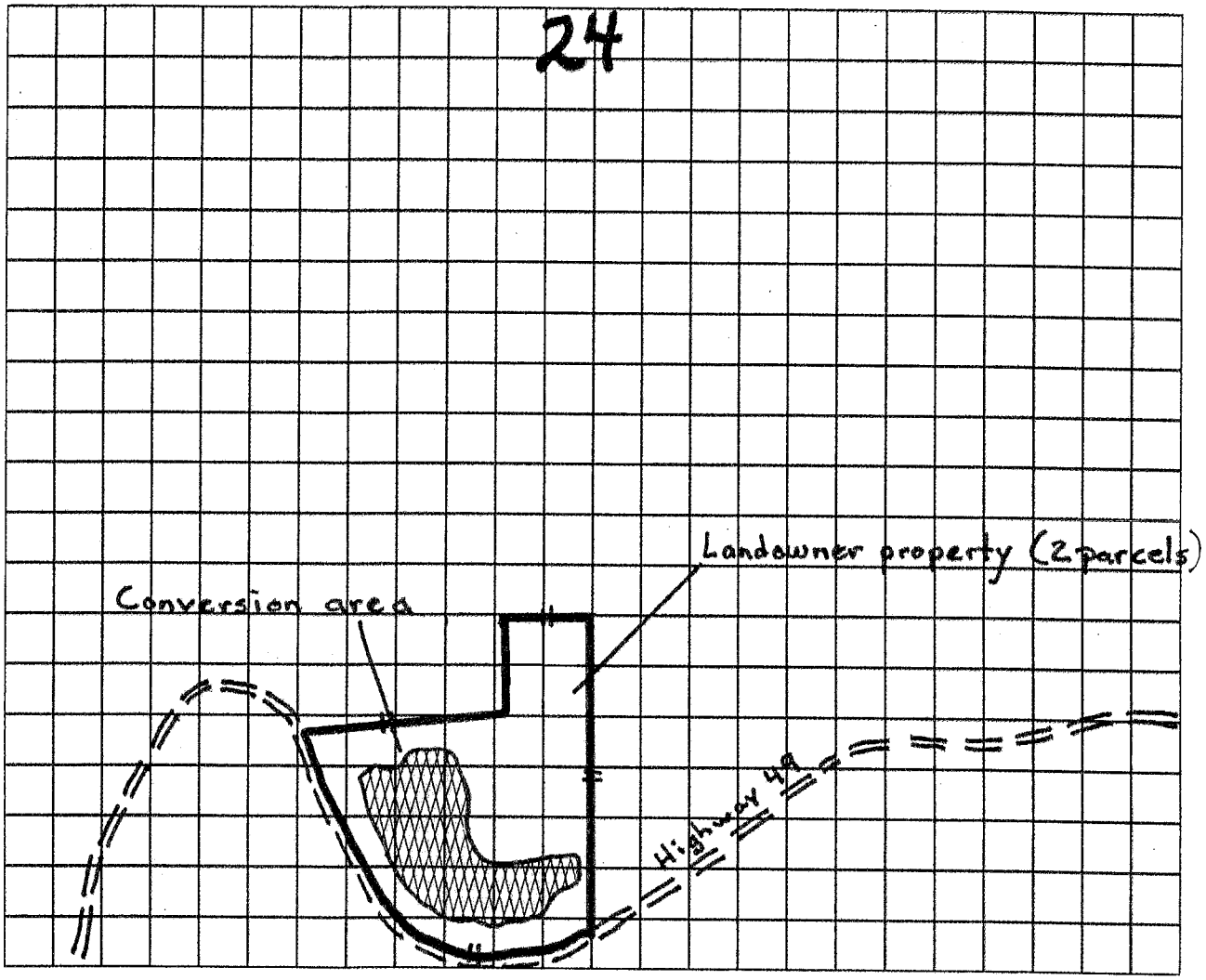
Related regulations, Board of Forestry and Fire Protection, 14 CCR:
§§895-909.1
§§1020-1115.3

California Environmental Quality Act (CEQA):
Public Resources Code §§21000-21177
CEQA Guidelines:
14 CCR §§15000-15387

TIMBERLAND CONVERSION PLAT

Applicant's name: Anders Dupen

Section(s) 24 Township 19N Range 8E Mount Diablo Base Meridain



Scale: 1 inch equals 600 feet

Show section numbers in center of section plat. Entire plat may be used as one section or as halves of adjoining sections if need for large scale detail.

Note: The conversion parcel is NOT located in a TPZ (timber production zone), NOT located in a Coastal Zone, and NOT located in a Special Treatment Area. Highway 49 is a scenic highway corridor, however there will be no operations associated with this timberland conversion found within 150' of Highway 49.

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TIMBERLAND CONVERSION PERMIT APPLICATION AND PLAN

APPLICATION

1. Pursuant to Sections 4621-4628, Resources Code, and Regulations contained in Title 14, California Code of Regulations, I (We)

Anders M. Dupen
Name(s)

P.O. Box 44, Camptonville, California **95922**
Address(s) Zip

hereby apply to the Director of Forestry and Fire Protection for a Timberland Conversion Permit to exempt the timberland described herein, and shown on the attached map or plat as a part of this application, from forest practice stocking requirements for conversion to a non-timber growing use.

2. Property description of area to be converted.

Subdivision(s)	Sections	TWP	RNG	B&M
Portions of the SE of SW ¼	**Section 24**	**T19N**	**R08E**	**Mount Diablo**

3. Acres of timberland to be converted: **7 acres (total project area of THP will include 20 acres)**

4. The owner(s) of record of this timberland is (are): **Anders Dupen**

5. The recorded interest in this timberland is held under deed(s) dated **10/31/2011 & 08/13/2014,** under Recorded Document number(s) **2011R-013011 & 2014R-008378** official records in **Yuba** County. Assessor's parcel numbers: **Yuba County 054-240-008 & 009**

6. This timberland is assessed in the name of: **Anders Dupen**

7. I (We) intend to use this timberland in the future for: **Orchard crops (in particular - blueberries)**

8. Conversion will begin about **October 1, 2016** and be completed by **October 1, 2021.**

9. Is all or part of the conversion area in a Timberland Production Zone (TPZ)?

__Yes ✖ No If yes, show the area in TPZ with diagonal black lines on the conversion plat or map, and complete the following items (a) through (e).

a. Is check or money order for $100, payable to the California Department of Forestry and fire Protection, enclosed with this rezoning application as required? __Yes ✖

b. Has application for immediate rezoning from TPZ been made to the county or city having property tax jurisdiction? __Yes ✖

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c. If applied for, has the county or city tentatively approved immediate rezoning from TPZ?
___Yes___No If yes, give date

d. Is there any other property zoned TPZ within one mile of the boundary of the TPZ area proposed for immediate rezoning?___Yes ___ No

e. Are there any proximate non-TPZ lands (on or off the property containing the TPZ proposed for rezoning) suitable for the proposed conversion use?___Yes___No
If no, explain why such non-TPZ lands are not suitable.

