Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
Project-Specific Analysis

An Addendum to the CALVTP PEIR
June 2023
CALVTP ID # 2023-12

Humboldt County Resource Conservation District

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Project-Specific Analysis

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LIST OF ABBREVIATIONS

AB - Assembly Bill

ACOE - Army Corps of Engineers

ATV - All-terrain Vehicle

Board - California Board of Forestry and Fire Protection

CAAQS - California Ambient Air Quality Standards

CAL FIRE - California Department of Forestry and Fire Protection

CalVTP - California Vegetation Treatment Program

CDFW - California Department of Fish and Wildlife

CE - Candidate Endangered

CEQA - California Environmental Quality Act

CESA - California Endangered Species Act

CNDDB - California Natural Diversity Database

CNPS - California Native Plant Society

CO2e - carbon dioxide equivalent

CRHR - California Register of Historical Resources

CRLF - California red-legged frog

CRPR - California Rare Plant Rank

CT - Candidate Threatened

CTL - Cut to Length

CVTS - Coastal Vegetation Treatment Standards

CWHR- California Wildlife Habitat Relationships

dbh - diameter at breast height

DPS - Distinct Population Segment

DTSC - Department of Toxic Substances Control

EPA - US Environmental Protection Agency

ESA - Federal Endangered Species Act

ESU - Evolutionarily Significant Unit

ESHA - Environmentally Sensitive Habitat Area

FHWA - Federal Highway Administration

FRAP - CAL FIRE Fire and Resource Assessment Program

GHG - Greenhouse Gas

GIS - Geographic Information Systems

HCP - Habitat Conservation Plan

IAP - Incident Action Plan

IPC - Invasive Plant Council

MAMU - Marbled Murrelet

MCV - Manual of California Vegetation

MIST - Minimum Impact Suppression Tactics

MMRP - Mitigation Monitoring and Reporting Program

NAAQS - National Ambient Air Quality Standards

NAHC - Native American Heritage Commission

NCCP - Natural Community Conservation Plan

NCUAQMD - North Coast Unified Air Quality Management District

NRHP - National Register of Historic Places

NWIC - Northwest Information Center

PEIR - Program Environmental Impact Report

PRC - Public Resources Code

PSA - Project-Specific Analysis

PTEIR - Programmatic Timber Environmental Impact Report

RCNM - Roadway Construction Noise Model

RWQCB - Regional Water Quality Control Board

HCRCD - Humboldt County Resource Conservation District

SOD - Sudden Oak Death

SPR - Standard Project Requirement

SRA - State Responsibility Area

SSC - Species of Special Concern

THPO - Tribal Historic Preservation Officer

USFWS - U.S. Fish and Wildlife Service

USGS - U.S. Geological Survey

UTV - Utility Task Vehicle

WDR - Waste Discharge Requirements

VMT - vehicle miles traveled

WLPZ - Watercourse and Lake Protection Zone

1. INTRODUCTION

Background

The California Vegetation Treatment Program (CalVTP) Program Environmental Impact Report (PEIR) adopted by the California Board of Forestry and Fire Protection (Board) evaluates the potential environmental effects of implementing qualifying vegetation treatments that reduce the risk of wildfire throughout the State Responsibility Area in California. It was designed for use by many State, special district, and local agencies to accelerate vegetation treatment project approvals by finding them to be within the scope of the PEIR. This finding that the proposed treatments are within the scope of the PEIR must be supported by a Project Specific Analysis (PSA).

The Humboldt County Resource Conservation District (HCRCD) was awarded a CAL FIRE Forest Health Grant for the Mattole and Salmon Creek Forest Health and Wildfire Resilience Project. This project covers two separate project areas that are disparately located, one in the larger Mattole watershed (Mattole River and McGinnis Creek) and the other in the Salmon Creek watershed. This PSA specifically addresses activities in the project area located in the larger Mattole watershed.

The HCRCD and the Mattole Restoration Council propose to treat an approximately 1,100-acre area of the Mattole River watershed (Figure 1). The entirety of the project area is within the treatable landscape described in the CalVTP PEIR.

This PSA describes the proposed treatment project and assesses the potential impacts of that project along with the applicability and effectiveness of Standard Project Requirements (SPRs) and mitigation measures contained in the PEIR in reducing the potential project-specific impacts.

Project Need and Objectives

Forested landscapes across Humboldt County, including those in the project area, have experienced over one hundred years of fire suppression and a climate that is becoming warmer and drier. These factors have contributed to substantial change in regional ecosystems and a decline in overall forest health. Compounding these effects are a suite of related ecological feedbacks, including conifer species displacing hardwoods and other fire resilient native plant species, reducing biodiversity and affecting the suitability of these habitats for rare and special-status wildlife and plants. In addition, altered fire regimes and increased fuel loads are driving larger and more high-intensity wildfires. As a result, these systems have undergone unsustainable structural and compositional changes at the ecosystem level that require environmentally sensitive landscape-level treatments to provide resistance and resilience to the effects of changing climatic and ecological conditions.

Within the project area, treatments are designed by the HCRCD to meet the following objectives:

- Establish healthy, resilient, fire-adapted ecosystems to protect and conserve natural resources.
- Protect upper watersheds where important regional water supplies originate.
- Promote the long-term storage of carbon and reduce the severity of catastrophic wildfire, thereby increasing community and forest ecosystem protection.

FIGURE 1
Regional Vicinity Map

Mattole Valley
Humboldt County, California

Legend

- Stream
- Selected Local Road
- Study Area
- Treatment Area
- Public or Preserved Land

N
W E
S

1:100,000

(1 inch = 2 miles at tabloid layout)

0 1 2 3 4 Km

0 1 2 3 4 Mi

Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021
GIS/Cartography by Anton Bokisch, March 2023
Map File: 590_Vicinity_B-L_2023-0410.mxd

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CEQA Responsible Agency and Proposed Project

The HCRCD would be the California Environmental Quality Act (CEQA) Responsible Agency for this project. The HCRCD is seeking CEQA compliance for the proposed project as a later activity covered by the CalVTP PEIR, using its PSA checklist. The proposed treatment type (i.e., Wildland Urban Interface [WUI] fuel reduction and ecological restoration) and the treatment activities (i.e., burning, manual, and mechanical treatments) are consistent with those evaluated in the CalVTP PEIR. In addition, the treatment areas are entirely within the CalVTP treatable landscape.

Document Purpose

This document serves as both a PSA and an Addendum to the CalVTP PEIR for HCRCD review and analysis under CEQA for the treatments proposed. The purpose of this PSA is to evaluate whether the proposed treatments would be within the scope of the CalVTP PEIR. If a proposed vegetation treatment project is covered by the evaluation of environmental effects in the PEIR, it may be approved by a lead or responsible agency using a finding that the project is within the scope of the PEIR for its CEQA compliance, consistent with CEQA Guidelines Section 15168(c)(2).

Among the other criteria for determining whether a treatment project is within the scope of the CalVTP PEIR is whether it is within the CalVTP treatable landscape (i.e., the geographic extent of analysis covered in the PEIR) or includes changed circumstances from those described in the PEIR. If a proposed vegetation treatment project is covered by the evaluation of environmental effects in the PEIR, it may be approved using a finding that the project is within the scope of the PEIR for its CEQA compliance, consistent with CEQA Guidelines Section 15168(C)(2). The project-specific mitigation monitoring and reporting program, which identifies the CalVTP standard project requirements ('SPR's) and mitigation measures applicable to the proposed project, is provided in Attachment A.

In this case, there are no changed circumstances, but the proposed revision or change in the project, compared to the PEIR, is the inclusion of areas outside of the CalVTP treatable landscape. The PSA checklist (refer to Section 4, "Project-Specific Analysis") includes the criteria to support an Addendum to the CalVTP PEIR for the inclusion of these changes. The checklist evaluates each resource in terms of whether the later treatment project, including the "changed condition" of additional geographic area, would result in significant impacts that would be substantially more severe than those covered in the PEIR and/or would result in any new impacts that were not covered in the PEIR.

The project also involves an ecosystem restoration component that includes using some large wood derived from fuel break thinning for in-stream fish habitat structures.

This PSA/Addendum and attachments together support the finding that the proposed project is within the scope of the CalVTP PEIR. Each resource topic below includes a discussion of impacts related to that resource area followed by discussions of SPRs and mitigation measures that are applicable for avoiding, minimizing, and mitigating impacts for that resource area. Supplemental analysis and information supporting the impact discussions can be found in the corresponding attachments. A finding that a project is within the scope of the PEIR requires the following components:

- Description of the impact of the proposed treatment project
- Summary of the impact in the CalVTP PEIR
- Evidence the project impact is addressed by the PEIR

- CalVTP SPRs and Mitigation Measures applicable to the proposed project
- Conclusion regarding consistency with the PEIR

This PSA includes a mitigation monitoring and reporting program (MMRP) in accordance with CEQA and the State CEQA Guidelines (Public Resources Code Section 21081.6 and State CEQA Guidelines Sections 15091[d] and 15097). A MMRP is required for approval of the proposed project because this PSA identifies potential significant adverse impacts and all feasible mitigation measures have been adopted. SPRs, environmental protection features included as part of the project description, have been incorporated into this project to avoid or minimize adverse effects. Where potentially significant impacts remain after application of SPRs, mitigation measures have been identified to further reduce and/or compensate for those impacts. The numbering of SPRs and mitigation measures follows the numbering used in the PEIR. The MMRP requirements covered in this PSA are described below.

- SPRs and Mitigation Measures – Brief discussions indicating whether an SPR or mitigation measure is applicable to this project are included under each resource section below.
- Implementing Entity and Timing of Implementation – This identifies the agency responsible for implementing the measure and time frame in which the SPR or mitigation measure will be implemented for each applicable SPR/mitigation measure.
- Verifying/Monitoring Entity – This column identifies the party responsible for verifying and monitoring implementation of the SPR or mitigation measure.

The MMRP will be adopted by the HCRCD with regard to its discretionary approval of the proposed project. As this PSA is used for CEQA compliance of future discretionary approvals by other state and local agencies related to treatments in the project area, those agencies will adopt separate MMRPs that specify the SPRs and mitigation measures relevant to their approval and within their jurisdiction. The HCRCD will document and describe the compliance of the project treatment work with the required SPRs and mitigation measures either by adapting a project-specific MMRP table or preparing a separate post-project implementation report pursuant to the requirements of SPR AD-7.

2. PROJECT DESCRIPTION

Project Overview

The proposed project includes approximately 1,056 acres of Fuel Break Treatment Type on Apple Tree Ridge, Everets Ridge, and Burgess Ridge, which are located just outside of the unincorporated town of Petrolia on private and industrial forestlands in the Mattole River Watershed (see Figure 2). Proposed treatments include mechanical and manual forest thinning, mechanical removal of encroaching trees and shrubs form historic grasslands, prescribed fire, invasive plant removal and manual tree planting. The project also includes 43 acres of Ecological Restoration Treatment Types including installation of whole trees for in-stream aquatic habitat restoration and riparian tree planting in McGinnis Creek and the Mattole River. The total number of acres for each treatment type and treatment activity are detailed in Table 1.

Table 1. Project Treatment Types and Associated Acreage[1]

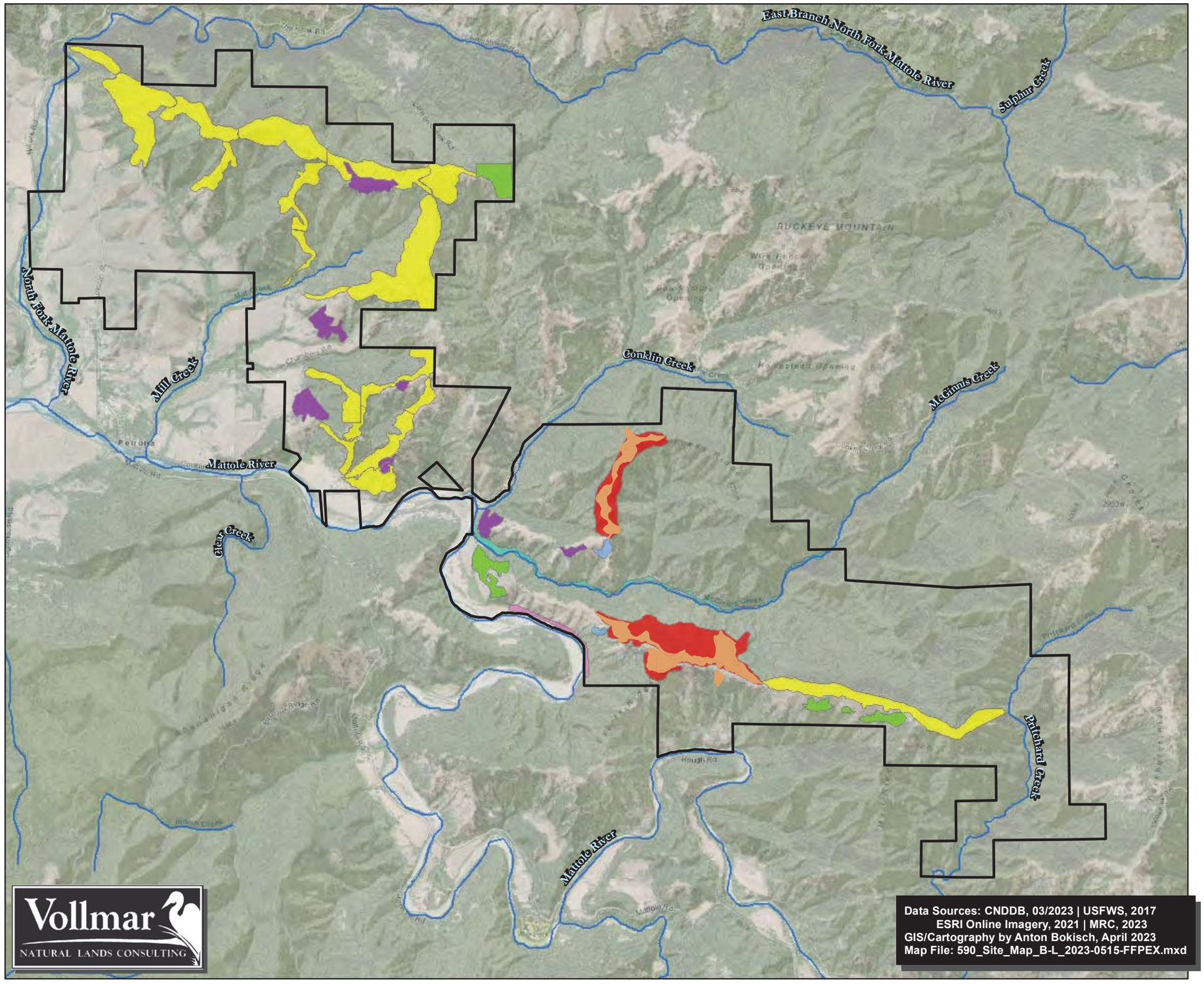
CALVTP TREATMENT TYPE	TREATMENT ACTIVITY	ACRES	PROPOSED TREATMENTS
Fuel Break	Mechanical Treatment	534	Forest thinning, vegetation removal from grassland, piling
	Manual Treatment	986	Forest thinning, pruning, piling, invasive plant removal, native plant installation
	Prescribed Fire (Broadcast)	220	Understory broadcast burn of slash
	Prescribed Fire (Pile Burn)	818	Pile burning of slash
Ecological Restoration	Mechanical Treatment	32	Helicopter placement of whole trees in-stream
	Manual Treatment	11	Riparian Tree Planting

[1] Total acreages in this table exceed total project acreage due to multiple treatments being applied across areas.

The project areas along Apple Tree Ridge (ATR) are located along ridgelines on privately held grassland and forestlands totaling over 3,000 acres of property, including: the Valley View Ranch, which has an existing CAL FIRE Forest Legacy Conservation Easement; the Benemann Ranch; the 7B Ranch; and the 3030 Ranch. Project areas on Humboldt Redwood Company (HRC) lands consist of forested ridgelines adjacent to grasslands and oak woodlands along Burgess Ridge and Everts Ridge. This project includes mechanical and manual ridgeline vegetation treatments across various vegetation types that are designed to restore the health of the project area's forests, oak woodlands and grasslands by creating fire-safe ecosystem connectivity between existing grasslands, forests, oak woodlands, and road networks. Project sites were selected through GIS, LiDar, and topographic analysis as well as on-the-ground assessments over a year-long period. The project targets forested ridgeline treatment areas that will accelerate late-seral-forest conditions while reducing hazardous fuels and the risk of high-severity wildfire. It also will sequester carbon through tree-planting, provide beneficial in-stream habitat to aquatic species, and mitigate the spread of invasive plant species. Moreover, it will complete a critical fuel break along ATR surrounding the town of Petrolia, as well as provide fuel breaks along Burgess Ridge and Everets Ridge on HRC property, thereby helping to reduce the community's vulnerability to catastrophic wildfire and avoid the concomitant loss of carbon sequestration.

FIGURE 2
Study Area and Proposed Project Map

The Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
Humboldt County, California



Legend

- Study
- McGinnisFFPEX
- Stream

Fuel Break Treatment

- Mechanical and Manual Thinning; Pile Burn; Tree Planting (680 ac.)
- Mechanical and Manual Thinning; Pile Burn (68 ac.)
- Mechanical and Manual Thinning; Broadcast Burn; Tree Planting (222 ac.)
- Mechanical and Manual Removal; Pile Burn; Native Seeding (76 ac.)
- Manual Removal; Pile Burn; Native Seeding (7 ac.)

Ecological Restoration Treatment

- In-Stream Tree Placement (32 ac.)
- Riparian Tree Planting (11 ac.)

W E S

1:42,000

(1 inch = 3,500 feet at tabloid layout)

0 500 1,000 2,000 Meters

0 2,000 4,000 8,000 Feet

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Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021 | MRC, 2023
GIS/Cartography by Anton Bokisch, April 2023
Map File: 590_Site_Map_B-L_2023-0515-FFPEX.mxd

Project Setting

The project area is located along ridgeline forests with surrounding grasslands with a network of ridgeline and mid-slope gravel road throughout the area. Forested portions of the project consist of North Coast Coniferous Forest habitat type. Tree species present within the project include tanoak *(Notholithocarpus densiflorus),* Douglas-fir *(Pseudotsuga menziesii)*, Pacific madrone *(Arbutus menziesii),* California bay laurel *(Umbellularia californica),* canyon live oak *(Quercus chrysolepis)*, grand fir *(Abies grandis)*, California black oak *(Quercus kelloggii)*, and Oregon white oak *(Quercus garryana)*. Species present within the shrub and herbaceous layer include poison oak (*Toxicodendron diversilobum),* evergreen huckleberry (*Vaccinium ovatum*), blue blossom *(Ceanothus thyrsiflorus),* whitethorne *(Ceanothus incanus),* red-flowering currant *(Ribes sanguineum),* western sword fern (*Polystichum munitum),* and California blackberry *(Rubus ursinus).* Forested areas are generally dominated by dense stands of tanoak and Douglas-fir, with intermittent stands of Pacific madrone and California bay present throughout. The shrub layer is typically dominated by western sword fern, evergreen huckleberry, California blackberry, and various ceanothus species, however many areas are devoid of shrubs due to the presence of dense stands of young Douglas-fir and tanoak. Many areas that are currently dominated by dense stands of tanoak were historically old-growth Douglas-fir prior to industrial timber harvest in the 1970's. Forested areas along the edges of grasslands typically consist of young, dense stands of Douglas-fir that have encroached into grassland areas. Grassland areas within the project area are defined as California Coastal Prairie and consist of a mix of native and non-native grass species and native forbs. Species present throughout grassland areas include blue wildrye (*Elymus glaucus)*, Sitka brome *(Bromus sitchensis*), wild oats (*Avena barbata),* rattlesnake grass *(Briza minor),* and soft brome *(Bromus hordeaceus)* with dense patches of coyote brush *(Baccharis pilularis)* throughout. Several grassland areas are dominated by dense patches of Scotch broom *(Cytisus scoparius).*

PROPOSED CALVTP TREATMENT TYPES

Fuel Break

The proposed project includes 1,100 acres of manual and mechanical vegetation treatments under the Fuel Break Treatment Type. The various fuel break treatment types are described below and summarized in Table 2. Project location and proposed treatment areas are shown in Figures 1 and 2.