10. a. Is a check or money order for the basic $600 CALFIRE timberland conversion fee (payable to the California Department of Forestry and Fire Protection) enclosed with this application?

___Yes _✖_No (See Title 14, 1104.2 CCR)

b. Is a check or money order for the $1,250 Department of Fish and Wildlife impact fee (Sec. 711.4(d)(2), Fish & Game Code) payable to the State ofCalifornia, enclosed? ___Yes _✖_No

___ I will submit the fee when notified seven days in advance of filing the Notice of Determination and issuance of the permit.

11. a. Is any of the conversion area in a Coastal Zone as provided for by the California Coastal Act of 1976?

___Yes _✖_No. If yes, show the area in the Coastal Zone by horizontal black lines on the conversion plat or map, and complete the following item (a).

a. Has a Coastal Zone permit for the proposed conversion use been issued?
___Yes___No If yes, date of issuance_____, 20____

12. What element(s) of the county or city general plan apply to the area within which the timberland proposed for conversion is located? **Yuba County Zoning Ordinance (Title XII of the Yuba County Code).**

13. What is the zoning classification for all or part of the proposed conversion area that is neither TPZ nor coastal Zone (use the designated zone term such as "Agriculture-Forest," not a letter-number designation)? **Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial [A/RR-20 & A/RR-C]**

14. Does the county, city or a district have a permit zoning or other approval jurisdiction for the project that is the purpose of the conversion?___Yes _✖_No. If yes, complete the following, items (a) through (d).

Under Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code) the following uses are permitted:

Subsection 3) Growing and harvesting any agricultural crop or product.

Subsection 13) Stands for the purpose of displaying and selling agricultural, floricultural or farming products which are grown or produced on the premises as well as related agricultural products, provided that there shall not be more than one stand per lot or parcel of land. The ground coverage of the stand shall not exceed 300 square feet, and it shall be set back from the street or highway right-of-way a

distance of at least 20 feet. Such stand must be of good frame construction.

a. Name of local government entity: **N.A.**

b. Name the type of permit, zoning or approval required: **None**

c. Has the local government agency submitted an environmental impact report or negative declaration to the State Clearinghouse as required by the California Environmental Act (CEQA) and Regulations?

___Yes _✖_ No What is the State Clearinghouse number?

(The Timberland Conversion Permit cannot be issued until this is done and local government adopts the documents.)

The intended use is already covered under Yuba County's Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code). The County does not require an EIR or negative declaration to use lands of this type of zoned parcel.

d. Has the local government granted the necessary approvals, zoning, or permits required for the project? _
_✖_Yes ___ No

If no, explain in the appropriate section of the Timberland Conversion Plan.

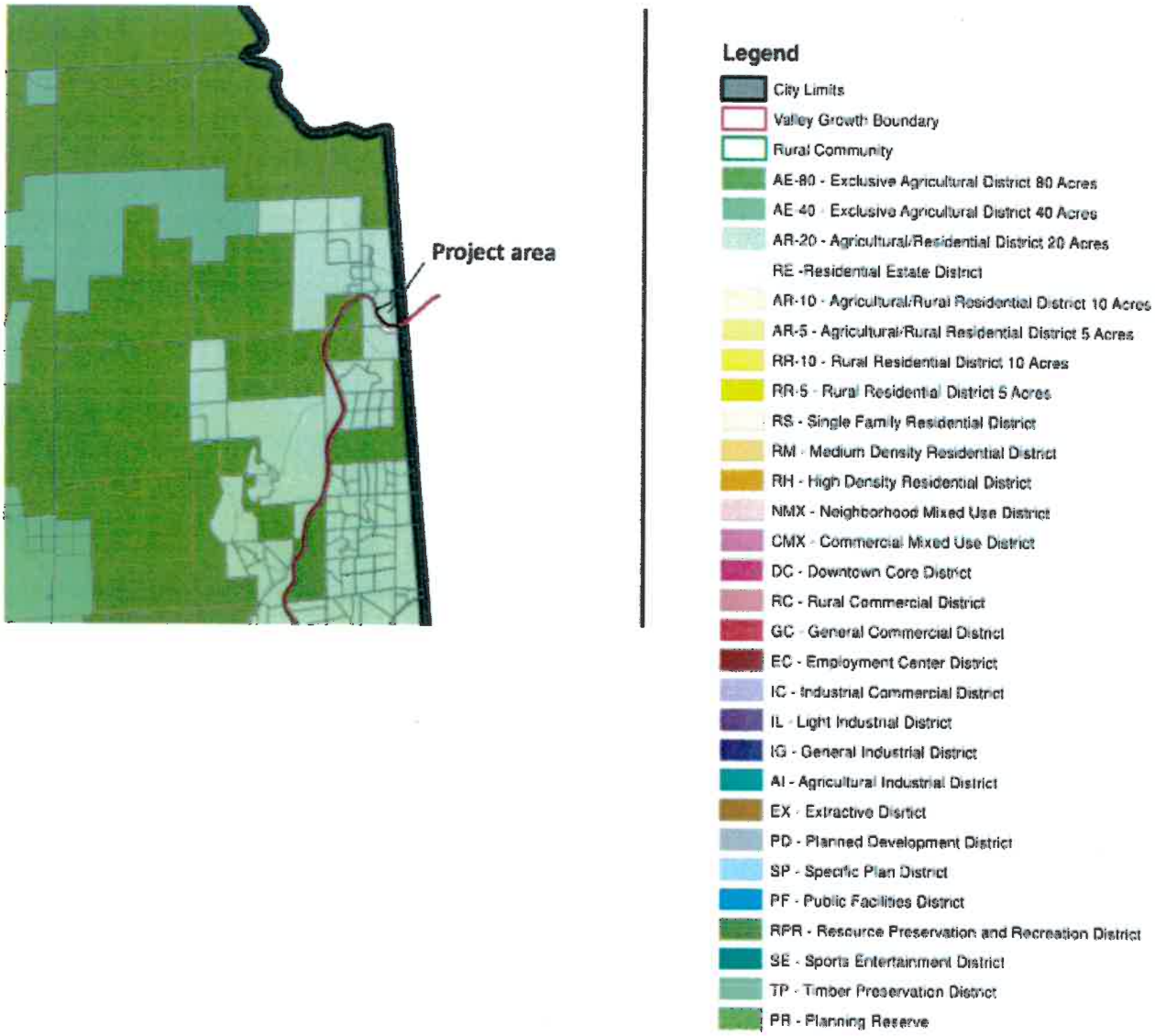
The intended use is already covered under Yuba County's Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code). No county approvals, zoning changes or permits are required.

15. a. Timberland Base. How many acres of commercial timberland will be removed from the timberland base in the county where the conversion will happen? Provide the number of acres of commercial timberland existing in the county and the percentage of that to be converted, and include a discussion of the cumulative effects of such a proposed change. **The county has zoned this property as Agriculture/Rural Residential and Agriculture/Rural Residential - General Commercial, not commercial timberland.**

According to the Yuba County Development Code the purpose of the A/RR zone is to:

1. Recognize parcels located within the Natural Resources General Plan designation that have previously been subdivided into parcels less than 20 acres in size that are predominantly utilized for very low density rural residential uses and small agricultural operations.
2. Prevent further encroachment of residential and other incompatible uses into agricultural and natural resource areas.
3. Serve as a transition between agricultural and natural resource lands and rural residential or urban development (I am attempting to manage both my orchard and timberland in this transition zone.

b. Effects on Adjacent Timberlands. What is the land use and zoning of the contiguous parcels around the conversion area? Include a map of the area and the contiguous parcels?



16. All property owners must sign the following affidavit unless the owner is a partnership, corporation, or other organization, in which case the signer must be a partner, corporate officer, or organization officer respectively. An owner's agent may sign the affidavit, if power of attorney designating the agency, and signed by all the owners, a partner, or corporate or organization officer, for these respective kinds of ownerships accompanies the application. If the affidavit or power of attorney is signed in a state other than California, the signature(s) must be notarized.

AFFIDAVIT

I (We) own the herein described property, and declare a bona fide intent as defined in Section 1100(b), Title 14, California Code of Regulations to successfully complete conversion of the herein described timberland for the stated purpose in accordance with the conversion plan and plat or map, all hereby acknowledged as a part of this application, and in accordance with the timberland conversion permit, timber harvesting plan, and conditions required through the California Environmental Quality Act and related regulations.

I (we) understand that if the conversion fails or is abandoned, that I (we) can be required to restock with trees those areas that do not comply with forest practice stocking requirements, so that such areas meet forest practice stocking requirements. I (we) understand that if we fail to do so, the Director of Forestry and Fire Protection can have the restocking done, including necessary site preparation, and charge me (us) with the costs.

I (we) hereby declare under penalty of perjury that I (we) have fully read this application, conversion plan and plat or map, and that the information given therein is correct to the best of my (our) knowledge.

Executed on 02 01 16, at 17962 STATE HWY 49 CAMPTONVILLE

State of CA.

Signature of Property Owner(s)

LAND OWNER
Title

(If signing for a partnership, corporation, or other organization, signer must be a partner, corporate or organization officer, or furnish power of attorney authorizing signature as owner's agent. If a signatory is in a state other than California, he must sign this affidavit before a Notary Public.)

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TIMBERLAND CONVERSION PLAN

INSTRUCTIONS

Applicants must complete the General section of this plan and such additional sections as may be appropriate for the specific future use to which the timberlands are to be converted. You may insert supplemental pages including maps to provide complete answers or explain a use not covered. Code the supplemental or continued answers by using the appropriate question number, such as General-7, Grazing-5, etc. Additional information may be required as appropriate.

The Timber Harvesting Plan, upon approval by the Director of Forestry and Fire Protection for the timber operations for this timberland conversion, thereby becomes a part of this conversion plan.

In addition to the Timber Harvesting Plan itself, either the Director or the environmental review process may describe measures to reasonably ensure the success of the conversion or to provide additional environmental protection. When the applicant agrees to these stipulations as conditions for the issuance of the Timberland Conversion Permit, they shall become a part of the Timberland Conversion Plan, either incorporated therein or attached as a supplement thereto.

GENERAL

Anders Dupen

Timberland owner(s)

1. The responsible person who may be contacted if different from those given in the application section.

Terry L. Rogers	**1715 Grand Court, Paradise CA 95969**	**(530) 321-1401**
(Name)	(Address)	(Phone)

2. Have you received professional advice or assistance in planning this conversion?

✖ Yes___ If yes, list name and address of people professionally trained in land management who are advising you on this conversion.

Terry Rogers, RPF
California Registered Professional Forester
ISA Certified Arborist
Paradise Ridge Forestry
1715 Grand Court, Paradise CA 95969
(530) 321-1401

3. Do you have, or can you obtain, sufficient financial resources to carry out this conversion?

✖ Yes___

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Should this conversion fail or be abandoned, do you have, or can you obtain, sufficient financial resources to return the land to timber production?

_✖_ Yes___

4. How will the timber be logged? (Will all or only some trees be cut? Will area be tractor-logged or cable-logged, etc.?) Describe:

The conversion area total acreage is 7 acres. This conversion area is depicted as "Conversion Area" as part of the Operations Map. The conversion area has been clearly flagged on the ground and will be available for inspection during the CALFIRE THP preharvest inspection. The intent is to remove all trees in the unit since the intent is to establish an organic garden growing area.

Suitable forest products such as sawlogs will be the primary stage of the resource removed from the project area(s), however, based on current market conditions at the time of timber harvest, biomass, wood chips and/or firewood might also be removed. Tractor logging will be the timber yarding method utilized within the conversion area (as well as the remainder of the THP area). There are no watercourses adjacent to the timberland conversion area and only one off-property class III watercourse (as defined by the California Forest Practice Rules) is present as a part of the entire THP.

5. Slope percent ranges in gradient generally: **0% to 10%.** Slopes face generally toward the (direction, N, NE, etc.): **Slopes on the plan area generally have a southern or western aspect.**

6. EROSION CONTROL PLAN: Describe IN DETAIL special measures to be taken during and after logging, including road and skid road construction, methods to prevent erosion, protect soil, and protect local streams, ponds, or lakes on or near the conversion area, monitoring by whom and when, action planning in case the monitoring finds additional needs for erosion control actions, when reporting to CDF will be necessary, include who will be responsible for which tasks, and include a map locating the erosion controls.