Mechanical Forest Thinning

Mechanical forest thinning treatments will occur within forested areas on slopes less than 50% in areas that are accessible to heavy equipment. Treatments may be completed with a variety of equipment types including excavator mounted forestry mulchers/masticators, cut-to-length harvesters, and tracked mulchers, depending on site conditions, tree size class, and the type of equipment available at the time of implementation. Excavator mounted forestry mulchers and tracked mulchers will masticate whole trees up to 18 inches in diameter, leaving in place a chip bed, with an average spacing of 20-30 feet between trees. Dense patches of shrubs will be masticated in areas where they would act as ladder fuels and pose a threat to increased wildfire, but diverse patches of shrubs will be left in place in a mosaic pattern to increase native plant and vegetative structural diversity in the understory. Cut to length (CTL) harvesters and other equipment will harvest trees up to 18 inches in diameter resulting in an average spacing of 20-30 feet between trees. For all mechanical thinning, trees under 18 inches in diameter that are retained will achieve a spacing of 15-20 feet when feasible. Special attention will be given to retain individual trees of species that are under-represented within the forest stand and the larger project area as well as trees that provide wildlife habitat.

Table 2. Treatment Activities within the Fuel Break Treatment Type

FUEL BREAK TREATMENT ACTIVITY	ACRES	SLOPE	SPECIFICATIONS	EQUIPMENT REQUIRED
Mechanical Forest Thinning	482	Under 50%	Masticate, lop and scatter, and/or pile trees up to 18 inches in diameter	Excavator mounted forestry mulcher/masticator; CTL harvester; water truck/tender; tracked mulcher, or similar; 4x4 truck; all-terrain vehicle (ATV); utility task vehicle (UTV)
Manual Forest Thinning	974	Under 50%/Over 50%	In areas over 50% in slope and in follow up to mechanical treatment areas - Fell trees up to 18 inches with chainsaw; lop and scatter no higher than 18 inches above grade; and/or pile slash; prune tree limbs up to 12 feet in height	Chainsaw; Pole saw; 4x4 truck; ATV; UTV
Mechanical Tree Removal from Grasslands	11	Under 30%	Tip or fell whole trees up to 24 inches in diameter with root wad intact; stage on-site for helicopter; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; Chainsaw; 4x4 truck; ATV; UTV
Mechanical Invasive Plant Removal	41	Under 30%	Remove Scotch broom and other species by compressing base of plant stem with excavator thumb and bucket; pull entire above and below ground portion of plant; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; 4x4 truck; ATV; UTV
Manual Invasive Plant Removal	12	Over 50%	Remove Scotch broom with weed wrench or hand pulling and pile	Weed wrench/hand tools
Manual Tree Planting	906	Under 50%/Over 50%	Manually install trees and shrubs using hoedad and/or shovel	Hoedad/shovel; 4x4 truck; ATV; UTV
Prescribed Fire (Pile Burn)	818	Under 50%	Burn piles in appropriate burn window; chunk in; install native grass seed and rake in	Chainsaw; Pole saw; 4x4 truck; ATV; UTV; Water tender
Prescribed Fire (Broadcast Burn)	220	Under 50%	Burn understory; lop and scatter slash in appropriate burn window and as detailed in burn plan	Chainsaw; Pole saw; 4x4 truck; ATV; UTV

Special attention will be given to opportunities to release and retain suppressed conifers in the understory of dense tanoak stands. In some areas of dense tanoak that were historically Douglas-fir, larger openings will be created by clearing 100% tanoak to allow for planting of containerized conifer tree stock. Felled trees will be bucked into sections no longer that 8 feet, using a lop-and-scatter method, so that all portions of the felled tree are touching the ground. Slash that has been lopped and scattered will be no higher than 18 inches off the ground, and slash will not be placed near the base of residual trees. When feasible, excavators and other small tracked equipment can be used to mechanically pile slash to be burned later. Mechanical treatments will occur year-round as weather and environmental conditions allow. All mechanical thinning treatments will be followed up with manual hand crew treatments with pole saws to prune limbs up to 12 feet high, and use chainsaws to cut any slash left by equipment that is not meeting the specifications.

Manual Forest Thinning

Manual forest thinning treatments will occur within forested areas on slopes greater than 50% in areas that are not accessible to heavy equipment as well as areas under 50% where mechanical treatments have been completed. Manual hand crew treatments will follow mechanical thinning treatments to prune limbs up to 12 feet high with pole saws, and use chainsaws to cut and move any slash left by equipment that is not meeting the specifications. Manual treatments will be completed by using a chainsaw to fell trees up to 18 inches in diameter leaving an average spacing of residual trees at 20-30 feet apart. Dense patches of shrubs will be masticated in areas where they act as ladder fuels and pose a threat to increased wildfire, but diverse patches of shrubs will be left in place in a mosaic pattern to increase native plant and vegetative structural diversity in the understory. Trees under 18 inches in diameter that are retained will achieve a spacing of 15-20 feet when feasible. Special attention will be given to retain individual trees of species that are under-represented within the stand and the project area as well as trees that provide wildlife habitat. Special attention will be given to opportunities to release and retain suppressed conifers in the understory of dense tanoak stands. Felled trees will be bucked into sections no longer that 8 feet in length, using a lop-and-scatter method, so that all portions of the felled tree are touching the ground. Slash that has been lopped and scattered will be no higher than 18 inches off the ground, and slash will not be placed near the base of residual trees. When feasible, felled trees and slash can be piled for later burning. Manual thinning treatments will occur year-round as weather and environmental conditions allow.

Mechanical Tree Removal from Grasslands

Mechanical tree removal from grassland areas will occur within forested areas that were historically grassland. This treatment has the objective of restoring historic grassland structure and species composition as well providing a source for in-stream wood for aquatic habitat restoration projects within the project area. The goal is 100% removal of trees from historic grasslands within treatment areas. Tree removal will occur on slopes less than 30% in areas that are accessible to heavy equipment and have access to nearby grassland opening for staging trees. Treatments will be completed by tipping whole trees out of the ground with an excavator or felling trees. A total of approximately 400 trees between 12 inches and 30 inches in diameter will be harvested from encroached grassland areas. Trees within the removal areas less than 12 inches in diameter will be piled and eventually burned. Once the larger trees are on the ground, an excavator or wheel loader will move trees just outside of the harvest area to a grassland staging area, where trees will later be picked up by a helicopter and placed at planned locations in McGinnis Creek. At the staging area, trees will be marked with spray paint with a unique identifying code, measured for length and diameter, and weighed using an industrial crane scale mounted to the excavator or a built-in scale on the wheel loader. Weighing

the tree ensures that the helicopter will be able to carry it at time of pick up. Once trees are staged, any disturbed soil will be graded using a bulldozer or the bucket of the excavator. Mechanical vegetation removal will occur between May and September. All bare soils will be seeded with a native grass and forb seed mix in the fall when adequate soil moisture is available for germination. Seeding specifications can be found in Table 3.

Mechanical and Manual Invasive Plant Removal

Mechanical invasive plant removal from grassland areas will occur in areas that were historically grassland. This treatment has the objective of restoring historic grassland structure and species composition. Invasive plant removal will target removal of Scotch broom and coyote brush from grasslands. Mechanical invasive plant removal will take place on slopes less than 50%. Plants will be removed using an excavator by compressing base of plant stem with excavator thumb and bucket and pulling the entire above and below ground portion of plant out. Vegetation will be mechanically piled. Manual treatments will take place on all slopes over 50% and where plants are too small or not able to be reached by the excavator. Manual treatments will be completed using a weed wrench to remove plants from the ground and vegetation will be manually piled. All disturbed soils will be graded with a bulldozer or excavator with a blade attachment. Manual treatments will occur year-round as weather and environmental conditions allow.

All bare soils will be seeded with a native grass and forb seed mix in the fall when adequate soil moisture is available for germination. Seeding specifications can be found in Table 3, below.

Table 3. Native Seed Mix and Installation Specifications

TREATMENT	SPECIFICATIONS	INSTALL DENSITY
Native Grass Seed Mix	Install seed on bare soils using the following ratios: *Elymus glaucus* (30%), *Bromus sitchensis* (20%), *Stipa pulchra* (20%), *Deschampsia cespitosa* (10%) *Festuca idahoensis* (10%), and *Danthonia californica* (10%). Broadcast by hand or ATV spreader, rake or harrow in.	30 lbs./acre
Native Forb Seed Mix	Install seed on bare soils using the following ratios: *Achillea millefolium* (5%), *Acmispon americanus* var. *americanus* (5%), *Clarkia amoena* (10%), *Eschscholzia californica* (20%), *Lupinus bicolor* (20%), *Ranunculus occidentalis* (10%), *Sisyrinchium bellum* (10%), and *Trifolium willdenovii* (20%). Broadcast by hand or ATV spreader, rake or harrow in.	15 lbs./acre

Manual Plant Installation

Manual plant installation will take place in forest thinning areas that have been cleared of tanoak to allow for planting of Douglas-fir to restore historic tree species composition to the site. Planting of native shrubs also will occur in forest thinning areas to increase shrub diversity. Tree planting will occur on slopes under and over 50%. The treatment will be completed by planting crews carrying trees and tree bags and installing trees using a hoedad or shovel. Micro-site selection will prioritize planting sites with adequate soil moisture and protection from summer heat. All container stock seed will be sourced from the 390 and/or 092 seed zone from relevant elevations to the planting sites. Manual treatments will occur between November and March as weather and environmental conditions allow.

Prescribed Fire (Pile Burn)

Biomass from mechanical and manual treatments would be piled using equipment (e.g., skid steer, tractor, bulldozer or excavator) or hand crews. A qualified burn boss will develop a burn plan and oversee all burning activities. Pile burning will occur in forest thinning areas with little to no live overstory as well as in open grasslands. Piles will measure approximately 10 feet by 10 feet in area and 6 feet in height. No more than 30 piles per acre will be constructed and burned. Pile burning would not occur in wet meadows or areas that have abundant native plants or sensitive plant species. Pile burn areas will be seeded with a native seed mix detailed in Table 4. Pile burn treatments will occur between November and March as weather and environmental conditions allow.

Table 4. Pile Burn Seed Mix and Installation Specifications

TREATMENT	SPECIFICATIONS	INSTALL DENSITY
Native Grass Seed Mix (Pile Burn)	Install seed on bare soils using the following ratios: *Elymus glaucus* (30%), *Bromus sitchensis* (20%), and *Festuca californica* (50%). Broadcast by hand or ATV spreader, rake or harrow in.	40 lbs./acre

Prescribed Fire (Broadcast Burn)

Broadcast burning treatments will occur in forested areas that have been previously treated with manual and mechanical thinning. A qualified burn boss will develop a burn plan and oversee all burning activities. Biomass from lop and scatter activities with cure for at least six months prior to burning. The burn will remove post-thinning biomass and will occur between a grassland ridgeline and an access road at the lower extent of the fuel break. The burn will be completed by qualified individuals under the supervision of the burn boss. Resources including heavy equipment and water tenders from agencies and local fire departments will be on-site during all burn activities. Sensitive habitat and culturally sensitive areas within the burn unit will be delineated prior burning activities. Broadcast burn treatments will occur between October and June as weather and environmental conditions allow.

ECOLOGICAL RESTORATION

The proposed project includes 43 acres of ecological restoration treatments including installation of whole trees for in-stream habitat and riparian tree planting in McGinnis Creek and the Mattole River. The ecological restoration treatment types are detailed in Table 5.

Table 5. Ecological Restoration Treatment Activities Information

ECOLOGICAL RESTORATION TREATMENT ACTIVITY	ACRES	SLOPE	SPECIFICATIONS	EQUIPMENT REQUIRED
In-stream Wood Installation	32	Under 50%	Install whole trees from grassland tree removal areas with helicopter	Vertol or Chinook Helicopter; Fuel Truck; 4x4 Truck; ATV; UTV
Riparian Tree Planting	11	Under 50%	Manually install trees and shrubs using hoedad and/or shovel	Hoedad/shovel; 4x4 Truck; ATV; UTV

In-stream Habitat Restoration

In-stream habitat restoration activities include placing approximately 400 whole trees in-stream to improve aquatic and salmonid habitat in McGinnis Creek, a tributary to the Mattole River. This activity will be completed by transporting whole trees from grassland vegetation removal areas to in-stream tree placement sites using a helicopter. Trees will be staged during tree removal activities in grassland areas that are accessible to the helicopter. Individual trees and bundles of trees will be secured with a choker cable prior to arrival of the helicopter. Upon arrival of the helicopter, ground personnel will attach a hook connected to the helicopter to the cable choker and trees. Trees will be transported in the air from staging location to the in-stream placement site by hovering above the placement site and releasing the choker cable from the hook when the tree or bundles of trees are touching the ground. In-stream ground crews retrieve the choker cables when placement is complete and helicopter is no longer hovering overhead. This method is repeated throughout the stream restoration reach. In-stream habitat restoration treatments will occur between August and October as weather and environmental conditions allow.

Riparian Tree Planting

Manual plant installation will take place in riparian areas adjacent to in-stream habitat restoration sites. Tree planting of Douglas-fir will occur on slopes under and over 50%. The treatment will be completed by planting crews carrying trees and tree bags and installing trees using a hoedad or shovel. Micro-site selection will prioritize planting sites with adequate soil moisture and protection from summer heat. All container stock seed will be sourced from the 390 and/or 092 seed zone from relevant elevations to the planting sites. Manual treatments will occur between November and March as weather and environmental conditions allow.

3. ENVIRONMENTAL INFORMATION

Vegetation Treatment Project Information

1. **Project Title:** Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
2. **Project Proponent Name and Address:** Humboldt County Resource Conservation District, 5630 South Broadway, Eureka, CA 95503
3. **Contact Person Information and Phone Number:** Jill Demers – Executive Director – jillhcrcd@gmail.com 707.442.5068 x 5
4. **Project Location:** Humboldt County near the unincorporated town of Petrolia
5. **Total Area to be Treated (acres):** 1,100 acres
6. **Description of Project**: The project is described in detail in Chapter II, above. The proposed project includes approximately 1,056 acres of Fuel Break Treatment Type on Apple Tree Ridge, Everets Ridge, and Burgess Ridge, which are located just outside of the town of Petrolia on private and industrial forestlands in the Mattole River Watershed. Proposed treatments include mechanical and manual forest thinning, mechanical removal of encroaching trees and shrubs form historic grasslands, prescribed fire, invasive plant removal and manual tree planting. The project also includes approximately 43 acres of Ecological Restoration Treatment Types including installation of whole trees for in-stream aquatic habitat restoration and riparian tree planting in McGinnis Creek and the Mattole River. The acreages of each treatment type and treatment activity are detailed in Table 1, above.

   Treatment Types

   Treatment Types *[see description in CalVTP PEIR Section 2.5.1, check every applicable category; provide detail in description of Initial Treatment*]

   a. ☐ Wildland-Urban Interface Fuel Reduction
   b. ☒ Fuel Break
   c. ☒ Ecological Restoration

   Treatment Activities [*see description in CalVTP PEIR Section 2.5.2, check every applicable category; include number of acres subject to each treatment activity, provide detail in description of Initial Treatment*]

   d. ☒ Prescribed Burning (Broadcast), 220 acres
   e. ☒ Prescribed Burning (Pile Burning), 818 acres
   f. ☒ Mechanical Treatment, 534 acres
   g. ☒ Manual Treatment, 986 acres
   h. ☐ Prescribed Herbivory, 0 acres
   i. ☐ Herbicide Application, 0 acres

Fuel Type [*see description in CalVTP PEIR Section 2.4.1, check every applicable category; provide detail in description of Initial Treatment*]

j. ☒ Grass Fuel Type

k. ☒ Shrub Fuel Type

l. ☒ Tree Fuel Type

Treatment Maintenance

No maintenance treatment is proposed for this project.

7. Regional Setting and Surrounding Land Uses

The Study Area is located within the Mattole River Watershed, Humboldt County. Land use within the Study Area is primarily privately held grasslands and forestlands. The Study Area is within the Petrolia and Buckeye Mountain U.S. Geological Survey (USGS) 7½ minute topographic quadrangles. It may be accessed from Eureka by way of US-101 South, then State Route 211 South. Turn right onto Ocean Avenue, then left onto Wildcat Avenue and keep right to continue on Mattole Road for approximately 28 miles, then turn left onto Lincoln Street and left into Conklin Creek Road. From there, access to the treatment area is via private property unnamed ranch roads.

The Mattole River follows the south-eastern boundary of the Study Area and is a large river with a riparian corridor. It flows in a north-westerly direction until it eventually enters the Pacific Ocean. The Mattole River has many tributaries, four of which are located within our Study Area. These tributaries are Mill Creek, Conklin Creek, McGinnis Creek, and Pritchard Creek, as well as smaller tributaries and drainages that feed into these creeks. All four of these creeks have dense riparian cover that provides shade to cool their waters. The Study Area features steep hills covered in North Coast coniferous forest, with open prairies scattered along some of the ridgelines as well as the lower reaches near the Mattole River.

Surrounding land uses include agriculture (including timber harvest), rangeland (cattle and sheep), rural residential, limited commerce (general store), and recreation (access to the King Range National Conservation Area).

8. Other Public Agencies Whose Approval is Required: (e.g., permits)

No other public agency approval is required for this project.

Discussions were held with the California Department of Fish and Wildlife (CDFW) during the planning phase of this project. A draft of the project description, maps, and mitigation measures for California Endangered Species Act (CESA) listed species was provided to CDFW staff on May 4 and May 10, 2023 to review. On June 2, 2023 comments were received and incorporated into this document.

United States Fish and Wildlife Service (USFWS) was informally notified of the project and the federal listed species with potential to occur on June 16, 2023, however, no specific technical assistance was required or requested from USFWS for preparation of this document.

The County of Humboldt, Planning and Building Department was contacted during the planning phase of this project on March 21, 2023.

Coastal Act Compliance

☒ The proposed project is NOT within the Coastal Zone

☐ The proposed project is within the Coastal Zone (*check one of the following boxes*)

☐ A coastal development permit been applied for or obtained from the local Coastal Commission district office or local government with a certified Local Coastal Plan, as applicable

☐ The local Coastal Commission district office or local government with a certified Local Coastal Plan (in consultation with the local Coastal Commission district office) has determined that a coastal development permit is not required.

9. Native American Consultation. *For treatment projects that are within the scope of the CalVTP PEIR, AB 52 consultation for AB 52 compliance has been completed. The Board of Forestry and Fire Protection conducted consultation pursuant to Public Resources Code section 21080.3.1 during preparation of the PEIR. For treatment projects with impacts not within the scope of the PEIR, pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, project proponents preparing a new negative declaration, mitigated negative declaration, or EIR must notify any California Native American tribe who has submitted written request for notification of a project in the area of the treatment site. Upon written request for consultation by a tribe, the project proponent must begin consultation before the release of the environmental document and must follow the requirements of the cited PRC sections.*

   Pursuant to CalVTP SPR CUL-2, Native American tribal contacts in Humboldt County were contacted on April 5, 2023. Please see Tribal Cultural Resources discussion in this PSA for details of consultation.

10. Standard Project Requirements and Mitigation Measures. [*Refer to Attachment A to identify which SPRs and Mitigation Measures apply to the project. Complete Attachment A to document the responsible party for each applicable SPR and Mitigation Measure. Check one box below.*]

   ☒ All applicable SPRs and Mitigation Measures are feasible and will be implemented

   ☒ There is NO new information which would render mitigation measures previously considered infeasible or not considered in the CalVTP PEIR now feasible OR such mitigation measures have been adopted. [Guidelines Sec.15162(a)(3); PRC Sec. 21166(c)]

   ☐ All applicable SPRs and Mitigation Measures are NOT feasible or will NOT be implemented (provide explanation)

   Explanation: N/A

4. DETERMINATION

On the basis of this PSA and the substantial evidence supporting it:

☒ I find that all of the effects of the proposed project (a) have been covered in the CalVTP PEIR, and (b) all applicable Standard Project Requirements and mitigation measures identified in the CalVTP PEIR will be implemented. The proposed project is, therefore, **WITHIN THE SCOPE** of the CalVTP PEIR. **NO ADDITIONAL CEQA DOCUMENTATION** is required.