Timber operations proposed as a part of this timberland conversion shall be done in conformance with the Forest Practice Rules. Existing seasonal roads on the plan area will be used to access timber. Generally, minimal tractor blade and grader use will be required to provide for passage of log trucks on the existing roads. Exceptions to this include two small sections of road construction (330' on one section and 350' on the other) associated with the timber harvest plan. These small construction road segments are on gentle slopes, impact no watercourse crossing(s), and are in locations where old skid roads are already in place. The construction segments are necessary to provide a logical road system access for the conversion, timber harvest plan, and future safe vehicular traffic involved with the conversion work and work following the establishment of the orchard associated with the conversion. One segment is actually inside the conversion area. The other is on property of a neighbor (who will be part of the THP - additional Landowner). This road construction will tie into an old road system which is not found in the conversion area.

The entire conversion area will be harvested using standard tractor skidding. Skidding activities will take place on gentle slopes, as the conversion units are generally located on less than 10% slopes. There are NO slopes that exceed 50% or on unstable areas as a part of the proposed operation. There are no watercourses located on-site.

The following guidelines concerning road and skid trail construction or reconstruction pertain to this conversion:

1. Excess material from road/skid/landing construction/reconstruction shall be deposited and stabilized in a manner or in areas where downstream beneficial uses of water will not be adversely affected.
2. Any tree over 12 inches d.b.h. with more than 25% of the root surface exposed by road/skid/landing construction/reconstruction, shall be felled concurrently with the timber operations.
3. Drainage structures and drainage facilities on logging and skid roads shall not discharged on erodible fill or other erodible material unless suitable energy dissipators are used. Waterbreaks shall be located to allow water to be discharged into some form of vegetative cover, duff, slash, rocks, or less erodible material wherever possible, and shall be constructed to provide for unrestricted discharge at the lower end of the waterbreak so that water will be discharged and spread in such a manner that erosion shall be minimized.
4. Drainage facilities shall be in place and functional by October 15 for all truck roads. An exception is that waterbreaks do not need to be constructed on roads in use after October 15 provided that all such waterbreaks are installed prior to the start of rain that generates overland flow.
5. No road/skid/landing construction/reconstruction shall occur under saturated soil conditions that may produce sediment in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.
6. Completed road/skid/landing construction/reconstruction shall be drained by outsloping, waterbreaks and/or cross-draining before October 15.
7. Slash and other debris from road/skid/landing construction/reconstruction shall not be bunched against residual trees which are required for silvicultural or wildlife purposes, nor shall it be placed in locations where it could be discharged into any order of watercourse.

7. a. Is an erosion control plan required by a local government entity? ___Yes ✖ No

b. If yes, the approved erosion control plan must be enclosed and incorporated into this plan.

8. Describe methods of slash disposal and woody vegetation treatment, and any additional land treatment measures that will bp taken:

It should be noted: According to the Yuba County Development Code and the Yuba County Zoning Ordinance (Title XII of the Yuba County Code) the following uses are allowed (encouraged) in regards to parcels with A/RR-20 and A/RR-C zoning (the present zoning codes for the parcel associated with this conversion). Under Chapter 12.25.020 - Permitted Uses of the Yuba County Zoning Ordinance (Title XII of the Yuba County Code):

Subsection 3) Growing and harvesting any agricultural crop or product. This subsection pertains to the conversion area (see plat and attached maps).

Following removal of commercial forest products, the remaining non-merchantable or noncommercial timber, other vegetation, and stumps will be removed and piled by tractor using a "brush rake" and/or an excavator. Logging slash and clean residual vegetation may be chipped for use elsewhere within the project area for erosion control purposes. Otherwise, stumps and roots will be mechanically concentrated in piles and/or windrows and burned. This material will generally be piled on the contour, away from orchard boundary areas but somewhere within the conversion area(s). During construction of burn piles, care will be taken to minimize the inclusion of non organic material so that the piles burn most efficiently. Following piling, the ground surface slopes will be left in as near their natural position as possible. Large holes created by stump removal will be backfilled and smoothed to facilitate ripping operations. These land clearing operations will be done after timber harvesting and before winter rains. If the winter period is approaching and land clearing cannot be completed prior to October 15th of the operations season, skid

trails used during timber operations will be waterbarred and cover crops or seeding and mulching will be applied to exposed soil where appropriate to lessen the potential for erosion. No land clearing or preparation will take place in the winter period. The California Forest Practice Rules concerning water quality protection will apply to the land clearing and preparation phase of the project.

During the land-clearing phase, surface disturbance will be smoothed wherever possible so that cat tracks, berms, or other ground disturbance do not channel erosion. Piles will be burned at the soonest practicable time, depending on safety, weather and regulatory requirements.

Once the land clearing is complete, the next phase of site preparation will be the initial orchard development. Initial orchard development will consist of sub-surface ripping to allow for the incorporation of soil amendments, to improve soil permeability, and to allow the removal of subterranean organic matter and rocks. Following sub-surface preparation, organic material generated will either be piled and burned or removed from the site. Following burning, the soil surface will be smoothed, and minor re-contouring may take place using tractor equipment.

Slash and woody debris may not be burned by open outdoor fires except under permit from the appropriate fire protection agency, the local air pollution control district or air quality management district. The burning will occur on my property (only) where the slash and woody debris originated

9. If conversion fails, or is abandoned for any reason, how will the area be returned to timber growing use to meet the purpose of the Forest Practice Act? Describe land preparation, seeding or planting measures, pest control measures, and weed abatement/competition control. Explain when the services of a Pest Control Advisor would be required:

If conversion fails, all timberland areas that are cleared will be re-planted with Group A seedlings to meet the stocking standards of the Forest Practice Rules. Seedlings shall be planted on a 10-foot by 10-foot spacing and will come from appropriate seed sources. These standards shall comply with 14 CCR 932.7 (b)(1)(A). Replanting shall be conducted under the direction and supervision of a Registered Professional Forester. All irrigation materials (drip lines, below ground supply lines, etc.), posts, stakes, fence and all other orchard-related equipment and materials shall be removed and disposed of in a legal manner.

10. Area on which conversion will be completed within 5 years: __7__ acres.
Date by which logging will be completed: **November 15, 2017.**
Date by which final conversion to new use will be completed: **October 1, 2019.**
Note: Conversion permits are issued for 5 years and may be extend for just cause.

11. What assurances can you give that this conversion is feasible:

The conversion area (see plat and attached maps) is land proposed for conversion to orchard (blueberries is my initial choice for this site, however strawberries and raspberries possibly could be harvested from this orchard in the future) development and has been selected because of the favorable topography, climate and soils. A well is already in place (located within 140' of the upper end of the large conversion area). Recorded history of this area of Yuba County indicates that much of the land area around Oak Valley and south toward Camptonville contained farms raising garden and orchard crops (everything from grapes to potatoes, etc.) and livestock (cattle, pigs, chickens, etc.). Once the gold miners moved out (late 1800's - early 1900's) farm community sizes shrunk. Evidently, the existence of the farms was tied to the larger population that demanded gods and services as a way of life for the era. The concept still remains the same - this area of the Sierra Nevada is more than capable of producing agricultural crops.