☐ I find that the proposed project will have effects that were not covered in the CalVTP PEIR. These effects are less than significant without any mitigation beyond what is already required pursuant to the CalVTP PEIR. A **NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project will have effects that were not covered in the CalVTP PEIR or will have effects that are substantially more severe than those covered in the CalVTP PEIR. Although these effects may be significant in the absence of additional mitigation beyond the CalVTP PEIR's measures, revisions to the proposed project or additional mitigation measures have been agreed to by the project proponent that would avoid or reduce the effects so that clearly no significant effects would occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project will have significant environmental effects that are (a) new and were not covered in the CalVTP PEIR and/or (b) substantially more severe than those covered in the CalVTP PEIR. Because one or more effects may be significant and cannot be clearly mitigated to less than significant, an **ENVIRONMENTAL IMPACT REPORT** will be prepared.

Signature _____ Date 7/13/2023

Jill Demers Executive Director

Printed Name Title

Humboldt County Resource Conservation District

Agency

5. PROJECT-SPECIFIC ANALYSIS

1. Refer to the applicable resource analysis section in the CalVTP PEIR for relevant information on each environmental topic.
2. A brief explanation is required for each impact, including impacts that have been identified in the PEIR as well as any "new impacts".
3. The discussion of each impact identified in the PEIR that is also applicable to the proposed treatment project should generally include the following information:
   - Briefly describe the impact of the proposed vegetation treatment project.
   - Summarize the impact as it was presented in the PEIR, including a statement that the impact is covered in PEIR.
   - Provide evidence that (explain why) the project impact is covered in PEIR, considering whether the proposed treatment is consistent with the treatment types and activities addressed in the PEIR as well as the associated intensity (i.e., duration).
   - Identify SPRs and MMs applicable to the treatment project.
   - (If applicable) Explain which components of the MM or SPR would be applied. This circumstance exists if the MM or SPR allows for deviation from requirements (e.g., minimum buffer distances), identification of parameters (e.g., tree size for retention), and determinations of feasibility. A site- and/or treatment activity-specific explanation for the planned deviation, identified parameter, or feasibility determination must be provided in the PSA.
   - (If applicable) Explain why the impact significance in the PSA is different than that found in the PEIR; substantiate the different (new) significance conclusion.
   - (If applicable) Explain why MM or SPRs identified for this impact in PEIR do not apply to this project. This circumstance may exist where a PS impact was identified in the PEIR, but the impact severity would be less for the treatment project or the MM does not otherwise apply.
4. If the project proponent has determined that a new impact would occur, then the checklist answers for the new impact must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant without the need for mitigation.
5. "Potentially Significant" is appropriate if there is substantial evidence that a new impact may be significant. If there are one or more "Potentially Significant" new impacts identified, or if any impact would constitute a substantially more severe significant impact than was covered in the PEIR, an EIR is required unless one or more mitigation measures incorporated into the project would mitigate the effects to a point where clearly no significant effect on the environment would occur, in which case an MND would be appropriate. AND could be prepared, if the new impact would be less than significant, or MND, if the new impact could be clearly mitigated to less than significant. The analysis of any new impact to support adoption of an ND or MND, along with the analysis of impacts that are within the scope, would be documented in the PSA checklist. If a later EIR is prepared, it could be limited in its scope to the new significant impact(s) or substantially more severe significant impact(s), with the remainder of the impacts that are within the scope of the PEIR being documented in the PSA checklist

and attached to the EIR as an appendix. When preparing any environmental document, the environmental analysis should incorporate by reference pertinent portions of the analysis from the CalVTP PEIR and focus the environmental analysis solely on issues that were not addressed in the CalVTP PEIR.

6. Project proponents should incorporate into the PSA checklist references to information sources for potential impacts. Include a list of references cited in the PSA and make copies of such references available to the public upon request.

5.1 AESTHETICS AND VISUAL RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact AES-1: Result in Short-Term, Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from Treatment Activities	LTS	Impact AES-1, pp. 3.2-16 – 3.2-19	Yes	AD-3, 4, AES-1, 2, 3; AQ-2, AQ-3	NA	LTS	No	Yes
Impact AES-2: Result in Long-Term, Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from WUI Fuel Reduction, Ecological Restoration, or Shaded Fuel Break Treatment Types	LTS	Impact AES-2, pp. 3.2-20 – 3.2-25	Yes	AD-3	NA	LTS	No	Yes
Impact AES-3: Result in Long-Term Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from the Non-Shaded Fuel Break Treatment Type	SU	Impact AES-3, pp. 3.2-25 – 3.2-27	Yes	AD-3, AES-3	NA	LTS	No	Yes

[1]N/A: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Aesthetic and Visual Resource Impacts: Would the treatment result in other impacts to aesthetics and visual resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	**Less Than Significant with Mitigation Incorporated**	**Less than Significant**
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact AES-1

Initial and treatments would include burning, mechanical treatments, and manual treatments, which will temporarily alter the visual landscape of the project site by reducing vegetative cover. However, the proposed treatment areas would be located on the back ridges of ranches and in HRC lands, and would therefore be distant in view from public roadways and from homes of non-participating viewers. Log placement in creeks would not adversely affect views of those features. The potential for these treatments to result in short-term degradation of the visual character of the land was examined in the PEIR (CalVTP Final PEIR Volume II Section 3.2.3, page 16-19). The treatment activities and potential impacts are within the scope of the PEIR because they are consistent with the activities and impacts addressed in the PEIR. The treatment areas are distant from any designated State Scenic Highway, and would not affect any such highway. Smoke from pile burning would be short-lived and similar to existing pile burning in the area. With the implementation of SPR AD-3 and 4, AES-1, 2, and 3, and AQ-2 and 3, the treatments will be consistent with local plans and ordinances. Further, all treatment related equipment will be stored outside of the public viewshed and will not block views. The proposed project will promote regrowth with native vegetation and will be similar in appearance to nearby meadow and forested areas. Therefore, the potential for the project to result in short-term substantial degradation of a scenic vista, visual character, or damage to scenic resources would be less than significant.

Impact AES-2

Initial and treatments would include fuel reduction and ecological restoration treatment types. The potential for these treatments to result in long-term substantial degradation of the visual character was examined in the PEIR (CalVTP Final PEIR Volume II Section 3.2.3, page 20-22). As described above, the treatment areas are distant and would not be visible from any designated State Scenic Highways (CalVTP Final PEIR Volume II Section 3.2.3, Figure 3.2-10, page 24). As analyzed in Impact AES-1, the aesthetic impacts will be temporary and short-term because native plants will regenerate shortly after the treatments are implemented and will resemble conditions on surrounding hillsides. Based on the implementation of the applicable SPR's and the nature of the treatment types, the potential for this project to result in long-term substantial degradation of the visual character of the project area or damage to scenic resources would be less than significant.

Impact AES-3

The proposed initial and treatments would include non-shaded fuel breaks near meadows on ridgelines. The potential for the non-shaded fuel break treatments to result in long-term substantial degradation of the visual character was examined in the PEIR (CalVTP Final PEIR Volume II Section 3.2.3, page 25-27). Potential impacts as a result of the non-shaded fuel break treatment type are within the scope of the PEIR because the treatment activities are consistent with those analyzed in the PEIR. The proposed treatment areas are not located within a scenic highway area where non-shaded fuel break treatments would be visible from the highway. Therefore, this impact would be less-than-significant.

New Aesthetic and Visual Resource Impacts

The proposed treatment is consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has evaluated and considered site-specific characteristics to determine that the project treatments are

consistent with the CalVTP PEIR's environmental and regulatory settings (CalVTP Final PEIR Volume II Sections 3.2.1 and 3.2.2). No changed circumstances would lead to new significant impacts not addressed in the CalVTP PEIR. Therefore, no new impact related to aesthetics and visual resources would occur that is not covered in the PEIR.

5.2. AGRICULTURE AND FORESTRY RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact AG-1: Directly Result in the Loss of Forest Land or Conversion of Forest Land to a Non-Forest Use or Involve Other Changes in the Existing Environment Which, Due to Their Location or Nature, Could Result in Conversion of Forest Land to Non-Forest Use	LTS	Impact AG-1, pp. 3.3-7 – 3.3-8	Yes	NA	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Agriculture and Forestry Resource Impacts: Would the treatment result in other impacts to agriculture and forestry resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact AG-1

The project's proposed vegetation removal would be primarily on lands designated for timber production. Thinning and the removal of small-diameter conifers (primarily Douglas-fir trees) and tanoak would occur, however commercially viable trees beyond those used for stream habitat restoration would be milled on-site or transported to nearby mills for processing. In the longer term, marketable trees would experience better growth conditions than at present due to the proposed thinning. Other than some expansion of the meadows due to removal of young, smaller trees that have encroached on former meadows, no timber lands would be converted in the long term. Stand-replacing fires could adversely impact agricultural and forestry management by converting stands, displacing people and disrupting harvest schedules. Although treatment activities would alter forest land through vegetation removal, the area would generally support greater than 10 percent of native tree cover thereby maintaining consistency with the definition of forest land as defined by Public Resources Code (PRC) Section 12220(g). Treatment activities under the CalVTP would not result in the loss of forest land or conversion of forest land to a non-forest use. The implementation of the plan may enhance agricultural and forestry resources by reducing the potential for stand

replacing fires originating at these private parcels or passing through them. The properties are zoned AG and TPZ and the project activities are consistent with these zones. Therefore, this impact would be less-than-significant.

New Agriculture and Forestry Resource Impacts

The proposed treatment is consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has evaluated and considered site-specific characteristics to determine that the project treatments are consistent with the CalVTP PEIR's environmental and regulatory settings (CalVTP Final PEIR Volume II Sections 3.2.1 and 3.2.2). No changed circumstances would lead to new significant impacts not addressed in the CalVTP PEIR. Therefore, no new impact related to agriculture and forest resources would occur that is not covered in the PEIR.

5.3. AIR QUALITY

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact AQ-1: Generate Emissions of Criteria Air Pollutants and Precursors During Treatment Activities that would exceed CAAQS or NAAQS	SU	Table 3.4-1; Impact AQ-1, pp. 3.4-26 – 3.4-32; Appendix AQ-1	Yes	AQ-1 AQ-2 AQ-3	AQ-1	SU	No	Yes
Impact AQ-2: Expose People to Diesel Particulate Matter Emissions and Related Health Risk	LTS	Table 3.4-6; Impact AQ-2 pp. 3.4-33 – 3.4-34; Appendix AQ-1	Yes	AQ-1 HAZ-1 NOI-4 NOI-5	NA	LTS	No	Yes
Impact AQ-3: Expose People to Fugitive Dust Emissions Containing Naturally Occurring Asbestos and Related Health Risk	LTS	Section 3.4.2; Impact AQ-3, pp. 3.4-34 – 3.4-35	No	NA	NA	NA	NA	NA
Impact AQ-4: Expose People to Toxic Air Contaminants Emitted by Prescribed Burns and Related Health Risk	SU	Section 3.4.2; Impact AQ-4, pp. 3.4-35 – 3.4-37	Yes	AQ-2 AQ-3 AQ-6 AD-4	NA	SU	No	Yes
Impact AQ-5: Expose People to Objectionable Odors from Diesel Exhaust	LTS	Impact AQ-5, pp. 3.4-37 – 3.4-38	Yes	AQ-1 HAZ-1 NOI-4 NOI-5	NA	LTS	No	Yes
Impact AQ-6: Expose People to Objectionable Odors from Smoke During Prescribed Burning	SU	Section 2.5.2; Impact AQ-6; pp. 3.4-38	Yes	AQ-2 AQ-3 AQ-6 AD-4	NA	SU	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Air Quality Impacts: Would the treatment result in other impacts to air quality that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	**Less Than Significant with**	**Less than Significant**

		Mitigation Incorporated	
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact AQ-1

Fossil-fuel-powered equipment and vehicles to be used for forest thinning, removal of invasive plants, removal of encroaching trees/shrubs from historic grasslands, etc. would emit criteria pollutants, the most important being ozone precursors – reactive organic gases (ROG) and nitrogen oxides (NOx), particulate matter in two regulated size categories (PM10 and PM2.5), carbon monoxide (CO) and sulfur dioxide (SO2). Smoke from the combustion of vegetation during the project's prescribed burn phases also contains substantial amounts of criteria air pollutants, especially ozone precursors and particulates. The potential for such emissions to exceed California ambient air quality standards (CAAQS) and/or national ambient air quality standards (NAAQS) was examined in the PEIR.

The North Coast Unified Air Quality Management District (NCUAQMD) is responsible for air quality planning and pollutant control in three counties (i.e., Del Norte, Humboldt, and Trinity) of California's North Coast Air Basin (NCAB). Air quality in the NCUAQMD is listed by the U.S. Environmental Protection Agency (EPA) as "attainment" or "unclassified" for all CAAQS and NAAQS with the exception of the 24-hour PM10 CAAQS in Humboldt County only. In determining whether a project has significant air quality impacts on the environment under CEQA, local Air District thresholds of significance are typically applied during the review process. The NCUAQMD has not formally adopted CEQA significance thresholds. Rather, it recommends the Best Available Control Technology (BACT) emission rates for stationary sources as defined in the NCUAQMD Rule and Regulations, Rule 110 (i.e., New Source Review [NSR] And Prevention of Significant Deterioration [PSD], Section 5.1 – BACT), as listed in Table 5.3-1 below.[1]

Table 5.3-1. NCUAQMD Best Available Control Technology Emission Rates

	Significance Thresholds	
Pollutant	Daily (pounds per day)	Annual (tons per year)
Carbon Monoxide (CO)	500	100
Nitrogen Oxides (NOx)	50	40
Particulate Matter (PM10)	80	15
Particulate Matter (PM2.5)	50	10
Reactive Organic Gases (ROG)	50	40
Sulfur Oxides (SOx)	80	40
Note: Rates are from NCUAQMD Rule 110		

The proposed project's emissions of criteria air pollutants from vegetation removal/disposal/restoration activities could be potentially significant if their totals from all sources exceed the BACT thresholds. Equipment emissions were estimated using project-specific equipment type/number and activity duration on each identified project work parcel

[1] https://www.ncuaqmd.org/planning-ceqa

and then by applying State-average pollutant emissions rates for that equipment from the CalEEMod emissions model.[2]

Project equipment emissions during the two years of vegetation removal/disposal/restoration work were summed/averaged and compared with NCUAQMD BACT thresholds in Table 5.3-2, below.

Table 5.3-2. Project Equipment Emissions Summary

	Project Equipment Emissions (July 1, 2023 - June 30, 2024)						Project Equipment Emissions (July 1, 2024 - June 30, 2025)					
	NOx	ROG	PM10	PM2.5	CO	SO2	NOx	ROG	PM10	PM2.5	CO	SO2
Annual Total (lbs.)	960	5,731	105	82	19,586	4	184	2,326	38	29	7,907	1
Average Daily (lbs.)	3.7	22.0	0.4	0.3	75.3	0.0	0.7	8.9	0.1	0.1	30.4	0.0
BACT Threshold (Daily)	50	50	80	50	500	80	50	50	80	50	500	80
Exceeds BACT?	No	No	No	No	No	No	No	No	No	No	No	No
Annual Total (tons)	0.5	2.9	0.1	0.0	9.8	0.0	0.1	1.2	0.0	0.0	4.0	0.0
BACT Threshold (Annual)	40	40	15	10	100	40	40	40	15	10	100	40
Exceeds BACT?	No	No	No	No	No	No	No	No	No	No	No	No

Equipment emissions alone would not exceed any BACT thresholds, but smoke from the combustion of vegetation during the project's prescribed burn phases also contains substantial amounts of criteria air pollutants and ozone precursors. The PEIR provides the rates of emissions (based on past vegetation treatment projects conducted in California) associated with each treatment activity (i.e., mechanical treatment, manual treatment, prescribed herbivory, herbicide application, and prescribed burning) and predominant fuel type (i.e., tree, shrub, and grass). The emission rates for prescribed burning, by far the most emission intensive of all treatment activity categories, are summarized in Table 5.3-3, below.

Table 5.3-3. Prescribed Burning Emissions Per Acre

Prescribed Burning	ROG (lbs./acre)	NOx (lbs./acre)	PM10 (lbs./acre)	PM2.5 (lbs./acre)
Tree Fuel Type	2,186.60	166	1,421.30	1,421.30
Shrub Fuel Type	352.8	44.4	142.1	142.1
Grass Fuel Type	166.4	21.9	84.5	84.5

Depending on the number of acres that would undergo treatment on the same day (or same year) within the same air basin, the levels of criteria air pollutants and precursors emitted by treatment activities could exceed the mass emissions thresholds recommended by local air districts. For example, as shown in the table above, one-acre of prescribed burning would generate 166 pounds per day (lbs./day) of NOx, which would exceed the applicable daily mass emissions thresholds established by every Air District in California (including the NCBAQMD BACT threshold).

[2] https://www.caleemod.com/user-guide

For the proposed project, the total acres planned for burning is known and the above emission rates were used to estimate the total pollutant emissions (assuming that all burning material is "tree fuel," a worst-case assumption), as shown in Table 5.3-4. As indicated in the table, emissions from project prescribed burning activities alone would exceed the NCUAQMD BACT thresholds; the emissions from project equipment/vehicles would further add to the emission totals. Thus, vegetation treatment activities implemented under the proposed project would generate levels of criteria air pollutants and ozone precursors that could cause or contribute to exceedances of the NAAQS and CAAQS for ozone, PM10, and PM2.5.

Table 5.3-4. Project Prescribed Burning Emissions

Project Treatment Activity	Total Acres	ROG (tons)	NOx (tons)	PM10 (tons)	PM2.5 (tons)
Prescribed Fire (Pile Burn)	818	894.3	67.9	581.3	581.3
Prescribed Fire (Broadcast Burn)	220	240.5	18.3	156.3	156.3
Average Annual Emissions (tons)	-	567.4	43.1	368.8	368.8
Average Daily Emissions (lbs.)	-	2,182.4	165.7	1,418.6	1,418.6

This analysis of the project's criteria pollutant emissions is within the scope of the PEIR because project equipment use and prescribed burn activity for vegetation removal/restoration activities would be consistent with the type of project considered in the PEIR and its analytical methodology. The SPRs applicable to the proposed project are AQ-1, AQ-2, and AQ-3. Certain emission reduction techniques as specified in Mitigation Measure (MM) AQ-1 may be infeasible for practical considerations. For example, it may be cost prohibitive to use equipment meeting the latest fuel efficiency/emission standards, as also may be using biodiesel fuel, electric- or gasoline-powered equipment in place of diesel, and/or using equipment with Best Available Control Technology. In addition, carpooling may not be feasible because of the rural location of the project site. Even so, the emission reduction strategies of MM AQ-1 would apply only to equipment/vehicle emissions, which are a small fraction of the project's total pollutant emissions, and the SPRs AQ-2 and AQ-3 applicable to prescribed burns would not substantially reduce emissions therefrom. This project's impact would remain unavoidable and potentially significant for the same reasons explained in the PEIR, but it would not be a substantially more severe significant impact than that considered in the PEIR.

Impact AQ-2

Use of diesel-powered equipment/vehicles and mechanical equipment for forest thinning, removal of invasive plants, removal of encroaching trees/shrubs form historic grasslands, etc. could expose people to diesel particulate matter (DPM), a carcinogenic toxic air contaminant (TAC). The potential to expose people to DPM emissions during vegetation treatments was examined in the PEIR. The PEIR found that, because of the short and intermittent nature of removal/restoration activities and the sparsity of sensitive receptors in most rural areas, exposures to incremental cancer risk greater than 10 in one million or to a Hazard Index greater than 1.0 is unlikely.

Although the proposed project's work would go on for two years, the areas of removal/restoration would encompass an area of approximately 1,100 acres mostly located on/near the ridgelines of the hills to the north and east of Petrolia. Most of the local residential and other health-sensitive receptors (e.g., the Mattole School) are located in and near the town center with most of the treatment areas more than a mile away. The project removal/restoration work would not occur over the entire project area for the entire project period, but sequentially on the many project

parcels one or two at a time. Thus, the source of project DPM emissions would not be in any one place for an extended time and the source would be located relatively distant from Petrolia's pollutant-sensitive areas.

DPM emissions during the project's removal/restoration work would be within the scope of the PEIR, because the project's types and amount of equipment and their duration of use are consistent with those analyzed in the PEIR. SPRs applicable to this treatment are AQ-1, HAZ-1, NOI-4, and NOI-5. This less-than-significant impact of the proposed project DPM emissions is consistent with the PEIR finding, and the project's DPM emissions would not constitute a substantially more severe impact than that identified in the PEIR.

Impact AQ-3

This impact does not apply to the proposed project because no naturally occurring asbestos is mapped on the project site.

Impact AQ-4

All feasible measures have been incorporated to minimize smoke emissions as part of the precautionary measures required in the Smoke Management Plan (SPR AQ-2), the Burn Plan (SPR AQ-3), and in the Prescribed Burn Safety Procedures (SPR AQ-6), the latter to prevent unintended adverse effects to offsite receptors. Additionally, SPR AD-4 will alert the public to planned prescribed burns and give them adequate notice to take precautionary measures (e.g., using respirators, closing windows, or temporarily vacating the area, etc.). But any actions taken by the public to reduce exposure to smoke from prescribed burns are voluntary and there are no additional feasible methods to compel the public to reduce its exposure. Thus, even though all feasible emissions reductions and burn notifications have been included in the SPRs, the potential remains for short-term exposure to TACs from unpredictable weather changes. Therefore, this impact would be potentially significant and unavoidable. This is consistent with the PEIR finding and would not constitute a substantially more severe impact than that identified in the PEIR.

Impact AQ-5

Use of diesel-powered equipment for vegetation removal/restoration could expose people to objectionable odors from diesel exhaust, an impact which was examined in the PEIR.

Although the proposed project's work would go on for two years, the areas of removal/restoration would encompass an area of approximately 1,100 acres, mostly located on/near the ridgelines of the hills to the north and east of Petrolia. Most of the local residential and other odor-sensitive receptors (e.g., the Mattole School) are located in and near the town center with most of the treatment areas more than a mile away. The project removal/restoration work would not occur over the entire project area for the entire project period, but sequentially on the many project parcels one or two at a time. Thus, the source of project odor from diesel-powered equipment exhaust would not be in any one place for an extended time and on average the source would be located relatively distant from Petrolia's odor-sensitive areas.

Consistent with the PEIR, project diesel exhaust emissions would be temporary, would not be generated at any one location for an extended period of time, and would dissipate rapidly as most removal/restoration work would occur in undeveloped areas distant from local residences and other odor-sensitive uses. This impact is within the scope of the PEIR because the equipment and its duration of use for the proposed project are consistent with what was analyzed in the PEIR. SPRs applicable to the proposed project are AQ- 1, HAZ-1, NOI-4, and NOI-5. This impact is consistent

with the PEIR finding; it would not be significant nor constitute a substantially more severe impact than that identified in the PEIR.

Impact AQ-6

All feasible measures have been incorporated to minimize smoke emissions as part of the precautionary measures required in the Smoke Management Plan (SPR AQ-2), the Burn Plan (SPR AQ-3), and Prescribed Burn Safety Procedures (SPR AQ-6), the latter to prevent unintended adverse effects to offsite receptors. Additionally, SPR AD-4 will alert the public to planned prescribed burns and give them adequate notice to take precautionary measures (e.g., using respirators, closing windows, or temporarily vacating the area, etc.). But any actions taken by the public to reduce exposure to smoke from prescribed burns are voluntary and there are no additional feasible methods to compel the public to reduce its exposure further. Thus, even though all feasible precautions and notifications have been included in the SPRs, the potential remains for short-term exposure to odors from unpredictable weather changes could occur. Therefore, this impact would be potentially significant and unavoidable. This is consistent with the PEIR finding and would not constitute a substantially more severe impact than that identified in the PEIR.

New Air Quality Impacts

The project's proposed treatments are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has evaluated and considered site specific characteristics to determine that the project treatments are consistent with the PEIR's environmental and regulatory settings (CalVTP Final PEIR Volume II Sections 3.4.1 and 3.4.2). No changed circumstances would lead to new significant impacts not addressed in the CalVTP PEIR. Therefore, no new impact related to air quality would occur that is not covered in the PEIR

5.4. ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact CUL-1: Cause a Substantial Adverse Change in the Significance of Built Historical Resources	LTS	Impact CUL-1, pp. 3.5-14 – 3.5-15	No	NA	NA	LTS	No	Yes
Impact CUL-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources or Subsurface Historical Resources	SU	Impact CUL-2, pp. 3.5-15 – 3.5-16	Yes	CUL-4 CUL-5 CUL-6 CUL-7 CUL-8	CUL-2	LTS	No	Yes
Impact CUL-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource	LTS	Impact CUL-3, p. 3.5-17	Yes	CUL-5 CUL-6 CUL-8	NA	LTS	No	Yes
Impact CUL-4: Disturb Human Remains	LTS	Impact CUL-4, p. 3.5-18	Yes	N/A	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Archaeological, Historical, and Tribal Cultural Resource Impacts: Would the treatment result in other impacts to archaeological, historical, and tribal cultural resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

A cultural resources inventory and evaluation report was prepared that included an overview of the project's cultural setting, the results of a Northwest Information Center (NWIC) record search, a summary of Native American community outreach efforts, and the results of a field reconnaissance of the project area (Roscoe and Associates, May

2023[3]).

The NWIC record search also revealed that no resources are documented within the current project areas.

Three cultural resources are documented within 0.5 miles of the project area including one Native American archaeological site and two historic era archaeological sites. All are located at least 0.11 miles from the current project. The field surveys identified one isolated artifact on Apple Tree Ridge and a sparse lithic scatter on Everets Ridge in the proposed project area as a result of this investigation. Both are documented on the appropriate California Department of Parks and Recreation 523 series site record forms. The isolated artifact found on Apple Tree Ridge does not appear to be part of a nearby feature or archaeological site. The presence of this artifact does indicate that the region was well utilized by the area's Native American inhabitants, however it is not diagnostic of a specific type or time period and by its self does not contain the necessary qualities to be considered eligible for the California Register of Historic Resources (CRHR). The Everets Ridge lithic scatter was identified in a disturbed context at the intersection of two graded and cut logging roads. The artifacts identified in the lithic scatter are not diagnostic of a specific type or time period and do not contain the necessary qualities to be considered eligible for CRHR.

No archaeological deposits, buildings or structures that would qualify as historical or unique archeological resources (CEQA Guidelines Sections 15064.5 (a) and 21083.2 (g)) and no tribal cultural resources (California Public Resources Code Section 21074), were identified within the proposed project areas during this investigation. There are no built historical resources that may be affected by the proposed project.

Despite a thorough investigation, ground disturbing project activities may have the potential to inadvertently uncover subsurface archaeological material or human remains. In the event that materials or remains are unearthed during project implementation, Section 9.0 of the Cultural Resource report offers recommendations to ensure potential project impacts on inadvertently discovered resources are eliminated or reduced to less-than-significant levels.

Outreach to the Native American community included contacting tribal representatives per CAL FIRE's list for Humboldt County for information on cultural and tribal resources in or near the project area and to solicit any concerns the tribal groups might have regarding the proposed treatment effort.

Mr. Roscoe initiated correspondence with local Tribal Representatives as part of the background research effort. Mr. Roscoe's previous work in the vicinity informed him that members of the Bear River Band of Rohnerville Rancheria have an interest in the Mattole area and may have knowledge regarding tribal cultural resources in the project area or vicinity. For this reason, Mr. Roscoe contacted Melanie McCavour Tribal Historic Preservation Officer (THPO) for the Bear River Band of Rohnerville Rancheria by telephone on January 16, 2023 to discuss the project prior to the field investigation. THPO McCavour accompanied the field survey crew during a portion of the survey on January 25, 2023.

Roscoe and Associates contacted the Native American Heritage Commission (NAHC) to request the results of a

[3] Roscoe and Associates, *A Cultural Resource Investigation Report for the Apple Tree Ridge and Humboldt Redwood Company portions of the Mattole River and Salmon Creek Forest Health and Wildfire Resilience Project (CAL VTP ID 2023-12), Petrolia, Humboldt County, California*, May 2023.

Sacred Lands File records (SLF) search and a list of Native American tribal representatives and interested individuals who should be contacted for more information. The NAHC responded stating that the results of the SLF records search were negative and attached a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list included representatives of the Bear River Rancheria, Big Lagoon Rancheria, Cher-Ae Heights Indian Community of the Trinidad Rancheria, Karuk Tribe, Round Valley Reservation/Covelo Indian Community, and the Yurok Tribe. Roscoe and Associates sent letters to these representatives on April 05, 2023. These letters included a description of the activities used and associated acreages, a map of the treatment area at a sufficient scale to indicate the spatial extent of activities, a request for information regarding potential impacts to cultural resources from the proposed treatments and a detailed description of the depth of excavation, where ground disturbance is expected.

Subsequent to the field survey Mr. Roscoe spoke with Bear River Band of Rohnerville Rancheria THPO McCavour by phone to discuss the results of the field investigation. THPO McCavour later responded on April 06, 2023 and stated that the Rancheria had no comments, further information to share, or requests at this time. No other responses to this outreach were received.

Impact CUL-1

Treatment activities will include manual and mechanical treatments, and burning, which could damage any built historic resources found to be present in the project area. However, none such resources were identified in the Roscoe and Associates surveys as being present in any of the treatment areas. Therefore, no impacts would occur to built historic resources, and no mitigation would be required. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact CUL-2

Treatment activities would include the use of heavy equipment (e.g., bulldozers, tractors, masticators, skid steers) that could result in significant ground disturbance. These disturbances could damage or destroy presently undocumented prehistoric and/or historic-era cultural resources situated within the treatment areas. The potential for treatment activities to disturb, damage, or destroy cultural resources was examined in the PEIR. This impact is within the scope of the PEIR, because the treatment activities and the intensity of ground disturbance that would occur are consistent with those analyzed in the PEIR. SPRs applicable to this impact are CUL-4 through CUL-8. Mitigation Measure CUL-2 would also apply to this treatment to protect unanticipated discoveries of cultural resources. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact CUL-3

Input from the Native American community was solicited for the project consistent with the requirements of SPR CUL-2. As detailed above, on April 5, 2023, a letter was mailed to the tribal contacts noted above. Mr. Roscoe spoke with Bear River Band of Rohnerville Rancheria THPO McCavour by phone to discuss the results of the field investigation. THPO McCavour later responded on April 06, 2023 and stated that the Rancheria had no comments, further information to share, or requests at this time. No other responses to this outreach were received.

The potential for treatment activities to cause a substantial adverse change in the significance of a tribal cultural resource was examined in the PEIR. Proposed activities include both manual and mechanical treatments methods. Ground-

disturbing activities, such as those resulting from the use of heavy equipment, could inadvertently damage or destroy presently undocumented tribal cultural resources in treatment areas. The potential for significant impacts on tribal cultural resources during implementation of the proposed project is within the scope of the activities and impacts addressed in the PEIR because the treatment activities and intensity of ground disturbance are consistent with those analyzed in the PEIR. SPRs applicable to this treatment are CUL-5, CUL-6, and CUL-8. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact CUL-4

Although archival research (e.g., NWIC record search) did not result in the identification of any cemeteries or other occurrences of human interments, treatment activities would include the use heavy equipment (e.g., bulldozers, tractors, masticators, skid steers) that could uncover and disturb presently undocumented human remains. The potential for treatment activities to uncover human remains was examined in the PEIR. This impact is within the scope of the PEIR, because the intensity of ground disturbance under the proposed project is consistent with what was analyzed in the PEIR. Also consistent with the PEIR, the proposed project would comply with California Health and Safety Code Sections 7050.5 and 7052 and Public Resources Code Section 5097 in the event of a discovery of human remains. This impact is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Archaeological, Historical, and Tribal Cultural Resource Impacts

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.5.1, "Environmental Setting," and Section 3.5.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to archaeological, historical, or tribal cultural resources would occur that is not covered in the PEIR.

5.5. BIOLOGICAL RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact BIO-1: Substantially Affect Special-Status Plant Species Either Directly or Through Habitat Modifications	LTS	Impact BIO-1, pp 3.6-131–3.6.138	Yes	BIO-1 BIO-2 BIO-6 BIO-7 BIO-9 GEO-1 GEO-3 GEO-4 GEO-5 GEO-7 HYD-1 HYD-4	BIO-1a BIO-1b	LTS	No	Yes
Impact BIO-2: Substantially Affect Special-Status Wildlife Species Either Directly or Through Habitat Modifications	LTS (all wildlife species except bumble bees) S&U (bumble bees)	Impact BIO-2, pp 3.6-138–3.6-184	Yes	BIO-1 BIO-2 BIO-9 BIO-10 BIO-12 GEO-1 HYD-4	BIO-2a BIO-2b BIO-2g	LTS	No	Yes
Impact BIO-3: Substantially Affect Riparian Habitat or Other Sensitive Natural Community Through Direct Loss or Degradation that Leads to Loss of Habitat Function	LTS	Impact BIO-3, pp 3.6-186–3.6-191	Yes	BIO-1 BIO-2 BIO-3 BIO-4 BIO-6 HYD-1 HYD-4	BIO-3a BIO-3b	LTS	No	Yes
Impact BIO-4: Substantially Affect State or Federally Protected Wetlands	LTS	Impact BIO-4, pp 3.6-191–3.6-192	Yes	BIO-1 BIO-2 BIO-4 HYD-1 HYD-4	BIO-4	LTS	No	Yes
Impact BIO-5: Interfere Substantially with Wildlife Movement Corridors or Impede Use of Nurseries	LTS	Impact BIO-5, pp 3.6-192–3.6-196	Yes	BIO-1 BIO-2 BIO-3 HYD-4	None	LTS	No	Yes
Impact BIO-6: Substantially Reduce Habitat or Abundance of Common Wildlife	LTS	Impact BIO-6, pp 3.6-197–3.6-198	Yes	BIO-1 BIO-2 BIO-12	None	LTS	No	Yes
Impact BIO-7: Conflict with Local Policies or Ordinances Protecting Biological Resources	LTS	Impact BIO-7, pp 3.6-198–3.6-199	Yes	AD-3	None	LTS	No	Yes

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact BIO-8: Conflict with the Provisions of an Adopted Natural Community Conservation Plan, Habitat Conservation Plan, or Other Approved Habitat Plan	No Impact	Impact BIO-8, pp 3.6-199–3.6-200	No	NA	NA	NA	NA	NA

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Biological Resources Impacts: Would the treatment result in other impacts to biological resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

None	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Pursuant to SPR BIO-1, Vollmar Natural Lands Consulting (VNLC) biologists conducted a data review of project-specific biological resources, including habitat and vegetation types, as well as special-status plants, special-status wildlife, and sensitive habitats (e.g., sensitive natural communities, wetlands) with potential to occur in the treatment area (VNLC 2023; see Attachment B, Biological Resources Evaluation Report). The Project includes approximately 1,100 acres of total impact, including approximately 1,056 acres of Fuel Break Treatment Type and approximately 43 acres of Ecological Restoration Treatment Type. Proposed fuel break treatments will occur on Apple Tree Ridge, Everets Ridge, and Burgess Ridge, which are located just outside of the town of Petrolia on private and industrial forestlands in the Mattole River Watershed. Habitat and vegetation types in the treatment areas were evaluated with a reconnaissance-level survey conducted by VNLC and protocol-level plant survey data provided by Native Ecosystems, Inc. (NEI 2023), as well as USDA Forest Service classification (2018). Land cover classifications within the treatment area include North Coast coniferous forest (USDA: conifer forest/woodland, hardwood forest/woodland, and mixed conifer and hardwood forest/woodland), riparian forest, herbaceous vegetation/ grassland, and shrubland.

A list of special-status plant and wildlife species with potential to occur within the treatment areas was compiled by completing a review of the California Natural Diversity Database (CNDDB 2023), United States Fish and Wildlife Information and Planning Consultation Service (IPaC 2023), and California Native Plant Society Inventory of Rare and Endangered Plants of California database records for the ten USGS quadrangles containing and surrounding the treatment areas (CNPS 2023), in addition to Appendix BIO-3 (Table 1a, Table 1b, and Table 19) in the PEIR (Volume II)

for special-status plants and wildlife that could occur in the ecoregion. A list of sensitive natural communities with potential to occur within the treatment areas was compiled by completing a CNDDB search of the ten USGS quadrangles surrounding the treatment areas (CNDDB 2023) and reviewing Table 3.6-3 (pages 3.6-25 – 3.6-27) in the PEIR (Volume II) for sensitive natural communities that could occur in the ecoregion.

VNLC Senior Ecologist Cassie Pinnell conducted a reconnaissance survey on April 26, 2023 to identify and document sensitive resources (e.g., aquatic habitat, riparian habitat, sensitive natural communities) and to assess the suitability of habitat in the treatment areas for special-status plant and wildlife species. Vegetation communities were identified and incidental wildlife observations were recorded.

Based on implementation of SPR BIO-1, including review of occurrence data, species ranges, habitat requirements for each species, results of surveys conducted in the treatment areas and habitat present within the treatment areas as assessed during reconnaissance surveys, a complete list of all species with potential to occur in the vicinity of the proposed project was assembled (Attachment B – Biological Resources Evaluation Report). One listed plant species, five federal or State listed wildlife species, two Fully Protected wildlife species, and one candidate State listed species were determined to have the potential to occur in the treatment areas (see Tables 5.5-1 and 5.5-2). These species are discussed in detail under Impact BIO-1 (special-status plants) and Impact BIO-2 (special-status wildlife). In addition, nine non-listed CRPR plant species and 14 special-status (but not listed) wildlife species have some potential to occur within the treatment area (Attachment B).

Table 5.5-1. Federally and State-Listed Plant Species that May Occur in the Treatment Areas

Species	Listing Status[1] State/Federal/ CRPR	Habitat, Elevation, and Blooming Period (Duration)	Potential for Occurrence
Calamagrostis foliosa leafy reed grass (Poaceae)	CR/--/4.2	Coastal bluff scrub, North Coast coniferous forest, Rocky; 0-4,005 feet; May-September (perennial)	**Documented.** The Study Area contains North Coast coniferous forest. This species has been documented within the Study Area, approximately 25 feet from the Treatment Area boundary.
Erythronium oregonum giant fawn lily (Liliaceae)	--/--/2B.2	Cismontane woodland, Meadows and seeps, Openings, Rocky, Serpentinite (sometimes); 330-3,775 feet; March-June (July) (perennial-bulb)	**Potential to Occur (low).** Cismontane woodland occurs within the Study Area, though rocky areas are limited. The nearest documented CNDDB occurrence is approximately 3.3 miles from the Study Area (3.5 miles from the Treatment Area).
Erythronium revolutum coast fawn lily (Liliaceae)	--/--/2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest, Mesic, Streambanks; 0-5,250 feet; March-July (August) (perennial-bulb)	**Potential to Occur (high).** Broadleafed upland forest, North Coast coniferous forest, mesic areas, and streambanks occur within the Study Area. The nearest documented CNDDB occurrence is approximately 3.3 miles from the Study Area (3.5 miles from the Treatment Area).

Species	Listing Status[1] State/Federal/ CRPR	Habitat, Elevation, and Blooming Period (Duration)	Potential for Occurrence
Gilia capitata ssp. *pacifica* Pacific gilia (Polemoniaceae)	--/--/1B.2	Chaparral (openings), Coastal bluff scrub, Coastal prairie, Valley and foothill grassland; 15-5,465 feet; April-August (annual)	**Potential to Occur (high).** Chaparral and valley and foothill grassland habitats occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.3 miles from the Study Area (2.5 miles from the Treatment Area).
Montia howellii Howell's montia (Montiaceae)	--/--/2B.2	Meadows and seeps, North Coast coniferous forest, Vernal pools, Roadsides (sometimes), Vernally Mesic; 0-2,740 feet; (February) March-May (annual)	**Documented.** North Coast coniferous forest occurs within the Study Area. The nearest documented CNDDB occurrence (documented in 2003) is within the Study Area and is 223 feet outside the Treatment Area.
Packera bolanderi var. *bolanderi* seacoast ragwort (Asteraceae)	--/--/2B.2	Coastal scrub, North Coast coniferous forest, Roadsides (sometimes); 100-2,135 feet; (January-April) May-July (August) (perennial)	**Potential to Occur (high).** Coastal scrub and North Coast coniferous forest occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.3 miles from the Study Area (2.6 miles outside the Treatment Area).
Piperia candida white-flowered rein orchid (Orchidaceae)	--/--/1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Serpentinite (sometimes); 100-4,300 feet; (March-April) May-September (perennial)	**Potential to Occur (high).** Broadleafed upland forest, Lower montane coniferous forest, and North Coast coniferous forest occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.7 miles from the Study Area (2.6 miles from the Treatment Area). The HRC documented this species within the Study Area boundary (approximately 700 feet from the Treatment Area boundary) in 2020.
Polemonium carneum Oregon polemonium (Polemoniaceae)	--/--/2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest; 0-6,005 feet; April-September (perennial)	**Potential to Occur (low).** Coastal scrub and lower montane coniferous forest occur within the Study Area; however, there are no documented CNDDB occurrences within 5 miles of the Study Area.
Sidalcea malviflora ssp. *patula* Siskiyou checkerbloom (Malvaceae)	--/--/1B.2	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest, Roadsides (often); 50-4,035 feet; (March) May-August (perennial)	**Documented.** North Coast coniferous forest occurs within the Study Area. A documented CNDDB occurrence of this species occurs within the Study Area, and the HRC documented this species within the Treatment Area in 2020.