Otherwise, these parcels associated with this conversion would not be zoned such.

High quality blueberries (and other selective berry crops) have a fantastic chance to survive and thrive at this location of the Sierra Nevada, especially given the acidic nature of the existing soil. There are many, many articles written about the growing of blueberries, and I suggest the reader peruse the article http://ucce.ucdavis.edu/files/filelibrary/5842/25993.pdf - Growing Blueberries in the Sacramento Region to gain a better insight into what is required to insure this crop can sustain itself in the environment associated with this project area. Two wells already exist on the two parcels I own.

12. Describe the specific plans for development of the new use:

I intend to commence blueberry orchard (and most likely other orchard/berry crops) development as soon as possible. This will give me ample time to prepare for planting (best done in the early dormant spring months). Blueberries will not produce as soon as you put them into the ground. There is a waiting period of at least 2 or 3 years old before the plants mature and establish themselves enough to bear fruit. Thus, time is of the essence.

List and attach any documents and sketches illustrating or showing proposed new use.

	MAP OR REPORT	NOTES
✔	Vicinity Map	Attached
✔	Operations Map	Attached
✔	Conversion/THP Map in color	Attached
✔	Soils Map	Attached
✔	Soils Aerial Photograph	Attached
✔	Cumulative Impacts Map	Attached
✔	Plat Map of the Conversion Area	Attached - found on page 1
✔	Aerial photos	Attached
✔	Estimated Surface Soil Erosion Hazard	Attached
✔	Annual Precipitation in Yuba County	Attached
✔	Domestic Water Supply Proof of Publication	Attached
✔	Sample Domestic Water Supply Letter	Attached
✔	List of Domestic Water Supply Letter Recipients	Attached
✔	Special Species Status/Botanical Report	To be submitted with THP - in Sections II, III, & IV
✔	Biological Assessment Report	To be submitted with THP - in Section III & IV
✔	Alternatives Analysis	To be submitted with THP - in Section III
✔	Timber Harvesting Plan Sections I, II, III	To be submitted
✔	Cumulative Impact Assessment (THP Section IV)	To be submitted with THP
✔	Archaeological Report	To be submitted with THP

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AGRICULTURE-GRAZING

The following additional information is needed for lands to be devoted to agricultural purposes, including grazing.

1. Has the suitability of the soil for the intended agricultural use been determined through examination by and in consultation with farm advisors, Soil Conservation District specialists, or other qualified professionals?

   _✖_ Yes____ No

   If YES, give name and title of specialists and describe findings:

   Soil analysis and complete forestry work necessary for the thorough completion of a timber harvest plan was completed by Terry L. Rogers, California Registered Professional Forester and Certified Arborist. It should be noted that the intended agriculture use for the "conversion" (see plat and attached maps) unit will be for orchard.

   Findings: Soils within the project area are considered to be acidic. The Jocal-Sites-Mariposa complex pH averages 5.6 to 6 throughout the A and B horizons. This complex is generally comprised of 50% Jocal (what in the past was referred to as Josephine Soils), 20% Sites, and 15% Mariposa soils. According to various official surveys of soils throughout the foothills and upland regions of the Sierra Nevada (including Soils Surveys of Yuba, Western Nevada, Placer and Eldorado Counties, the "UC Davis, NRCS, University of California Agriculture and Natural Resources Soilweb" website and the "NRCS Web Soil Survey" website) all components of this complex can be utilized for orchard and general farm crops when irrigated. The overall common use for a soil complex as described is timber production.

   However, as with all organic farms I have been associated with through the years, it is evident that each farmer has their own method of enriching the soils associated with the crop that is chosen to grow. It can be as simple as enriching the soil in each planting hole by mixing in a bucketful of composted leaves or pine needles, which will help maintain acidity and provide a long-lasting source of humus for optimum nutrition, aeration, and moisture. It can be more sophisticated when enriching the entire orchard/garden/farm area. I will work some organic matter into the overall surrounding orchard soil before planting each season. If he is using unfinished (raw) organic matter like leaves or undecomposed manure, he should add it to his soil at least one month before planting. That way it will break down in the soil before planting. He then should add finished compost and manures just before planting.

2. Describe the soils now supporting timber or other woody vegetation: (clay, loam, sand, decomposed granite, etc.)

Soil series	**Jocal-Sites-Mariposa complex (2 to 30 percent slopes) [JYE]** **complex is generally 50% Jocal, 20% Sites clay loam, 15% Mariposa gravelly loam, 10% Hurlbut, 5% Aiken**
Map Unit Setting	**Mean annual precipitation: 50 to 75 inches** **Mean annual air temperature: 53 to 57 degrees F** **Frost-free period: 160 to 190 days**
Depth to bedrock	**Minimum: 33"** **Average: 75"**

Description of setting	**Landform: Tabular volcanic ridges and colluvial side slopes of andesitic flow**
Properties and qualities	**Runoff: rapid** **Hazard of water erosion: severe** **Available water holding capacity: 8.5-11 inches** **Soil material throughout profile as much as 10% cobblestones in places**
Drainage class	**Dominant condition: well drained** **Wettest condition: well drained**
Typical profile	**0 to 4 inches: Brown loam** **5 to 9 inches: Yellowish red loam** **10 to 75 inches: Reddish, yellow, pink and light clay loam and silty clay loam**
Vegetation	**Conifer-hardwood forest & understory of mostly brush, some forbs and sparse grass**

Give soil series if known:

Jocal-Sites-Mariposa complex (2 to 30 percent slopes) [JYE]: This complex is generally 50% Jocal, 20% Sites clay loam and 15% Mariposa gravelly loam, 10% Hurlbut, & 5% Aiken (see above)

Soils types are indicated on the Soils Map and Soils Photo (attached to this document). The Erosion Hazard Rating Calculations for the plan area are also included with this report.

3. Describe soil treatments necessary or desirable for the new use: (ripping, discing, soil conditioners, fertilizers, mulch, etc., and rate of application).