Species	Listing Status[1] State/Federal/ CRPR	Habitat, Elevation, and Blooming Period (Duration)	Potential for Occurrence
Sisyrinchium hitchcockii Hitchcock's blue-eyed grass (Iridaceae)	--/--/1B.1	Cismontane woodland (openings), Valley and foothill grassland; 656-1,000 feet; June (perennial)	**Potential to Occur (low).** Cismontane woodland and valley and foothill grassland occurs within the Study Area; however, there are no documented CNDDB occurrences within 5 miles of the Study Area.

Compiled from a CNPS 10-Quad search of the Petrolia and Buckeye Mountain quadrangles and surrounding quadrangles: Cape Mendocino, Capetown, Taylor Peak, Scotia, Bull Creek, Honeydew, Shubrick Peak, and Cooskie Creek. Bloom Periods in Parentheses indicate that the species *occasionally* blooms during that period.

[1] Rarity Status Codes:
E = Federally or State listed as Endangered
T = Federally or State listed as Threatened
R = State listed as Rare

CRPR Codes:
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere; CRPR List 1B = Plants rare, threatened or endangered in CA and elsewhere; CRPR 2B = Plants rare, threatened or endangered in California but more common elsewhere; CRPR 3 = More information is needed about plant; CRPR 4 = Plants of limited distribution, a watch list
CRPR: '.1' = Seriously threatened in CA; '.2' = Fairly threatened in CA; '.3' = Not very threatened in CA

Table 5.5-2. Special-Status Wildlife Species that May Occur in the Treatment Areas

Species	Listing Status[1]	Description of Habitat Requirements	Potential for Occurrence
Amphibians			
Foothill yellow-legged frog *Rana boylii* Northwest/North Coast Clade	SSC	Prefer partly shaded, shallow streams and riffles with a rocky substrate. They occur in streams within woodlands, chaparral, and forest habitats. Mating and egg laying occurs exclusively in rivers and streams, not in ponds or lakes.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The closest CNDDB occurrence is 100 feet from the Study Area. Conklin Creek is known to provide suitable breeding grounds. Lower reaches of McGinnis Creek provide suitable habitat.
Pacific tailed frog *Ascaphus truei*	SSC	Prefer rocky streams in wet forests with continual flow and cold, clear water. Streambanks with logs, gravelly seeps, and small boulders are required for egg laying. Sediment free cobble substrate is required for tadpoles.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The smaller order streams with closed canopies are likely to provide the best habitat for this species.
Red-bellied newt *Taricha rivularis*	SSC	They are found within coastal woodlands and the redwood forests of northern California. They dwell among slow moving streams and rivers. Reproduction is aquatic and requires clean cobbly streams and rocky rivers.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. Most likely to occur within the lower reaches of McGinnis Creek.

Species	Listing Status[1]	Description of Habitat Requirements	Potential for Occurrence
Southern torrent salamander *Rhyacotriton variegatus*	SSC	Prefers waterfalls and seepages, as well as shallow, cold, clear, well shaded streams within old-growth forests. Usually found in contact with the water but occasionally among riparian vegetation.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The smaller order streams with closed canopies are likely to provide the best habitat for this species.
Birds			
American peregrine falcon *Falco peregrinus*	FP	Prefer to breed near water with vertical nesting sites such as cliffs, steep banks, and ledges.	**Potential to Occur (high).** Suitable habitat of steep banks is found within the Study Area.
Cooper's hawk *Accipiter cooperii*	WL	Birds of the forest and woodlands. They prefer to nest in trees on flat ground and within dense woods. Nests are usually found two-thirds of the way up a tree.	**Potential to Occur (high).** Suitable forest habitat present within Study Area. Closest documented CNDDB occurrence is 1.89 from Study Area.
Great blue heron *Ardea herodias*	CDF: S	Live in freshwater and saltwater wetlands and estuaries. They forage in wetlands, grasslands, and agricultural fields where they will stalk small mammals and frogs. They nest in colonies and will nest mainly in trees and shrubs but occasionally on the ground.	**Potential to Occur.** McGinnis and Conklin creek could provide wetland habitat used for foraging.
Great egret *Ardea alba*	CDF: S	Live in and around freshwater, brackish, or marine wetlands. They nest in colonies found in trees or shrubs found on lakes, ponds, marshes, or estuaries.	**Potential to Occur.** McGinnis and Conklin creek could provide wetland habitat used for foraging.
Golden eagle *Aquila chrysaetos*	WL, FP, USFWS: BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff- walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Potential to Occur.** Tall forests of Douglas-fir may provide suitable nesting habitat. Open fields surrounding Study Area provide potential foraging habitat. Closest documented CNDDB occurrence is 0.78 miles from Study Area.
Northern spotted owl *Strix occidentalis caurina*	FT, ST	Dense blocks of mature, multi-layered forests of mixed conifer, redwood, and Douglas-fir habitat.	**Documented.** Multiple occurrences of Northern spotted owls have been documented within the Study Area.

Species	Listing Status[1]	Description of Habitat Requirements	Potential for Occurrence
Sharp-shinned hawk *Accipiter striatus*	WL	Require dense forest with a closed canopy for breeding. Prefer to use conifers for nesting sites. Nest is placed within dense forest cover, usually towards the top of the tree.	**Potential to Occur (high).** Forest habitat within the Study Area could provide suitable nesting grounds.
Fish			
Chinook salmon – California coastal ESU *Oncorhynchus tshawytscha pop. 17*	FT	Migrate between ocean and freshwater environments, hatch and rear in freshwater environments, migrate to ocean for maturation, return to natal freshwater streams for spawning.	**Potential to Occur (high).** The Mattole River, Conklin, and McGinnis Creek are all designated critical habitat for this species.
Coho salmon – Southern Oregon / Northern California ESU *Oncorhynchus kisutch pop.2*	FT, ST	Migrate between ocean and freshwater environments, hatch and rear in freshwater environments, migrate to ocean for maturation, return to natal freshwater streams for spawning.	**Potential to Occur (high).** Further downstream in the Mattole River there are CNDDB records of Coho salmon presence. Conklin and McGinnis Creek are Designated Critical Habitat for this species.
Pacific lamprey *Entosphenus tridentatus*	SSC	Spend about 1 – 3 years in the ocean and then migrate to freshwater to spawn. Spawn in gravel bottom streams.	**Potential to Occur (high).** Conklin Creek has documented CNDDB records of being used as a spawning ground for Pacific lamprey. McGinnis Creek could provide suitable habitat.
Steelhead -Northern California DPS summer-run *Oncorhynchus mykiss irideus pop. 48*	FT	Migrate between ocean and freshwater environments, with hatching and rearing in freshwater environments, migration to ocean for maturation, then return to natal freshwater streams for spring.	**Documented.** The Mattole River has documented CNDDB records of steelhead presence. Conklin and McGinnis Creek are Designated Critical Habitat for this species.
Insects			
Western bumble bee *Bombus occidentalis*	SCE	Nest in underground cavities or animal burrows. Forage and overwinter in meadows and grasslands with abundant flowers.	**Potential to Occur.** Meadow and grassland habitat is adjacent to the Study Area.
Mammals			
American badger *Taxidea taxus*	SSC	Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.	**Potential to Occur (high).** Open areas in the form of meadows and grasslands are adjacent to the Study Area.

Species	Listing Status[1]	Description of Habitat Requirements	Potential for Occurrence
Fisher *Pekania pennanti*	SSC	Solitary creatures that prefer dense coniferous forests. They use abandoned animal dens of squirrels and foxes to rest, sleep and raise their young.	**Documented.** There are multiple CNDDB occurrences within a 5-mile radius of the Study Area. CNDDB records list that fished occur along McGinnis Creek. The Study Area provides suitable habitat in the form of dense coniferous forests.
North American porcupine *Erethizon dorsatum*	IUCN: LC	They will den in caves, rock crevices, hollow logs, and burrows of other animals. Occasionally will den in dense foliage in trees if other sites are not available. Prefers open stands of conifers. During spring and summer they use meadows and riparian habitats for feeding.	**Potential to Occur (low).** The Study Area provides suitable habitat to provide dens. Feeding habitat is directly adjacent to the Study Area.
Humboldt marten *Martes caurina humboldtensis*	FT, SE	Prefer habitats of mixed evergreen forest with more than 40% crown closure. Dens are found in cavities of trees, snags, logs, caves, or abandoned animal burrows.	**Potential to Occur (high).** The Study Area provides habitat of dense mixed evergreen forests that could support dens.
Sonoma tree vole *Arborimus pomo*	SSC	Found within forests but prefers old-growth Douglas-fir or redwood. Nests are constructed in preferably tall trees composed of Douglas-fir needles. They are often situated on a whorl of limbs against the trunk or at the outer limits of the branches.	**Potential to Occur (low).** Suitable habitat in the form of Douglas-fir forests are present within the Study Area. However, large/old-growth trees will be avoided.
Reptiles			
Western pond turtle *Emys marmorata*	SSC	Permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, and reservoirs. Logs, rocks, cattail mats, and exposed banks are required for basking.	**Potential to Occur (low).** Study Area provides suitable habitat of small creeks.

[1] **Status definitions:**
FT – Federal Threatened; FE – Federal Endangered; ST – State Threatened; SE – State Endangered; SCE – State Candidate Endangered; USFWS: BCC – USFWS Bird of Conservation Concern; SSC – CDFW Species Special Concern; FP – CDFW Fully Protected; WL – CDFW Watch List; CDF: S – California Department of Forestry and Fire Protection Sensitive; IUCN: LC – International Union for Conservation of Nature Least Concern

SPR BIO-2 also will be implemented for all project treatments (Require Biological Resource Training for Workers). The project proponent will require crew members and contractors to receive training from a qualified Registered Professional Forester (RPF) or biologist prior to beginning a treatment project. The training will describe the appropriate work practices necessary to effectively implement the biological SPRs and mitigation measures and to

comply with the applicable environmental laws and regulations (see SPR table for additional detail). The qualified RPF, biologist, or biological technician will immediately contact CDFW or USFWS, as appropriate, if any wildlife protected by the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own (without being handled). This SPR applies to all treatment activities and treatment types.

Impact BIO-1

Initial vegetation treatments could result in direct or indirect adverse effects on the one listed and nine CRPR special-status plant species with suitable or marginal habitat in the treatment area (Table 5.5-1), as described in the following sections.

In addition to SPR BIO-1 (complete) and SPR BIO-2 (worker awareness training), SPR BIO-7 would apply to all treatment activities. Pursuant to SPR BIO-7, protocol-level surveys for special-status plants would not be required if the target special-status plant species are herbaceous annual species, stump sprouting species, or geophyte species (two species included in Attachment B). The treatment may be carried out during the dormant season (September through February) for those species, provided the treatment would not alter habitat in a way that would make it unsuitable for the special-status plants to reestablish following treatment or destroy seeds, stumps, roots, rhizomes, bulbs, and other underground parts of special-status plants. If treatments cannot be completed in the dormant season and would be implemented during the growing period of these annual and geophyte species, protocol-level surveys (per SPR BIO-7) and avoidance of any identified plants (per Mitigation Measures BIO-1a and BIO-1b) must be implemented, as described below.

The remaining eight of the 10 special-status plants that have potential to occur within the treatment areas are perennial species, which could not be avoided in the same manner as herbaceous annual species or geophytes; therefore, protocol-level surveys under SPR BIO-7 to identify them would be necessary prior to implementing treatment activities.

Where protocol-level surveys are required (per SPR BIO-7) and special-status plants are identified during these surveys, Mitigation Measures BIO-1a and BIO-1b would be implemented to avoid loss of identified special-status plants. Per Mitigation Measures BIO-1a and BIO-1b, if special-status plants are identified during protocol-level surveys, a no-disturbance buffer of at least 50 feet would be established around the area occupied by the species within which mechanical treatment and manual treatment would not occur. SPR BIO-6 requires implementation of actions to prevent the spread of plant pathogens when working in sensitive communities (e.g., prevention of *Phytopthora* spread). SPR BIO-9 requires implementation of actions to prevent the spread of invasive plants and noxious weeds that could compete with special-status plants for water, light, and nutrients, so indirect impacts on special-status plants from invasive plants as a result of the program would be minimized. In addition, SPRs GEO-1, GEO-3, GEO-4, GEO-5, and GEO-7 require implementation of measures to minimize soil erosion and fugitive dust thereby reducing potential indirect impacts on special-status plants from soil destabilization and dusting. SPRs HYD-1 and HYD-4 limit impacts to sensitive stream communities and wetlands that could support special-status plants.

The proposed treatment activities would reduce wildfire risk, promote healthy forest conditions, remove invasive species, and actively revegetate native species; therefore, with the incorporation of the above-listed SPR and Mitigation Measures, impacts to special-status plant species by treatment activities are expected to be less-than-

significant. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-2

Vegetation treatments could result in direct or indirect adverse effects on special-status wildlife species with suitable habitat within the treatment areas, as described in the following sections.

Special-status Herptiles

Habitat exists within the Study Area for four special-status amphibian species: foothill yellow-legged frog (*Rana boylii*; FYLF) – Northwest/North Coast clade; Pacific tailed frog (*Ascaphus truei*); red-bellied newt (*Taricha rivularis*), and southern torrent salamander (*Rhyacotriton variegatus*), and one reptile species: western pond turtle (*Emys marmorata*) (Table 5.5-2). All of these species are CDFW Species of Special Concern, but none have State or Federal listing status. Habitat potentially suitable for these species includes perennial and intermittent streams and wetlands adjacent to the treatment areas and associated uplands. Conklin Creek has documented records of FYLF presence, and McGinnis Creek and other small drainages within the Study Area provide suitable habitat for this species. Uplands around Conklin and McGinnis Creeks could provide dispersal habitat during metamorph or migration season. Watercourse and Lake Protection Zones (WLPZs) ranging from 50 to 150 feet adjacent to all aquatic habitat within the treatment areas would be implemented per SPR HYD-4; however, these measures may not result in full avoidance of this species if they are present further than 150 feet from stream habitat. Because these species could be present within a variety of different habitats throughout the treatment areas while dispersing, there is no feasible way to avoid all potentially suitable habitat for these species. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. The potential for treatment activities to result in adverse effects on special-status amphibians was examined in the PEIR.

If the WLPZ buffers are determined to be infeasible for certain treatments (e.g., in-stream and riparian habitat improvement treatments), then SPR BIO-10 would apply, and focused visual encounter surveys for special-status herptiles would be conducted within suitable aquatic habitat areas prior to treatment activities. If special-status species are identified during focused surveys, Mitigation Measure BIO-2b would be implemented as described below.

Per Mitigation Measure BIO-2b, if special-status species are encountered during focused visual surveys then a no-disturbance buffer will be implemented. For all treatment activities the project proponent will establish a no-disturbance buffer around occupied sites. Buffer size will be determined by a qualified RPF or biologist using the most current, commonly accepted science and will consider published agency guidance; however, buffers will generally be a minimum of 100 feet, unless site conditions indicate a smaller buffer would be sufficient for protection or a larger buffer would be needed.

Habitat function for special-status herptiles would be maintained because most treatment activities would not occur within aquatic habitat, riparian habitat, or WLPZs adjacent to treatment areas. Additionally, treatment activities, including removal of invasive and non-native vegetation, as well as fuel load reduction are likely to improve habitat for the species. The restoration activities that would occur within aquatic and riparian habitats and WLPZs are designed to benefit these species. Additionally, the implementation of SPR BIO-9 will help prevent the introduction of invasive wildlife (e.g., New Zealand mudsnail). Incorporation of the above-listed SPRs and Mitigation Measures would

bring the potential impact on special-status herptiles to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Special-status and Migratory Birds

Seven special-status bird species may occur within the treatment area: American Peregrine Falcon (*Falco peregrinus*), Cooper's Hawk (*Accipiter cooperii*), Great Blue Heron (*Ardea herodias*), Great Egret (*Ardea alba*), Golden Eagle (*Aquila chrysaetos*), Northern Spotted Owl (*Strix occidentalis caurina*; NSO), and Sharp-shinned hawk (*Accipiter striatus*) (Table 5.5-2). Additionally, nesting migratory birds may occur within the treatment areas. Great Blue Heron and Great Egret are not expected to nest in the treatment area, but could forage in creek habitats.

Nesting habitat potentially suitable for American Peregrine Falcon, Cooper's Hawk, Golden Eagle, Northern Spotted Owl, and Sharp-shinned Hawk is present within and adjacent to the treatment areas. Per SPR BIO-1.1, if it is determined that adverse effects on suitable habitat for nesting special-status birds can be clearly avoided by conducting treatments outside of the season of sensitivity (i.e., nesting bird season), then no mitigation would be required. Adverse effects on nesting special-status birds would be clearly avoided by conducting treatments between September 1 and February 28, outside of the nesting bird season (March 1–August 31).

If treatments are conducted during portions of the nesting bird season, these activities could result in direct loss of active special-status bird nests or disturbance to active nests from auditory and visual stimulus (e.g., heavy equipment, chain saws, vehicles, personnel), potentially resulting in abandonment of nests and loss of eggs or chicks. The potential for treatment activities to result in adverse effects on special-status birds was examined in the PEIR.

If mechanical or manual treatments would occur during the nesting season, then SPR BIO-10 and SPR BIO-12 would apply. Pre-construction visual nesting surveys (including daytime stand searches for NSO) would be conducted within suitable nesting habitat within two weeks prior to treatments by a biologist with knowledge of, and ability to recognize, NSO and other nesting bird species. If no active nests area observed during these visual surveys, then additional mitigation would not be required.

If active American Peregrine Falcon, Golden Eagle, or Northern Spotted Owl nests (or nests of any other Fully Protected or CESA/ESA species) are observed, then Mitigation Measure BIO-2a would be implemented. Additionally, CDFW and USFWS will be notified if NSO is observed. Under Mitigation Measures BIO-2a, a no-disturbance buffer of at least 0.25 mile would be established around NSO nests, and a 500-foot buffer would be established around active Golden Eagle or American Peregrine Falcon nests. No machinery or power equipment (including chainsaws) would occur within this buffer until the chicks have fledged as determined by a qualified biologist. No work of any sort would be allowed within 600 feet (200 meters) of an active NSO nest. Trees containing active or inactive NSO nests would not be removed. Additionally, trees containing active or inactive Bald Eagle nests would not be removed pursuant to the Bald and Golden Eagle Protection Act.

If active other special-status or migratory bird nests (not Fully Protected or CESA/ESA listed) are observed during focused surveys, then Mitigation Measure BIO-2b would be implemented. Under Mitigation Measures BIO-2b, a no-disturbance buffer of at least 100 feet would be established around the nests of other special-status or migratory birds, and no treatment activities would occur within this buffer until the chicks have fledged as determined by a qualified biologist.

Under Mitigation Measure BIO-2a, habitat function for NSO and any other observed Fully Protected or CESA/ESA listed birds would be maintained by opening the understory and removing smaller trees, allowing larger trees to thrive and reducing the risk of wildfire. A qualified RPF or biologist (in consultation with CDFW) will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment.

Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less-than-significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Special-status Fish

Habitat potentially suitable for four special-status fish species is present in Conklin and McGinnis Creeks, as well as the mainstem Mattole River, within the treatment areas: chinook salmon – California Coastal Evolutionarily Significant Unit (ESU) population 17 (*Oncorhynchus tshawytscha*), coho salmon – Southern Oregon/Northern California ESU population 2 (*Oncorhynchus kisutch*), Pacific lamprey (*Entosphenus tridentatus*), and steelhead – Northern California Distinct Population Segment (DPS) summer-run population 48 (*Oncorhynchus mykiss irideus*). The Mattole River, McGinnis Creek and Conklin Creek are also designated steelhead and chinook salmon critical habitat. WLPZs ranging from 50 to 150 feet adjacent to all aquatic habitat within the treatment areas would be implemented per SPR HYD-4 and will provide protection for special-status fish.

The restoration activities that would occur within aquatic and riparian habitats (and therefore will not follow SPR HYD-4 or WLPZs) are designed to benefit these species. However, since in-stream treatments (installation of large woody debris) in McGinnis Creek could impact CESA/ESA listed species (steelhead, chinook salmon, and coho salmon), SPR BIO-10 and Mitigation Measure BIO-2a will be implemented.

Under Measure BIO-2a, treatment will not be implemented within the occupied habitat, as determined by a qualified biologist. Any treatment activities outside occupied habitat will be a sufficient distance from the occupied habitat such that mortality, injury, or disturbance of the species will not occur, as determined by a qualified biologist using the most current and commonly-accepted science and considering published agency guidance. Or, treatment will be implemented outside the sensitive period of the species' life history during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. Site specific sensitive periods should be determined by a qualified fish biologist familiar with the project site in consultation with CDFW and/or USFWS/ National Marine Fisheries Service, and could include consideration of coho salmon egg incubation (November through April) and fry emergence (March through) July; steelhead spawning season (December through April); and chinook salmon spawning season (September through November) or emergence (late winter or spring); or any other factors specific to the areas targeted for in-stream work.

Habitat function for special-status fish would be maintained because treatment activities will not disrupt or impact perennial stream function in a meaningful way, and restoration activities are designed to benefit fish species (riparian and large wood treatments improve temperature and cover conditions). Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less-than-significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Special-status Insects

Habitat potentially suitable for one special-status insect species, the western bumble bee (*Bombus occidentalis*), is present in the treatment areas in open grassland and shrublands. Per SPR BIO-1, if it is determined that adverse effects on western bumble bee can be clearly avoided by physically avoiding the suitable habitat, then no mitigation would be required. However, it is unlikely that all potentially suitable habitat for these species can be avoided. As a result, SPR BIO-10 would apply, and focused surveys for western bumble bee would be conducted within suitable habitat prior to implementation of mechanical and manual treatments. In addition, Mitigation Measure BIO-2g would apply, initiating several protective measures for western bumble bee. Prescribed burning within occupied or suitable habitat for special-status bumble bees will occur from October through February to avoid the bumble bee flight season. Treatment areas in occupied or suitable habitat will be divided into a sufficient number of treatment units such that the entirety of the habitat is not treated within the same year; the objective of this measure is to provide refuge for special-status bumble bees during treatment activities and temporary retention of suitable floral resources proximate to the treatment area. Treatments will be conducted in a patchy pattern to the extent feasible in occupied or suitable habitat, such that the entirety of the habitat is not burned or removed and untreated portions of occupied or suitable habitat are retained (e.g., fire breaks will be aligned to allow for areas of unburned floral resources for special-status bumble bees within the treatment area).

Due to difficulty in detecting overwintering and nesting bumble bees and determining the occurrence and severity of impacts, for purposes of good faith, full disclosure under CEQA, this impact is designated in the PEIR to be potentially significant and unavoidable. This finding is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Special-status Mammals

Five special-status mammal species have potential to occur in the project area, per SPR BIO-1, including: American badger (*Taxidea taxus*), fisher (*Pekania pennanti*), North American porcupine (*Erethizon dorsatum*), Humboldt marten (*Martes caurina humboldtensis*), and Sonoma tree vole (*Arborimus pomo*). Of these five, the Humboldt marten is the only listed species (Federal Threatened, State Endangered). Both Humboldt marten and the fisher prefer tree cavities within large, mature trees and snags – and both have very specific habitat requirements that include high canopy closure and complex forest structure with snags and downed woody debris. The Sonoma tree vole also utilizes trees, preferably tall trees, and constructs nests of Douglas-fir needles. The North American porcupine can den in a variety of features, whereas the American badger utilizes underground burrows. Per SPR BIO-10, a focused pre-construction survey by a qualified biologist should be conducted prior to any treatments that could disturb these species.

If the Humboldt marten is observed during surveys, CDFW and/or USFWS will be notified and Mitigation Measure BIO-2a will be implemented. Treatment will not be implemented within the occupied habitat. Any treatment activities outside occupied habitat will be a sufficient distance from the occupied habitat such that mortality, injury, or disturbance of the species will not occur, as determined by a qualified RPF or biologist using the most current and commonly-accepted science and considering published agency guidance. Or, treatment will be implemented outside the sensitive period of the species' life history (e.g., outside the breeding season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of young.

Additionally, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with large cavities;

caves, burrows, downed woody debris; food sources). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Also, tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the Humboldt marten and a qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. Because this measure pertains to species listed under CESA/ESA or that are Fully Protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding the determination that habitat function is maintained. If consultation determines that the treatment will not maintain habitat function for the special-status species, the project proponent will implement Mitigation Measure BIO-2c.

For the remaining four special-status mammal species, if they are observed during surveys then Mitigation Measure BIO-2b will be implemented for all treatment activities except prescribed burning, and a no-disturbance buffer will be established around occupied sites. Buffer size will be determined by a qualified RPF or biologist using the most current, commonly accepted science and will consider published agency guidance; however, buffers will generally be a minimum of 100 feet. For prescribed burning, the project proponent will implement the treatment outside the sensitive period of the species' life history (e.g., outside the breeding season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of young.

If any CESA or ESA listed species are encountered during the project, CDFW and/or USFWS will be notified.

Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-3

Vegetation treatments could result in direct or indirect adverse effects on sensitive habitats, including designated sensitive natural communities. The potential for treatment activities to result in adverse effects on sensitive habitats was examined in the PEIR.

The Study Area has potential to support sensitive natural communities such as Manual of California Vegetation (MCV) ranked California brome – blue wildrye prairie (S3/G3), needle grass – melic grass grassland (S3S4/G3G4), bush monkeyflower (S3/G3), Douglas-fir – incense cedar forest and woodland (S3/G3), and Douglas-fir – tanoak forest and woodland (S3/G3), or various riparian corridors. The following measures are recommended for sensitive natural communities and riparian areas. By project design, the HCRCD would retain vegetation types with characteristics qualifying as sensitive natural communities to the extent possible. Pursuant to SPR BIO-3, a qualified RPF or biologist would perform a protocol-level plant and vegetation survey, and map and GPS record the limits of any potential sensitive habitat and sensitive natural community identified in the treatment area.

If treatment activities within sensitive natural communities cannot be avoided, then Mitigation Measure BIO-3a would apply in these areas. Under Mitigation Measure BIO-3a, the qualified biologist would determine the natural fire regime, condition class, and fire return interval for each sensitive natural community and oak woodland type. Treatment activities in sensitive natural communities would be designed to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function. If habitat function of sensitive natural communities would not be maintained through implementation of Mitigation

Measure BIO-3a, then Mitigation Measure BIO-3b would apply, and unavoidable losses of these resources would be compensated through restoration or preservation of these vegetation types within or outside of the treatment areas. Work in riparian communities will adhere to SPR BIO-4, which includes designing treatments in riparian habitats to retain or improve habitat functions by retaining target canopy covers, limiting to removal of uncharacteristic fuel loads, minimizing removal of large, native riparian hardwood trees, notifying CDFW under Section 1602, minimizing ground disturbance, and avoiding removal of shading vegetation. SPR BIO-6 would prevent the spread of plant pathogens (e.g., *Phytopthera*).

This potential impact on sensitive habitats is within the scope of the PEIR because the affected sensitive natural communities were analyzed in the PEIR, and the treatment activities and intensity of disturbance as a result of implementing vegetation treatments are consistent with those analyzed in the PEIR. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-4

Vegetation treatments could result in direct or indirect adverse effects on state or federally protected wetlands. The potential for treatment activities to result in adverse effects on state or federally protected wetlands was examined in the PEIR.

Impacts to aquatic habitat in the vicinity of the treatment area has been excluded during design of the mechanical and manual treatments. Application of SPR HYD-1 would reduce impacts to wetland habitat through the implementation of Waste Discharge Requirements (WDRS) and Basin Plan Prohibitions. Under SPR HYD-4, WLPZs ranging from 50 to 150 feet would be established adjacent to all Class I and Class II streams within the treatment areas, and WLPZs of at least 25 feet would be established around all Class III ephemeral streams within the treatment areas. Establishment of WLPZs would avoid all state or federally protected wetlands associated with stream corridors.

For state or federally protected wetlands outside stream corridor WLPZs, Mitigation Measure BIO-4 will be employed and would reduce potentially significant impacts on state and federally protected wetlands by requiring delineation and avoidance of these wetlands with no-disturbance buffers clearly marked so that no inadvertent damage or destruction to these habitats would occur during treatment activities - or would require that prescribed burns be designed to avoid loss of wetland functions and values. With implementation of mitigation, adverse effects to wetlands would not be substantial. This impact would be less-than-significant.

Restoration treatments including riparian plantings and large wood placements in McGinnis Creek will occur within riparian and stream habitat. Though these treatments are ultimately beneficial restoration of these habitats, they could still have temporary or permanent impacts. Therefore, prior to work in riparian or in-stream habitats, the HCRCD will apply SPR BIO-4 (riparian) and consult with regulatory agencies to confirm if additional permits are needed, such as Regional Water Quality Control Board (RWQCB) Section 401, Army Corps of Engineers (ACOE) Section 404, or CDFW 1602 (SPR HYD-1).

This potential impact on wetlands is within the scope of the PEIR because the treatment activities and intensity of disturbance as a result of implementing vegetation treatments are consistent with those analyzed in the PEIR. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less-than-

significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-5

Initial vegetation treatments could result in direct or indirect adverse effects on wildlife movement corridors and nurseries because suitable habitat is present in treatment areas. The potential for treatment activities to result in adverse effects on wildlife movement corridors and nurseries was examined in the PEIR.

Based on review and survey of project-specific biological resources (SPR BIO-1), the treatment area does not contain a modeled essential connectivity area, and therefore does not have regionally-significant function as a wildlife movement corridor. However, it still may provide connectivity with other natural habitats surrounding the treatment areas (CDFW 2020). Implementation of SPR BIO-1, BIO-2, BIO-3, and SPR HYD-4 would provide protection to wildlife access through the project site. Due to the nature of the proposed treatment activities, implementation of these treatment activities would not result in a substantial change in the existing conditions that facilitate wildlife movement in treatment areas, and inclusion of the SPRs would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-6

Initial vegetation treatments could result in direct or indirect adverse effects resulting in reduction of habitat or abundance of common wildlife, including nesting birds, because habitat suitable for these species is present throughout treatment areas. The potential for treatment activities to result in adverse effects on these resources was examined in the PEIR.

Adverse effects on nesting birds would be clearly avoided by conducting treatments between September 1 and February 28, outside of the nesting bird season (March 1–August 31). If treatments, including manual and mechanical treatment activities, are conducted during portions of the nesting bird season, then these activities could result in direct loss of active nests or disturbance to active nests from auditory and visual stimulus (e.g., heavy equipment, chain saws, vehicles, personnel) potentially resulting in abandonment of nests and loss of eggs or chicks.

If treatments would occur during the nesting season, then SPR BIO-12 would apply, and a survey for common nesting birds would be conducted within the treatment areas by a qualified biologist prior to treatment activities. If no active bird nests are observed during focused surveys, then additional mitigation would not be required. If active nests of common bird species are observed during focused surveys, disturbance to the nests would be avoided by establishing an appropriate buffer around the nests, modifying treatments to avoid disturbance to the nests, or deferring treatment until the nests are no longer active as determined by a qualified biologist.

The potential for adverse effects on common wildlife, including nesting birds, is within the scope of the PEIR because the treatment activities and extent of expected disturbance as a result of implementing vegetation treatments are consistent with those analyzed in the PEIR. SPRs applicable to this impact are BIO-1, BIO-2, and BIO-12. Incorporation of the above-listed SPRs would bring the potential impact to a less-than-significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-7

Pursuant to SPR AD-3, the design and implementation of the project is consistent with applicable local plans, policies and ordinances protecting biological resources and would have a less-than-significant impact. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact BIO-8

This impact does not apply to the proposed project because the treatment areas are not within the plan area of any adopted habitat conservation plan or natural community conservation plan. Therefore, this impact does not apply to the proposed project.

New Biological Resource Impacts

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined that they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.6.1, "Environmental Setting," and Section 3.6.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances are present that would give rise to any new significant impacts not addressed in the PEIR. Therefore, no new impact related to biological resources would occur that is not covered in the PEIR.

5.6. GEOLOGY, SOILS, PALEONTOLOGY, AND MINERAL RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact GEO-1: Result in Substantial Erosion or Loss of Topsoil	LTS	Impact GEO-1, pp. 3.7-26 – 3.7-29	Yes	AD-3, GEO-1-8, HYD-4	NA	LTS	No	Yes
Impact GEO-2: Increase Risk of Landslide	LTS	Impact GEO-2, pp. 3.7-29 – 3.7-30	Yes	GEO-1-5, 7, 8,	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Geology, Soils, Paleontology, and Mineral Resource Impacts: Would the treatment result in other impacts to geology, soils, paleontology, and mineral resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact GEO-1

Vegetation treatments would include burning, manual, and mechanical treatment activities involving vegetation removal and varying levels of soil disturbance, which have the potential to increase rates of erosion and loss of topsoil. The potential for these treatment activities to cause substantial erosion or loss of topsoil was examined in the PEIR. Mechanical treatments using heavy machinery are the most likely to cause soil disturbance that could lead to substantial erosion or loss of topsoil, especially in areas of steep slopes. However, all treated areas, including burn areas, would result in bared soils, which would increase the potential erosion hazard. The proposed project would implement mechanical and/or burn treatments on approximately 1,056 acres, including areas where steep slopes occur (the steepest slopes and WLPZs would be manually treated). Consistent with the PEIR, SPRs GEO-1 through GEO-8 and HYD-4, would be implemented, which would avoid and minimize the risk of substantial erosion and loss of topsoil as a result of project implementation. This impact is within the scope of the PEIR because the proposed treatment activities and intensity of vegetation removal and associated ground disturbance under the proposed project is consistent with what was analyzed in the PEIR. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact GEO-2

Vegetation treatments would include vegetation removal in areas with steep slopes, which could decrease the stability of slopes and increase the risk of landslides. The potential for treatment activities to increase landslide risk was examined in the PEIR. Removing vegetation during treatments implemented under the proposed project could potentially increase the risk of landslide by baring slopes and removing root systems that stabilize slopes. Consistent with the PEIR, this risk is addressed with the implementation of SPRs GEO-1 through GEO-5, GEO-7, and GEO-8, which require stabilization of disturbed soil, erosion inspections, prohibiting mechanical treatment on steep slopes, and that a registered professional forester or licensed geologist evaluate treatment areas with slopes greater than 50 percent for unstable areas. This impact is within the scope of the PEIR because the extent and methods of vegetation removal and required avoidance of steep slopes and areas of instability are consistent with those analyzed in the PEIR. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Geology, Soils, Paleontology, and Mineral Resource Impacts

The proposed treatments are within the CalVTP treatable landscape, and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.7.1, "Environmental Setting," and Section 3.7.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impacts related to geology, soils, paleontology, or mineral resources would occur that are not covered in the PEIR.

5.7. GREENHOUSE GAS EMISSIONS

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact GHG-1: Conflict with Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs	LTS	Impact GHG-1, pp. 3.8-10 – 3.8-11	Yes	None	NA	LTS	No	Yes
Impact GHG-2: Generate GHG Emissions through Treatment Activities	PSU	Impact GHG-2, pp. 3.8-11 – 3.8-17	Yes	NA	GHG-2	SU	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New GHG Emissions Impacts: Would the treatment result in other impacts to GHG emissions that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact GHG-1

The *California Forest Carbon Plan* ("Forest Plan", CARB 2018) implements policies to meet the carbon reduction goals for forests as embodied in the *California Climate Change Scoping Plan* (2017). The Forest Plan would increase the rate of forest restoration and fuels reduction treatments by mechanical/manual thinning and by prescribed fire to ensure that the State's continuing timber operations contribute to the achievement of healthy and resilient forests that remain a net sink for carbon.

Consistency of mechanical/manual vegetation treatments and prescribed burning with applicable plans, policies, and regulations aimed at reducing greenhouse gas (GHG) emissions was examined in the PEIR. Although one-time GHG emissions would occur from project equipment/vehicles used to implement vegetation treatments, the proposed project would restore natural forest habitat, remove non-native plant species, and reintroduce native plant species to the project site, thus increasing carbon sequestration over the long-term. This impact is within the scope of the PEIR because the proposed project's treatment activities, short-term resultant GHG emissions, and long-term GHG

reductions are consistent with the overall impacts of vegetation treatments analyzed in the PEIR. This impact of the proposed project would not constitute a substantially more severe impact than what was covered in the PEIR.

Impact GHG-2

The proposed project includes treatments such as mechanical/manual forest thinning, mechanical removal of encroaching trees/shrubs from historic grasslands, invasive plant removal and manual tree planting, and prescribed burning of the removed trees/shrubs/grasses. Project use of fossil-fueled equipment/vehicles and its treatment of removed materials through burning would result in GHG emissions.

Project equipment/vehicle GHG emissions were estimated using project-specific equipment type/number and activity duration on each identified project work parcel and then applying State-average pollutant emissions rates for that equipment from the CalEEMod emissions model.[4] The total average annual project equipment/vehicle GHG emissions (with project work occurring over two years, from July 1, 2023 to June 30, 2025) from all work parcels of the project site would be 223.9 metric tons of CO2e.

Combustion of vegetation during the project's prescribed burn phases would also produce substantial amounts of GHG. The PEIR provides the rates of GHG emissions based on past vegetation treatment projects conducted in California associated with each treatment activity (i.e., mechanical treatment, manual treatment, prescribed herbivory, herbicide application, and prescribed burning) and predominant fuel type (i.e., tree, shrub, and grass). For the proposed project, the total acres planned for burning (which is by far the largest component of treatment GHG emissions) are known and were used with GHG emission rate for this treatment to estimate the total average annual GHG emissions from the burning of treatment material (assuming that all burning material is "tree fuel," a worst-case assumption) would be 32,775 metric tons of carbon dioxide equivalent (CO2e).

Project vegetation treatments through equipment/vehicle use and prescribed burns would result in GHG emissions. The general potential for vegetation treatments to generate GHG emissions was examined in the PEIR. Consistent with the PEIR, project treatment activities would result in GHG emissions from fossil-fueled off-road equipment and hand tools (e.g., chain saws) and prescribed burns. This project impact would be significant, especially due to prescribed burning, even with the implementation of Mitigation Measure GHG-2. No other feasible and effective mitigation exists to substantially reduce GHG emissions to a less-than-significant level. This impact is within the scope of the PEIR because the proposed project activities, as well as the associated equipment use and duration of use, are consistent with those analyzed in the PEIR. In addition, the intent of the proposed project is to reintroduce more fire-resistant/adaptive native plant species to the project site and thereafter to reduce wildfire risk and their GHG emissions. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Impacts Related to GHG Emissions

The proposed project's vegetation treatments are consistent with the treatment types and activities considered in the PEIR. The PSA has considered the site-specific characteristics of the proposed project and determined they are

[4] https://www.caleemod.com/user-guide

consistent with the applicable environmental and regulatory conditions presented in the PEIR (refer to Section 3.8.1, "Environmental Setting," and Section 3.8.2, "Regulatory Setting," in Volume II of the Final PEIR). The PSA has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impacts related to GHG emissions would occur that are not covered in the PEIR.

5.8. ENERGY RESOURCES

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact ENG-1: Result in Wasteful, Inefficient, or Unnecessary Consumption of Energy	LTS	Impact ENG-1, pp. 3.9-7 – 3.9-8	Yes	NA	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Energy Resource Impacts: Would the treatment result in other impacts to energy resources that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact ENG-1

Use of vehicles and mechanical equipment during treatment and restoration activities would result in the consumption of energy through the use of fossil fuels. The use of fossil fuels for equipment and vehicles was examined in the PEIR. The consumption of energy during implementation of the proposed project from the use of equipment and vehicles is within the scope of the PEIR because the types of activities, as well as the associated equipment and duration of proposed use, are consistent with those analyzed in the PEIR. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Energy Resource Impacts

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.9.1, "Environmental Setting," and Section 3.9.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to energy use would occur that is not covered in the PEIR.