Blueberries thrive in areas where the soil is high in organic matter. Once garden beds are established there will be a need for additional organic matter to improve the soil and provide nutrients for beneficial organisms that live in the soil. I plan to spread 4 to 6 inches of organic material over the bed and work it into the soil to a depth of at least a foot. I plan to use organic materials that help acidify the soil as much as possible. These include composted oak leaves, fir bark and pine bark. I will wait at least two months before planting to allow the organic matter to combine with the soil. If I use uncomposted carbon-based materials such as wood chips, sawdust or leaves, it might become necessary to add nitrogen to the soil to replace that lost during the process of breaking down the materials, and wait at least six months before planting. A rule-of-thumb is it takes approximately 3 cubic yards of compost to spread a 1-inch-thick layer over 1,000 square feet. Work in the organic matter to a depth of at least 6 inches. The best way to spread organic matter is with a wheelbarrow and a shovel, iron fork, and/or rototiller.

It is also important to note: blueberries need soil with excellent drainage. Adding organic matter improves the drainage of most soil, but if the soil doesn't drain quickly after I have made the necessary improvements, I will consider planting blueberries in raised beds or containers. These alternative planting methods are essential if I should encounter any unknown hardpans in the top 2 feet of soil.

4. How will other woody vegetation left after logging be eliminated? (check method)

✖ Mechanical Clearing _____**Chemical Eradication** **✖ Burn** _____**Other (specify)**

Following removal of commercial forest products, the remaining non-merchantable or noncommercial timber, other vegetation and stumps will be removed and piled by tractor using a "brush rake" and/or an excavator. Logging slash and clean residual vegetation may be chipped for use elsewhere within the project area for erosion control purposes or soil conditioning. Otherwise, stumps and roots will be mechanically concentrated in piles and/or windrows and burned.

This does not preclude me from hiring someone who operates an "in-woods chipper" or a "tub grinder" machine, which parks at a roadside landing to grind piles of forest waste-wood and tree debris producing wood chips and biomass fuel useable in a number of commercial products. The chipper machine grinds the woody material, and then dumps the ground-up wood into a waiting truck. The chipper operator runs a purpose-built, large portable machine, which is equipped to grind the woody logging debris ("slash"), thereby turning the wood into chips or hog fuel, to then be loaded onto semi-trucks or chip vans. This is a future alternative based on market conditions, an overwhelming amount of slash, and the price for someone to do this type of work on-site.

If burning operations shall be conducted, they shall be in conformance with the Yuba County Air Pollution Control District and California Department of Forestry and Fire Protection rules and regulations. Smaller branches, leaves and other smaller woody vegetation may be left on the ground and cultivated into the soil with tractor implements. This soil amendment process will attempt to retain the natural biomass on the project site as much as possible.

5. How will natural woody growth be prevented from revegetating the area? (Check method).

__✖__ Mechanical Clearing _____Chemical Eradication __✖__ Burn _____Other (specify)

All stumps will be removed and burned thus preventing stump sprouting as a revegetation problem within the orchard conversion area. During the orchard operational phase, natural woody growth and weed growth within the orchard conversion area will be prevented through a combination of methodologies (natural, mechanical and chemical), depending on the specific site and situation. Permanent cover cropping (of either Kentucky blue grass or fescue most likely) between the orchard rows will provide a competitive barrier to weeds and woody growth. The first cover crop will be planted concurrent with blueberry bush planting. Permanent cover crops will be maintained throughout the mature orchard phase. Mechanical control will include manual hoeing and small tractor mowing (between orchard rows). Chemical control, if utilized, will need to be discussed and in accordance with the recommendations of a Licensed Pest Control Advisor.

6. What kind of rate of application of seed or kind and spacing of planting stock will be used?

The planting stock will most likely involve the following: High bush Bluettas, Spartans, Blue Rays, Blue Crop, O'Neills and Dukes. The Blueberry planting stock should be planted during the dormant season (mainly December and January) and spring when they are most available at nurseries, but potted plants can also be planted in the summer. They should be planted on a small mound or berm if the soil is poorly drained. Set the soil line on the trunk of the plant at the same level as the soil, or slightly above if settling is expected. If the plant is older and root-bound, the outer roots should be loosened or pulled away before planting. After planting, irrigate and cover the soil with 4 to 6 in. of mulch. Blueberries should be spaced 3 ft. apart for a hedge, or 4 to 5 ft. apart for shrubs.

7. If conversion is for grazing, what kind and number of livestock are being grazed now on this property?

Not applicable. This conversion is for orchard use only.

What kind and number of livestock will be grazed after conversion is completed?

Not Applicable.

8. What water developments exist now on the property?

The property consists of two parcels and each parcel contains a well. Review operations map for the location of the well heads.

9. What additional water developments are planned for conversion?

I plan on putting in a 1600 gallon water tank which I shall install near the orchard. I intend to use a poly drip pipe with a good filtration system for irrigation. Drip pipe is inexpensive, reliable, and conserves water. I have chosen to use two straight runs of drip pipe along planted rows.

10. What length of fence exists now in connection with the conversion area?

At present, there is no fencing in the conversion area.

11. How much additional length of fence will be added in connection with conversion?

Approximately 2850 feet of fencing will be required to fence the orchard area. Fencing has to exclude deer, rabbits, racoons and other small rodents. This usually means an electric wire at the top for racoons. I plan to use a 4"concrete strip at the bottom 4" above ground to prevent dogs and other small animals from digging under and to keep wire out of the dirt. Also, I plan to put in at least three 8'-20' wide gates for road use, pedestrian use, small equipment accessibility, and as a means for any trapped animals to escape. In order to minimize adverse impacts to wildlife that result from fencing, only the orchard area will be fenced. No timberland areas will be included in fencing.

As an alternative I may try using "hot tape". IntelliTape (brand name) manufactures strands of this type of tape which can easily be put up around the entire orchard area or critical areas of need. Although the fencing would only be approximately 4' in height this type of fencing sort of "tricks" the deer. It is not so much a physical barrier as it is a psychological barrier. The half-inch wide tape is white, with a black stripe up the middle. Experts sy, for some reason, this configuration tends to scare deer. Deer see only black and white and shades of gray. They don't see color, which is why hunters' blaze orange safety clothing does not scare deer. Anything that contrasts sharply with the natural world immediately catches a deer's eye. The tape also moves like it has a life of its own. It bounces up and down even in a slight breeze. Strong winds make it twist and flutter considerably. I will only have to preset metal T-posts with slotted insulators on them, making for easy on/off of hot tape for machinery passage, mowing, installation and removal. Fiberglass rods should be inserted every five to ten paces between corner posts. I will store the tape on extra large EzeReels (a hand- cranked plastic spool on a metal frame with neck strap which holds more than 1,000 feet of tape each). To apply, secure one end of the tape to an insulator on a corner post, then release the spring-loaded latch on the reel and begin walking, unspooling the tape and slipping it into snap-on plastic polyclips that are already on the fiberglass rods at the right height. Turning the clips about 90 degrees helps take the slack out of the tape.