5.9. HAZARDOUS MATERIALS, PUBLIC HEALTH AND SAFETY

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact HAZ-1: Create a Significant Health Hazard from the Use of Hazardous Materials	LTS	Impact HAZ-1, pp. 3.10-14 – 3.10-15	Yes	HAZ-1-5	NA	LTS	No	Yes
Impact HAZ-2: Create a Significant Health Hazard from the Use of Herbicides	LTS	Impact HAZ-2, pp. 3.10-15 – 3.10-18	No	None	None	NI	No	Yes
Impact HAZ-3: Expose the Public or Environment to Significant Hazards from Disturbance to Known Hazardous Material Sites	PS	Impact HAZ-3, pp. 3.10-18 – 3.10-19	No	NA	NA	NI	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Hazardous Materials, Public Health and Safety Impacts: Would the treatment result in other impacts related to hazardous materials, public health and safety that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact HAZ-1

Vegetation treatments would include burning, manual, and mechanical treatment activities, which would require the use of fuels, which are considered common hazardous materials. The potential for treatment activities to cause a significant health hazard from the use of hazardous materials was examined in the PEIR. This impact is within the scope of the PEIR because the types and locations of treatments and associated equipment and types of hazardous materials that would be used are consistent with those analyzed in the PEIR. SPR HAZ-1 would be applicable to the proposed project. Any hazardous materials and emissions would result from the use of diesel fuel, vehicle lubricants, chainsaw and mechanized hand tool fuel, and chainsaw bar oil; these materials will be transported and stored in appropriate containers. Hazardous emissions also may result from burning and the use of fuels to ignite pile burns. All personnel will wear personal protective equipment (PPE) and will be properly trained in the usage of equipment.

All equipment associated with the proposed project will comply with SPR HAZ-1 to ensure proper maintenance and minimize leaks. SPR HAZ-2 requires mechanized hand tools to have spark arrestors and will be implemented to minimize the risk of potential ignitions. Based on the proper storage and transportation of fuels and oils, the use of PPE, and the implementation of the applicable SPR's, the potential for this project to result in significant health hazards from the use of hazardous materials is less-than-significant. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact HAZ-2

Herbicide use is not proposed in this project. Therefore, no impact would occur.

Impact HAZ-3

The initial treatments of this proposed project include mechanical treatments that will disturb soils, which could expose workers, the public, or the environment to hazardous material if a contaminated site is present within the project area. The potential for the treatment activities to disturb or encounter contaminated sites that could expose workers, the public, or the environment to hazardous materials was examined in the PEIR (CalVTP Final PEIR Volume II Section 3.10.3, page 18-19). Based on the Cortese List from the Department of Toxic Substances Control (DTSC; accessed May 3, 2023), there are no known hazardous waste sites identified within the proposed project area. In addition, the project area does not appear to contain any naturally occurring asbestos. There are no SPR's that apply to this project impact. Based on the absence of hazardous waste sites, no impact is expected for this project to result in public or environmental exposure to hazards from known hazardous waste sites.

New Hazardous Materials, Public Health and Safety Impacts

The proposed project is consistent with the treatment types and activities considered in the CalVTP PEIR. The project proponent has considered all site-specific characteristics of the proposed treatment project and determined that they comply with the regulatory and environmental setting conditions as stated in the PEIR (CalVTP Final PEIR Volume II Sections 3.10.1 and 3.10.2). No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to hazardous materials, public health, and safety would occur that are not covered in the PEIR.

5.10. HYDROLOGY AND WATER QUALITY

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact HYD-1: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through the Implementation of Prescribed Burning	LTS	Impact HYD-1, pp. 3.11-25 – 3.11-27	Yes	AQ-3; BIO-4; GEO-1-8; HAZ- 1, 5; HYD- 1, 2, 4, 6	NA	LTS	No	Yes
Impact HYD-2: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through the Implementation of Manual or Mechanical Treatment Activities	LTS	Impact HYD-2, pp. 3.11-27 – 3.11-29	Yes	BIO-4; GEO-1-8; HAZ- 1, 5; HYD- 1, 2, 4,6	NA	LTS	No	Yes
Impact HYD-3: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through Prescribed Herbivory	LTS	Impact HYD-3, p. 3.11-29	No	NA	NA	NI	No	NA
Impact HYD-4: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through	LTS	Impact HYD-4, pp. 3.11-30 – 3.11-31	No	NA	NA	NA	NA	NA

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
the Ground Application of Herbicides								
Impact HYD-5: Substantially Alter the Existing Drainage Pattern of a Treatment Site or Area	LTS	Impact HYD-5, p. 3.11-31	Yes	HYD-6	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Hydrology and Water Quality Impacts: Would the treatment result in other impacts to hydrology and water quality that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact HYD-1

The proposed vegetation removal could bare slopes and thereby increase erosion potential, which could result in impacts to water quality of on-site and downstream water courses. In-stream placement of logs also could temporarily result in suspended sediments in the streams. Use of vehicles and flammable materials on site could involve risk of fuels and vehicular drippings entering the local water courses. Implementation of the burn plan (SPR AQ-3), erosion control measures (SPR BIO-4 and GEO 1-8), hazardous materials controls (SRP HAZ 1 and 5), and water quality protection measures (SPR HYD-1, 2, 4, and 6) would assure that these impacts are reduced to a less-than-significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact HYD-2

Manual and mechanical treatment activities would disturb soils and require the use of fuels, which have the potential to enter waterways and degrade water quality. The potential for mechanical and manual treatment activities to violate water quality regulations or degrade water quality was examined in the PEIR. This impact is within the scope of the PEIR because the types and locations of treatment activities and use of heavy equipment and hand-held tools to remove vegetation are consistent with those analyzed in the PEIR. SPRs applicable to this treatment are HYD-1, HYD-2, HYD-4, HYD-6, GEO-1 through GEO-4, GEO-7, GEO- 8, and HAZ-1. This impact of the proposed project is

consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact HYD-3

This impact does not apply to the proposed project because no prescribed herbivory would occur.

Impact HYD-4

This impact does not apply to the proposed project because no herbicide application would occur.

Impact HYD-5

Use of mechanical equipment and off-road vehicles during treatments could cause ground disturbance and erosion, which could directly or indirectly modify existing drainage patterns. The potential for treatment activities to substantially alter the existing drainage pattern of a treatment site was examined in the PEIR. This impact on site drainage is within the scope of the PEIR, because the types and locations of treatments and treatment intensity are consistent with those analyzed in the PEIR. SPRs applicable to this treatment are HYD-1, HYD-2, HYD-4, HYD-6, GEO-1, GEO-2, and GEO-5. The in-stream habitat restoration placement of approximately 400 felled trees as large woody material in McGinnis Creek is subject to SPR BIO-4, and will be approved by applicable regulatory agencies (ex. RWQCB, ACOE, CDFW) with justification that it will be an ecological benefit by enhancing fish habitat (e.g., see Accelerated Wood Recruitment and Timber Operations: Process Guidance from the California Timber Harvest Review Team Agencies and National Marine Fisheries Service). This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Hydrology and Water Quality Impacts

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.11.1, "Environmental Setting," and Section 3.11.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to hydrology and water quality would occur that is not covered in the PEIR.

5.11. LAND USE AND PLANNING, POPULATION AND HOUSING

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact LU-1: Cause a Significant Environmental Impact Due to a Conflict with a Land Use Plan, Policy, or Regulation	LTS	Impact LU-1, pp. 3.12-13 – 3.12-14	Yes	SPR AD-3, SPR AD-9	NA	LTS	No	Yes
Impact LU-2: Induce Substantial Unplanned Population Growth	LTS	Impact LU-2, pp. 3.12-14 – 3.12-15	Yes	NA	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Land Use and Planning, Population and Housing Impacts: Would the treatment result in other impacts to land use and planning, population and housing that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact LU-1

Vegetation treatment activities would occur within the project site, which is on private agricultural and timber-preserve designated lands in unincorporated Humboldt County. The potential for vegetation treatment activities to cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation was examined in the PEIR. This impact is within the scope of the PEIR because the treatment locations, types, and activities are consistent with those analyzed in the PEIR. No conflicts with a land use plan or policy would occur because the HCRCD would adhere to SPR AD-3 and the proposed treatments have been designed to be consistent with Humboldt County policies for agriculture and timber-preserve designated lands. The applicant has consulted with Humboldt County Planning Department staff, who has concurred that "these activities would be principally permitted and not require any discretionary permits from the County. Even in the Streamside Management Areas, we have an exemption from a Special Permit for timber harvest and management activities when approved and carried out consistent with the California Forest Practices Act" (email communication from Trevor Estlow, Humboldt County Planning Department, to Mark Andre, BBW, Inc, March 21, 2023).

This impact of the proposed project is consistent with that described in the, PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact LU-2

Crews implementing the proposed project would typically range between eight and 12 personnel, and up to three crews would be working simultaneously to implement the proposed project. The potential for treatments to result in substantial population growth as a result of increases in demand for employees was examined in the PEIR. Impacts associated with short-term increases in the demand for workers during implementation of the proposed project are within the scope of the PEIR because the number of workers required for implementation of treatments is generally consistent with the crew size analyzed in the PEIR for the types of treatments proposed (i.e., two to 10 workers for mechanical treatments, and up to 10 workers for manual treatments). Although the HCRCD and Mattole Restoration Council would temporarily contract workers to implement the proposed project, it is expected that this demand could be met by new employees who are existing residents in the vicinity of where treatments would occur. Thus, implementation of the proposed project would not induce substantial unplanned population growth to cause a need for new housing and other infrastructure. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Due to the short-term nature of project activities, it is unlikely that anyone would move to the area due to temporary employment for this project. Thus, implementation of the proposed project would not induce substantial unplanned population growth to cause a need for new housing and other infrastructure. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Land Use and Planning, Population and Housing Impacts

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.12.1, "Environmental Setting," and Section 3.12.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to land use and planning or population and housing would occur that is not covered in the PEIR.

5.12. NOISE

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact NOI-1: Result in a Substantial Short-Term Increase in Exterior Ambient Noise Levels During Treatment Implementation	LTS	Impact NOI-1, pp. 3.13-9 – 3.13-12; Appendix NOI-1	Yes	AD-3 NOI-1 NOI-2 NOI-3 NOI-4 NOI-5 NOI-6	NA	LTS	No	Yes
Impact NOI-2: Result in a Substantial Short-Term Increase in Truck-Generated (or Helicopter-Generated) SENL's During Treatment Activities	LTS	Impact NOI-2, p. 3.13-12	Yes	NOI-1	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Noise Impacts: Would the treatment result in other noise-related impacts that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound (e.g., loudness, pitch, duration, etc.) and other factors relating to the situation of the listener (e.g., the time of day when it occurs, the acuity of a listener's hearing, the activity of the listener during exposure, etc.). Environmental noise has many documented undesirable effects on human health and welfare, either psychological (e.g., annoyance and speech interference) or physiological (e.g., hearing impairment and sleep disturbance).

A sound-level meter (SLM) applies human hearing sensitivity factors (determined by laboratory measurements) to each frequency component of the sound being measured before averaging them. This is called "A" weighting, and the average pressure level measured by an SLM in this mode is called the A-weighted sound level (dBA). The average A-weighted sound pressure level measured by an SLM during any specified measurement period is called the equivalent sound level (Leq). To describe the time-varying character of environmental noise, statistical noise descriptors (L10, L50, L90, etc.) are extracted from the measurement data to define the A-weighted noise levels equaled or exceeded during 10%, 50%, 90% etc., respectively, over the duration of the measurement period.

The Humboldt County General Plan, Chapter 13 Noise Element (County Noise Element) identifies the major noise sources in the County (i.e., state highways, high-volume county roads, airports, and prominent stationary sources [e.g., industrial facilities, agricultural operations, etc.]), and the goals, policies and standards for their control. The following are the General Plan's goals and policies most applicable to the noise-generating characteristics of the proposed project (underline added to show special applicability to the proposed project):

- Goal N-G1: Excessive Noise. [Maintain] A quiet and healthful environment with limited disagreeable noise.
- Policy N-P1: Minimize Noise from Stationary and Mobile Sources. Minimize stationary noise sources and noise emanating from temporary activities by applying appropriate standards for average and short-term noise levels during permit review and subsequent monitoring.
- Policy NP-4: Protection from Excessive Noise. Protect persons from existing or future excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property.

The County Noise Element evaluates noise impacts on/from development projects based on a comparison with its noise compatibility standards (i.e., Noise Element Table 13-C), requiring for single-family residential (the most noise-sensitive of its land use categories) that ideally outdoor 24-hour average noise levels should not exceed 55 dBA, and interior maximum noise levels (Lmax) should not exceed 45 dBA. Since a standard construction wood frame house reduces noise transmission by 15dBA (according to the Noise Element), the interior Lmax for residences should not exceed 45dBA if the maximum exterior Lmax for residences is 60dBA or less; if exterior Lmax is greater, additional acoustic insulation would be required.

The County Noise Element also sets appropriate outdoor standards for Lmax that vary with the type of land use and time of day. In low-density residential areas, this standard is set at 65 dBA (daytime, 6 am to 10 pm) to avoid the perception of nuisance, such as interfering with normal conversation or disturbing sleep (i.e., noise levels above 66 dBA requires raised voices to be heard at a distance of three feet, while indoor noise levels can disturb sleep beginning in the 50-60 dBA range).

Impact NOI-1

The proposed project includes extensive vegetation removal/restoration treatments on approximately 1,100 acres of ridge lands located in the Mattole River watershed near the unincorporated town of Petrolia. Proposed treatments include mechanical and manual forest thinning, mechanical removal of encroaching trees and shrubs form historic grasslands, prescribed fire, invasive plant removal and manual tree planting. This would require the intensive use of noise-generating equipment (e.g., heavy-duty, diesel-powered, tracked equipment for vegetation removal/transport, many gasoline-powered chainsaws, etc.) in the areas proposed for treatment during the project's two-year implementation period. Thus, it has the potential for substantial short-term increases in local ambient noise levels in

the noise-sensitive areas in and around Petrolia (an impact category identified and generically evaluated in the CalVTP PEIR).

The project vegetation treatment areas on Apple Tree Ridge, Everets Ridge, and Burgess Ridge, and the aquatic habitat restoration and riparian tree planting areas of McGinnis Creek and the Mattole River, were visited on April 26, 2023. Having then observed the locations of existing noise-sensitive receptors in and around Petrolia in the context of the surrounding treatment area locations, a return visit was made on April 27, 2023 to measure short-term, daytime noise levels at selected noise-sensitive receptors in central Petrolia. The two measurement locations, along with a summary of the noise measurements and observations on influential noise sources during the measurements, are contained in Table 5.12-1.

The population density of Petrolia is very low and there are no major noise sources (e.g., highways, high-volume roads, rail lines, airports, industrial facilities, etc., as defined by the County Noise Element) in or near the town. Motor vehicle influences were slight, as all the traffic in Petrolia is likely of local origin, and only a few cars passed within earshot or were observed near the general store a few hundred feet from the first measurement location. When the second measurement began on Mattole School grounds, no students/staff were present outside, but outdoor activity increased as the measurement went on (likely this measurement spanned the end of lunch recess and the return to normal afternoon school activity). The two measurements show a normal baseline mid-weekday ambient noise level ranging from 40-50 dBA with the dominant contributions coming from the very few motor vehicle movements and the retail/educational/recreational human activity of local residents.

All of the project treatment areas are on/near the ridgelines of the hills or in the creek/riverside areas north and east of Petrolia. Most of the many parcels upon which varied project work would proceed sequentially over two years are more than a mile distant from the Petrolia town center where most of the local noise-sensitive receptors are. Project plans specify the type of vegetation treatment work for each work parcel and the associated equipment types/numbers/use times for each treatment type. These data were used with the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) to estimate their noise levels at various distances from the equipment work locations, as shown in Table 5.12-2.

The modeled equipment noise levels presented in the table are color-coded to reference County Noise Element standards (i.e., red entries show project noise levels that exceed the County 65 dBA Lmax limit to avoid undue nuisance in residential areas) or with measured existing daytime noise levels at residential/school receptors in central Petrolia (i.e., green entries show project noise levels that are within Petrolia's normal 40-50 dBA daytime ambient conditions).

In general, project equipment-intensive work types (i.e., those using heavy-duty, diesel-powered equipment and/or chainsaws) would need to be 500 feet or closer to noise-sensitive receptors for there to be a substantial chance of exceeding the County's 65 dBA Lmax nuisance standard – and project activities are closer to 5,000 feet from noise-sensitive receptors. Similarly, noise from all work types taking place on project parcels at least a mile from noise-sensitive receptors would have declined to within normal ambient levels for Petrolia at that distance or greater. Thus, for most of the project work types and the locations where they would occur, the great majority of local noise-sensitive receptors would not be exposed to substantial noise nuisance and/or to noise levels exceeding existing ambient conditions. For any receptors experiencing nuisance or above-ambient levels under limited worst-case

conditions, the impact duration would be short as vegetation treatment work moves to more distant parcels over the entire project area over the project's two-year duration.

Table 5.12-1: Noise Measurement Data Summary with Survey Observations

Measurement Location	L_{min} (dBA)	L_{90} (dBA)	L_{eq} (dBA)	L_{10} (dBA)	L_{max} (dBA)	Observations during Measurement Period
Location #1 Mattole Valley Resource Center (13:21 – 13:36)						Measurements were taken ~400 feet from Petrolia General Store; human/motor vehicle activity were observed outside the store during the 1st half of the measurement period, but not in the 2nd half.
Full measurement	27.9	32.8	39.8	42.1	53.8	
With activity	33.2	35.2	40.1	43.9	53.8	
Without activity	27.9	31.4	38.3	41.0	48.1	
Location #2 Mattole School (13:57 – 14:12)						Measurements were taken in the school's outdoor activity area. There was no outdoor activity during the 1st few minutes of the measurement period, but then children/staff returned and were active outside for the remainder.
Full measurement	36.9	38.9	48.7	48.7	67.0	
Without activity	37.8	38.5	44.3	44.8	60.4	
With activity	36.9	40.8	49.5	50.3	67.0	

The unit of measurement for table entries is the **decibel (dB)**, the standard measure of a sound's loudness relative to the human threshold of perception. Decibels as measured by a **sound level meter** are said to be **A–weighted (dBA)** when corrections are made to a sound's frequency components during a measurement to reflect the known, varying sensitivity of the human ear to different frequencies. The **Equivalent Sound Level (L_{eq})** is a constant sound level that carries the same sound energy as the actual time–varying sound over the measurement period. **Statistical Sound Levels – L_{min}, L_{90}, L_{10} and L_{max}** – are the minimum sound level, the sound level exceeded 90 percent of the time, the sound level exceeded 10 percent of the time and the maximum sound level, respectively. Measurements were made with an Extech SDL600, ANSI-certified Type 2 sound level meter, each of about 15 minutes duration.