Bird netting will be needed to protect the orchard crop(s). I plan to construct (at least) 8' to 10' high posts

at the ends of planted rows and in strategic spots along the rows. I will attach a heavy wire to the tops of these posts in order to drape 3/4 inch mesh bird netting over the orchard crops. Most "high bush" blueberry bushes attain no higher than 6' at their full maturity. This netting will be used as needed and then taken down and stored for future use.

12. Describe buildings or improvements now on the property where conversion is (Residence, barn, other farm structures)

The plan area does not contain any improvements as described by your examples.

13. Describe buildings or improvements to be added in connection with the conversion.

At this point in time there are no assurances that any permitted structures will be added to the property in connection with this conversion.

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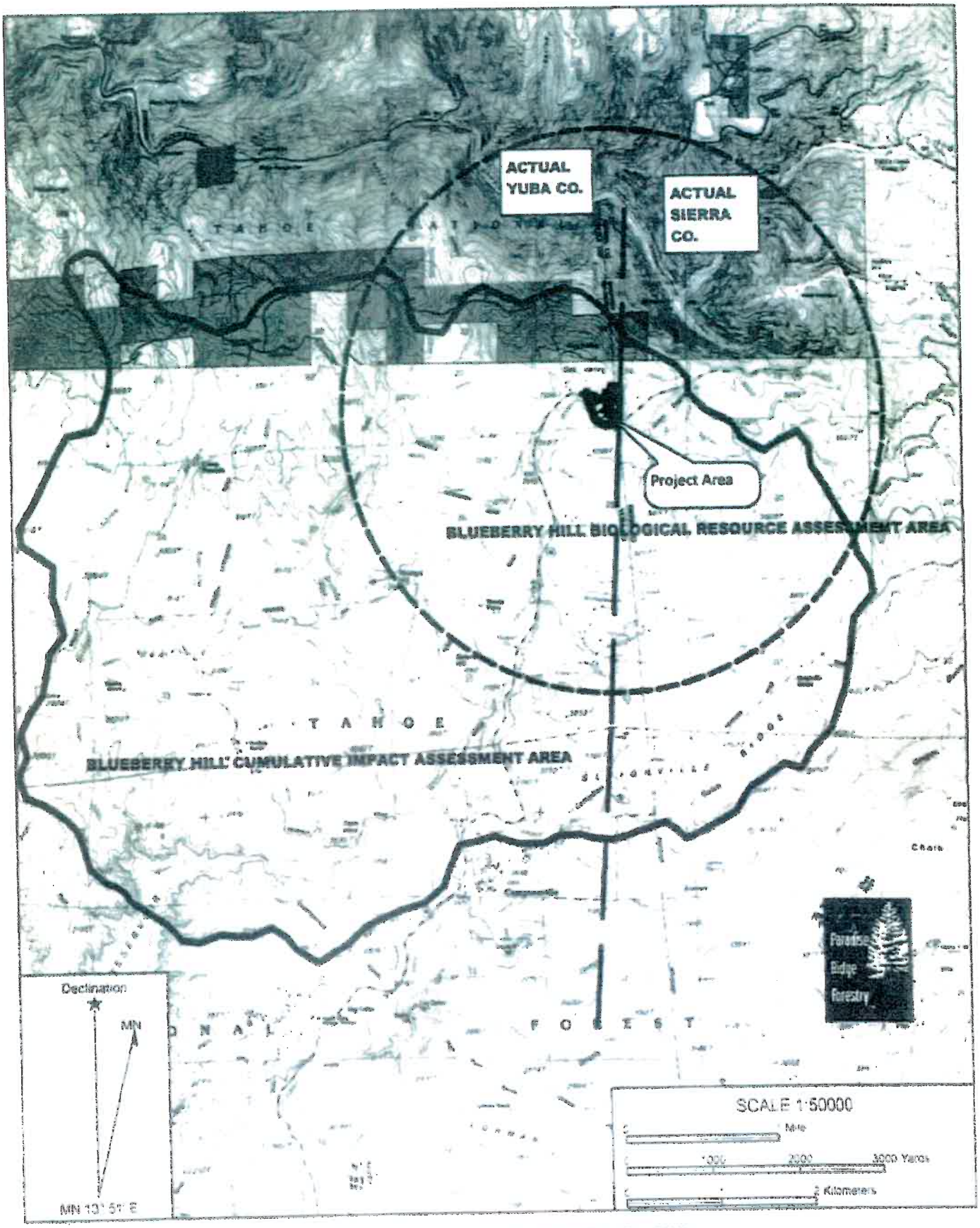
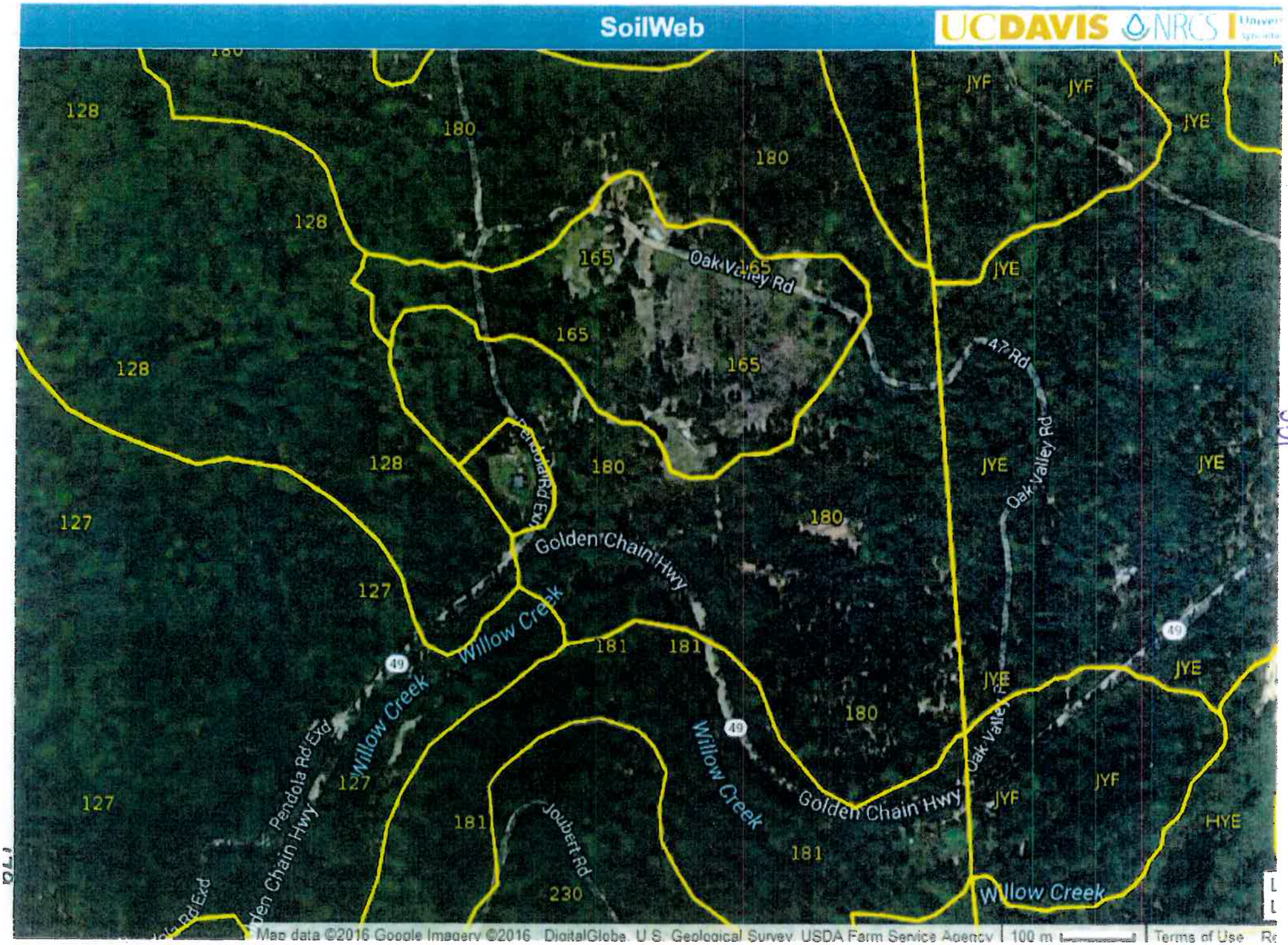


Camptonville & Strawberry Valley Quads
Contour interval: 40'
Scale: 1 inch = 4,166 ft.

BLUEBERRY HILL THP
ASSESSMENT AREAS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UCDAVIS
NRCS
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180
128
165
Oak Valley Rd
165
165
128
128
180
Pendola Rd Ext
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Golden Chain Hwy
127
Willow Creek
181
181
49
Willow Creek
Pendola Rd Ext
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127
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181
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Golden Chain Hwy
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180
JYF
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JYE
47 Rd
Oak Valley Rd
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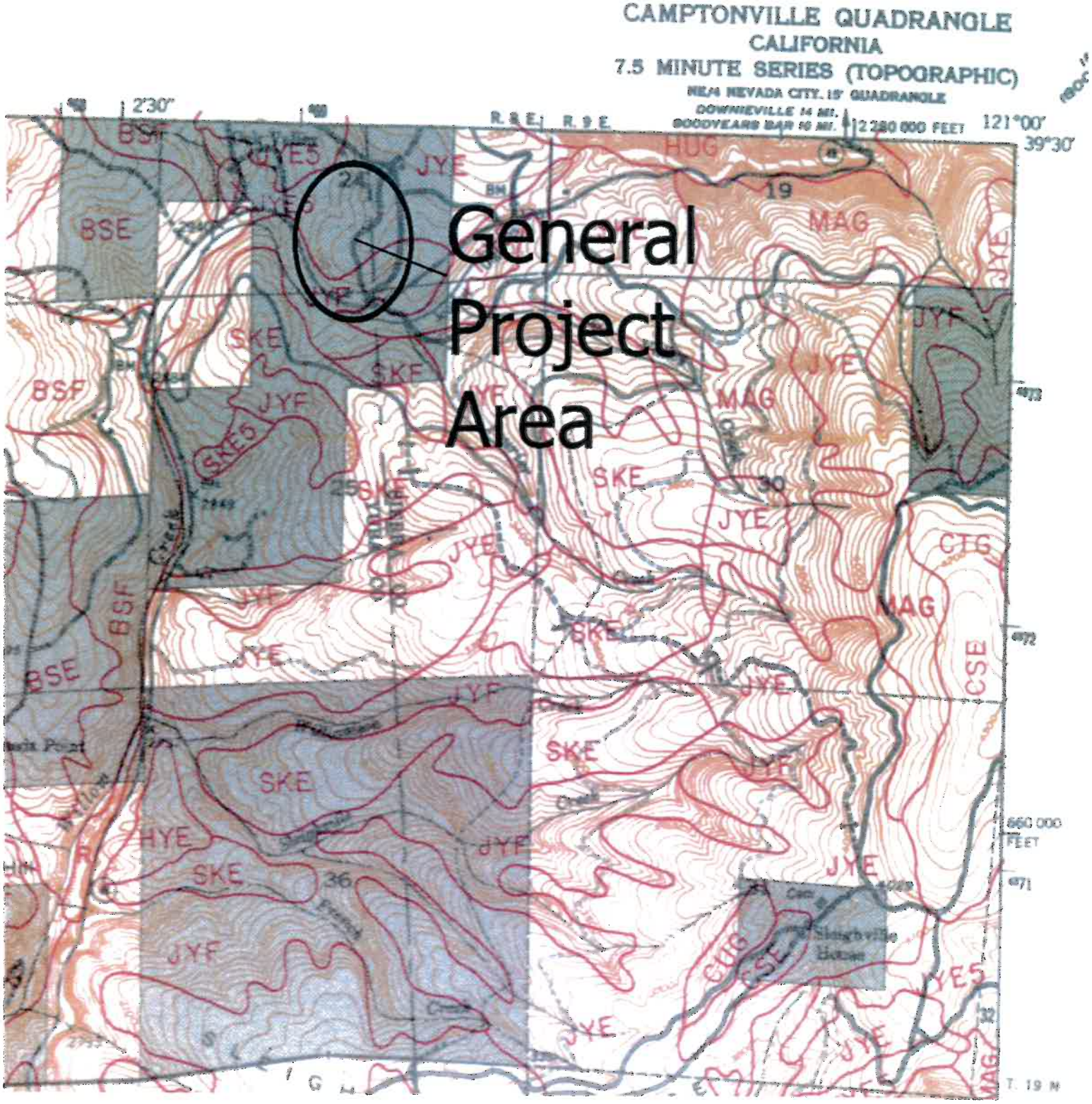

PLAN AREA SOILS MAP

Jocal-Sites-Mariposa complex (2 to 30 percent slopes) [JYE]
complex is generally 50% Jocal, 20% Sites clay loam and 15% Mariposa gravelly loam