Table 5.12-2: RCNM Modeled Equipment Noise Levels Associated with Project Vegetation Treatments

Treatment Activity	Total Acres	Work Specifications	Equipment Required	RCNM Model Equipment Noise Level (dBA at X feet from work activity locus)							
				50	100	200	400	800	1320 (1/4 mile)	2640 (1/2 mile)	5280 (1 mile)
Mechanical Forest Thinning	481	Masticate, lop and scatter, and/or pile trees up to 18 inches in diameter	Chainsaw (6), CTL harvester, forwarder, 4x4 Truck	87.0	80.9	74.9	68.9	62.9	58.5	52.5	46.5
Manual Forest Thinning	1333	In areas over 50% in slope and in follow up to mechanical treatment areas - Fell trees up to 18 inches with chainsaw; lop and scatter no higher than 18 inches above grade; and/or pile slash; prune tree limbs up to 12 feet in height.	Excavator, Chainsaw (6); 4x4 Truck	84.7	78.7	72.7	66.6	60.6	56.3	54.4	44.2
Mechanical Tree Removal from Grasslands	13	Tip or fell whole trees up to 24 inches in diameter with root wad intact; stage on-site for helicopter; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; Chainsaw; 4x4 Truck	83.0	77.0	70.9	64.9	58.9	54.5	48.5	42.5
Mechanical Invasive Plant Removal	43	Remove Scotch broom and other species by compressing base of plant stem with excavator thumb and bucket; pull entire above and below ground portion of plant; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; 4x4 Truck	81.8	75.8	69.8	63.7	57.7	53.4	47.3	41.3
Manual Invasive Plant Removal	22	Remove Scotch broom with weed wrench or hand pulling and pile on-site	Weed wrench/hand tools	----	----	----	----	----	----	----	----
Manual Tree Planting	1236	Manually install trees and shrubs using hoedad and/or shovel	Hoedad/shovel; 4x4 Truck	71.0	65.0	59.0	53.0	46.9	42.6	36.6	30.5
Prescribed Fire (Pile Burn)	1056	Burn piles in appropriate burn window; chunk in; install native grass seed and rake in	Chainsaw (6), 4x4 Truck	84.7	78.7	72.7	66.6	60.6	56.3	50.2	44.2
Prescribed Fire (Broadcast Burn)	291	Burn understory lop and scatter slash in appropriate burn window and as detailed in burn plan	Chainsaw (6), 4x4 Truck	84.7	78.7	72.7	66.6	60.6	56.3	50.2	44.2

Although Humboldt County does not limit the hours/days of work with heavy equipment, SPR NOI-1 would limit such use to daytime hours. In addition, several other SPRs would be implemented, including AD-3 and NOI-2 through NOI-6. This impact is within the scope of the PEIR, because the number/types/duration of equipment for the proposed project would be consistent with those analyzed in the PEIR. This impact of the proposed project is consistent with the PEIR and would not constitute substantially more severe significant impacts than what was covered in the PEIR.

Impact NOI-2

The proposed project's vegetation removal/restoration activity on parcels HRC 21 and 25 would involve large trucks hauling logs to regional sawmills. The haul trucks (about four per day, on weekdays over a thirty-day period) would pass by residential receptors in Petrolia. The potential for a substantial short-term increase in single-event noise levels

from trucks was examined in the PEIR. This impact is within the scope of the PEIR because the number and types of equipment proposed are consistent with those analyzed in the PEIR. The haul trips associated with the proposed treatments would occur during daytime hours, which avoids the potential for sleep disturbance to residents during the more noise-sensitive evening and nighttime hours. SPR NOI-1 would be applicable to the proposed project. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Part of the proposed project's vegetation removal activities on parcels 13, 17, 18, 27, 29, and 31 would involve a helicopter hauling logs to parcel 30 for placement in McGinnis Creek. The helicopter flights (about 32 hours of total operation time over a 4 day period in September 2024) would not pass over residential receptors, county roads nor power lines in or near Petrolia. The potential for a substantial short-term increase in single-event noise levels from helicopters was examined in the PEIR. This impact is within the scope of the PEIR because this type of equipment proposed for the project area is consistent with the PEIR analysis. The helicopter flights associated with the proposed treatments would occur during daytime hours, which avoids the potential for sleep disturbance to residents during the more noise-sensitive evening and nighttime hours. SPR NOI-1 would be applicable to the proposed project. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Noise Impacts

The proposed project's vegetation treatments are consistent with the treatment types and equipment considered in the PEIR. The PSA has considered the site-specific noise characteristics of the proposed project and determined they are consistent with the applicable environmental and regulatory conditions presented in the PEIR (refer to Section 3.13.1, "Environmental Setting," and Section 3.13.2, "Regulatory Setting," in Volume II of the Final PEIR). The PSA has also determined that the circumstances under which the proposed project's treatments would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related noise would occur that is not covered in the PEIR.

5.13. RECREATION

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact REC-1: Directly or Indirectly Disrupt Recreational Activities within Designated Recreation Areas	LTS	Impact REC-1 pp. 3.14-6 – 3.14-7	Yes	AD-3	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Recreation Impacts: Would the treatment result in other impacts to recreation that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact REC-1

The project site is privately owned, agriculturally-zoned land that is not used for, or publicly available for, recreational activities. However, the project site is near a newly constructed summer camp facility on Conklin Creek Road, which hosts approximately 120 children over the summer. This facility is a few thousand feet downslope of an area proposed for treatment as part of the project. As such, it is possible that smoke from pile burning and noise from mechanical treatment would be noticeable at that camp during treatment activities. The owners of the camp are participants in this project, and do not anticipate any interruptions of the camp use from this project (pers. comm. Brown 2023).

The potential for treatment activities to disrupt recreational activities was analyzed in the PEIR (CalVTP Final PEIR Volume II Section 3.14.3, page 6-7). The temporary disruption of recreational activities during project implementation is within the scope of the activities and impacts addressed in the PEIR because the treatments, associated equipment and duration of use is consistent with those analyzed in the PEIR. Maintaining consistency with local plans, policies, and ordinances (SPR AD-3) would reduce the risk of disruption to recreational activities within the project area.

Following operations, treated areas may be used as opportunities to educate campers and staff about ecological restoration and fuel reductions in the area. Based on the implementation of SPRs and duration of the project, an impact to recreation as a result of this project would be less-than-significant.

New Recreation Impacts

The proposed treatment is consistent with the treatment types and activities addressed in the PEIR. The project proponent has considered all site-specific characteristics and determined they are consistent with the regulatory and environmental setting conditions presented in the PEIR (CalVTP Final PEIR Volume II 3.14.1 and 3.14.2). There are no changed circumstances that would lead to new significant impacts not addressed in the PEIR. Therefore, no new impact related to recreation would occur that is not discussed in the PEIR.

5.14. TRANSPORTATION

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact TRAN-1: Result in Temporary Traffic Operations Impacts by Conflicting with a Program, Plan, Ordinance, or Policy Addressing Roadway Facilities or Prolonged Road Closures	LTS	Section 3.15.2; Impact TRAN-1 pp. 3.15-9 – 3.15-10	Yes	AD-3, HYD-2, TRAN-1	NA	LTS	No	Yes
Impact TRAN-2: Substantially Increase Hazards due to a Design Feature or Incompatible Uses	LTS	Impact TRAN-2 pp. 3.15-10 – 3.15-11	Yes	AD-3, TRAN-1	NA	LTS	No	Yes
Impact TRAN-3: Result in a Net Increase in VMT for the Proposed CalVTP	PSU	Impact TRAN-3 pp. 3.15-11 – 3.15-13	Yes	None	None	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Transportation Impacts: Would the treatment result in other impacts to transportation that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact TRAN-1

Vegetation treatments would temporarily increase vehicular traffic along several roads in the project area, including Mattole Road Chambers Road and Conklin Creek Road. The potential for a temporary increase in traffic to conflict with a program, plan, ordinance, or policy addressing roadway facilities or prolonged road closures was examined in the PEIR. The proposed treatments would be short-term, and temporary increases in traffic related to treatments are within the scope of the PEIR because the treatment duration and limited number of vehicles required (e.g., equipment transport and crew vehicles for crew members) are consistent with those analyzed in the PEIR. In addition, the proposed treatments would not all occur concurrently, and increases in vehicle trips associated with the treatments would be dispersed on multiple roadways. SPRs that would be applicable to the proposed project are AD-

3, HYD-2, and TRAN-1. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact TRAN-2

Vegetation treatments would not require the construction or alteration of any roadways. However, the proposed treatments would require the transportation of heavy equipment along ranch access roads, which could create increased transportation hazards. The potential for the hauling of machinery to remote treatment areas was examined in the PEIR. This impact is within the scope of the activities and impacts addressed in the PEIR because the quantity and types of equipment proposed for use that would require transport to treatment areas are the same as those analyzed in the PEIR. In addition, the transport of equipment would be infrequent and dispersed on multiple roadways, occurring at the start and the end of treatment activities. SPRs that would be applicable to the proposed project are AD-3, HYD-2, and TRAN-1. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact TRAN-3

Treatments could temporarily increase vehicle miles traveled (VMT) above baseline conditions because the proposed project would require vehicle trips to transport crew members and equipment to the treatment areas. This impact was identified as potentially significant and unavoidable in the PEIR because implementation of the CalVTP would result in a net increase in VMT. However, as noted under Impact TRAN-3 in the PEIR, individual vegetation treatment projects under the CalVTP are reasonably expected to generate fewer than 110 trips per day, which would cause a less-than-significant transportation impact for specific later activities, as described in the *Technical Advisory on Evaluating Transportation Impacts* published by the Governor's Office of Planning and Research (OPR 2018). Burning, manual treatment, and mechanical treatments under the proposed project would typically require eight to 12 personnel, and up to three treatments would be implemented simultaneously. Even if multiple treatments occur simultaneously, the crew sizes are sufficiently small such that the total increase in VMT would not exceed 110 trips per day. In addition, the increase in vehicle trips would be temporary and dispersed to multiple roadways. A temporary increase in VMT is within the scope of the activities and impacts addressed in the PEIR because the number and duration of increased vehicle trips are consistent with those analyzed in the PEIR. This impact would be less than significant, and Mitigation Measure AQ-1 would not be required for this impact of the proposed project. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Transportation Impacts

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.15.1, "Environmental Setting," and Section 3.15.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to transportation would occur that is not covered in the PEIR.

5.15. PUBLIC SERVICES, UTILITIES AND SERVICE SYSTEMS

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact UTIL-1: Result in Physical Impacts Associated with Provision of Sufficient Water Supplies, Including Related Infrastructure Needs	LTS	Section 3.16.1 pp. 3.16-2 – 3.16-3; Impact UTIL-1 p. 3.16-9	Yes	SPR AQ-4	NA	LTS	No	Yes
Impact UTIL-2: Generate Solid Waste in Excess of State Standards or Exceed Local Infrastructure Capacity	PSU	Section 3.16.1 pp. 3.16-3 - 3.16-5; Impact UTIL-2 pp. 3.16-10 – 3.16-12	Yes	SPR UTIL-1	NA	LTS	No	Yes
Impact UTIL-3: Comply with Federal, State, and Local Management and Reduction Goals, Statutes, and Regulations Related to Solid Waste	LTS	Section 3.16.2 pp. 3.16-6 – 3.16-7; Impact UTIL-2 p. 3.16-12	Yes	SPR AD-3, UTIL-1	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Public Services, Utilities and Service System Impacts: Would the treatment result in other impacts to public services, utilities and service systems that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact UTIL-1

Water may be required to implement the proposed project to minimize dust if excessive dust is created through the use of unpaved roads, or to remove visible dust or mud that gets tracked out onto public paved roadways, pursuant to SPR AQ-4. Water also would be required by tenders for pile burning. The potential increase in water demand as a result of treatment activities was examined in the PEIR. The most water-intensive activities described in the PEIR would be providing on-site water for pile burning and during vegetation removal within nonshaded fuel breaks. This

impact is within the scope of the impacts addressed in the PEIR because the treatment types and activities are consistent with those included in the PEIR and the amount of water required during project implementation is consistent with that analyzed in the PEIR. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact UTIL-2

Vegetation treatments would generate biomass as a result of vegetation removal within the treatment areas. Biomass generated by mechanical and manual treatments would be disposed of by chipping, mulching, or lopping and scattering within treatment areas. About 400 trees removed as part of the project would be re-used to enhance fish habitat in local creeks. Burnt residual biomass would remain on-site. This impact was identified as potentially significant and unavoidable in the PEIR because biomass hauled off-site could exceed the capacity of existing infrastructure for handling biomass. For the proposed treatment project, no biomass would be hauled off-site for disposal; therefore, there is no potential to exceed the capacity of existing infrastructure, and this impact does not apply to the proposed project. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact UTIL-3

This impact does not apply to the proposed project because all biomass generated from the proposed treatments would be disposed of on-site.

New Impacts to Public Services, Utilities and Service Systems

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.16.1, "Environmental Setting," and Section 3.16.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to public services or utilities and service systems would occur that is not covered in the PEIR.

5.16. WILDFIRE

Impact in the PEIR			Project-Specific Checklist					
Environmental Impact Covered In the PEIR	Identify Impact Significance in the PEIR	Identify Location of Impact Analysis in the PEIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project[1]	List MMs Applicable to the Treatment Project[1]	Identify Impact Significance for Treatment Project	Would this be a Substantially More Severe Significant Impact than Identified in the PEIR?	Is this Impact Within the Scope of the PEIR?
Would the project:								
Impact WIL-1: Substantially Exacerbate Fire Risk and Expose People to Uncontrolled Spread of a Wildfire	LTS	Section 3.17.1; Impact WIL-1 pp. 3.17-14 – 3.17-15	Yes	AD-3, AQ-3, HAZ-2, 3, and-4	NA	LTS	No	Yes
Impact WIL-2: Expose People or Structures to Substantial Risks Related to Post-Fire Flooding or Landslides	LTS	Section 3.17.1; Impact WIL-2 pp. 3.17-15 – 3.17-16	Yes	AD-3, AQ-3, HAZ 2, 3, and 4; GEO-3,4,5, 8; HYD- 1, 2, 4,6	NA	LTS	No	Yes

[1]NA: not applicable; there are no SPRs and/or MMs identified in the PEIR for this impact. None: there are SPRs and/or MMs identified in the PEIR for this impact, but none are applicable to the treatment project.

New Wildfire Impacts: Would the treatment result in other impacts related to wildfire that are not evaluated in the CalVTP PEIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
[identify new impact here, if applicable; add rows as needed]	☐	☐	☐

Discussion

Impact WIL-1

Vegetation treatments would include the use of pile burns and heavy equipment, which pose a risk of accidental fire ignition. The potential increase in exposure to wildfire during implementation of treatments was examined in the PEIR. Increased wildfire risk associated with the use of pile burns and heavy equipment in vegetated areas is within the scope of the PEIR, because the types of burns, equipment and treatment duration of the proposed project are consistent with those analyzed in the PEIR. SPRs that would be applicable to the proposed project are HAZ-2, HAZ-3, and HAZ-4. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Impact WIL-2

The proposed project would implement pile burning, which, if on slopes, could result in postfire flooding or landslides. However, all project burns will be on level or gently sloping lands, which would minimize this potential impact. Those risks would be further reduced by the proposed burn plan (SPR AQ-3) as well as erosion control

measures include in the Hydrology and Geology SPRs. Spill control measures included in the Hazardous Materials SPRs also would reduce the risk of accidental fires.

The project does not include new housing, nor would it result in population growth, thereby potentially exposing more people to postfire risks of flooding or landslides. Furthermore, because the treatments reduce wildfire risk, they would also decrease post wildfire landslide and flooding risk in areas that could otherwise burn in a high-severity wildfire without treatment. Therefore, this impact is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

New Impacts to Wildfire

The proposed treatments are entirely within the CalVTP treatable landscape and are consistent with the treatment types and activities considered in the CalVTP PEIR. The HCRCD has considered the site-specific characteristics of the proposed treatment project and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP PEIR (refer to Section 3.17.1, "Environmental Setting," and Section 3.17.2, "Regulatory Setting," in Volume II of the Final PEIR). The HCRCD has also determined that the circumstances under which the proposed treatment project would be undertaken are also consistent with those considered in the PEIR. No changed circumstances would give rise to new significant impacts not addressed in the PEIR. Therefore, no new impact related to wildfire would occur that is not covered in the PEIR.

6. LIST OF PREPARERS

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7. REFERENCES

Brown, J. 2023. Personal Communication with Josie Brown, Owner of Lost Coast Camp and 7B Ranch during Site Visit with C. Pinnell, R. Grassetti, G. Hornek, and H. McGee, Petrolia, CA.

California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Available online at: https://www.caleemod.com/

California Air Resources Board (CARB). 2018. California Forest Carbon Plan. Available online at: https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2018/05/California-Forest-Carbon-Plan-Final-Draft-for-Public-Release-May-2018.pdf

California Air Resources Board (CARB), 2017. Final 2017 Scoping Plan Updated and Appendices. Available online at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents

California Board of Forestry and Fire Protection. 2019. Final Program EIR for the California Vegetation Treatment Program. State Clearinghouse # 2019012052.s

California Department of Fish and Wildlife (CDFW). 2021. California Natural Communities List. Revised 2021. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

California Natural Diversity Database (CNDDB). 2023. California Department of Fish and Wildlife's California Natural Diversity Database. [Downloaded April 2023].

California Native Plant Society (CNPS). 2023. CNPS Inventory of Rare and Endangered Plants of California. Available online at: https://rareplants.cnps.org/Plants/Details/985

Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model (RCNM) User's Guide. Available online at: https://www.gsweventcenter.com/Draft_SEIR_References/2006_01_Roadway_Construction_Noise_Model_User_Guide_FHWA.pdf

Humboldt County Planning & Building. 2017. Humboldt County General Plan, Chapter 13 Noise Element. Available online at: https://humboldtgov.org/DocumentCenter/View/61989/Chapter-13-Noise-Element-PDF

Native Ecosystems Inc. 2023. Preliminary Results of Plant and Vegetation Surveys, provided by Hugh McGee, April 2023.

North Coast Unified Air Quality Management District (NCUAQMD). 2023. Planning & CEQA. Available online at: https://www.ncuaqmd.org/planning-ceqa

NCUAQMD. 2015. Rule 110 - New Source Review (NSR) And Prevention of Significant Deterioration (PSD). Available online at: https://ncuaqmd.specialdistrict.org/files/397b4b794/Rule+110.pdf

Vollmar Natural Lands Consulting (VNLC). 2023. Biological Evaluation Report, Mattole River and Salmon Creek Forest Health and Wildfire Resilience Project. June 2023.

United States Fish and Wildlife Service (USFWS). 2023. Environmental Conservation Online System - Information for Planning and Consultation (IPaC). Available online at: https://ecos.fws.gov/ipac/ [Report Generated April 2023].

ATTACHMENT A – STANDARD PROJECT REQUIREMENTS AND MITIGATION MEASURES CHECKLIST

Instructions: Review the standard project requirements and mitigation measures and verify that those that are applicable will be implemented. Provide information for each column as follows:

- **Applicable (Yes/No).** Document whether the SPR or mitigation measure is applicable to the initial treatment and/or treatment maintenance (Yes or No), and whether it is applicable to initial treatment and/or treatment maintenance. The applicability should be substantiated in the Environmental Checklist Discussion.
- **Timing.** This column identifies the time frame in which the SPR or mitigation measure will be implemented (e.g., prior to treatment, during treatment, etc.).
- **Implementing Entity**. The implementing entity is the agency or organization responsible for carrying out the requirement. This could include the project proponent's project manager, a technical specialist (e.g., archeologist or biologist), a vegetation management contractor, a partner agency or organization, or other entities that are primarily responsible for carrying out each project requirement.
- **Verifying/Monitoring Entity**. The verifying/monitoring entity is the agency or organization responsible for ensuring that the requirement is implemented. The verifying/monitoring entity may be different from the implementing entity.

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Standard Project Requirements (SPRs)				
SPR AD-1 Project Proponent Coordination: For treatments coordinated with CAL FIRE, CAL FIRE will meet with the project proponent to discuss all natural and environmental resources that must be protected using SPRs and any applicable mitigation measures; identify any sensitive resources onsite; and discuss resource protection measures. For any prescribed burn treatments, CAL FIRE will also discuss the details of the burn plan in the incident action plan (IAP). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	CAL FIRE	HCRCD
SPR AD-2 Delineate Protected Resources: The project proponent will clearly define the boundaries of the treatment area and protected resources on maps for the treatment area and with highly-visible flagging or clear, existing landscape demarcations (e.g., edge of a roadway) prior to beginning any treatment to avoid disturbing the resource. "Protected Resources" refers to environmentally sensitive places within or adjacent to the treatment areas that would be avoided or protected to the extent feasible during planned treatment activities to sustain their natural qualities and processes. This work will be performed by a qualified person, as defined for the specific resource (e.g., qualified Registered Professional Forester or biologist). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR AD-3 Consistency with Local Plans, Policies, and Ordinances: The project proponent will design and implement the treatment in a manner that is consistent with applicable local plans (e.g., general plans, Community Wildfire Protection Plans, CAL FIRE Unit Fire Plans), policies, and ordinances to the extent the project is subject to them. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR AD-4 Public Notifications for Prescribed Burning: At least days prior to the commencement of prescribed burning operations, the project proponent will: 1) post signs along the closest public roadway to the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will be provided with the notice) if they have questions or smoke concerns; 2) publish a public interest notification in a local newspapers or other widely distributed media source describing the activity, timing, and contact information; 3) send the local county supervisor and county administrative officer (or equivalent official responsible for distribution of public information) a notification letter describing the activity, its necessity, timing, and measures being taken to protect the environment and prevent prescribed burn escape. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR AD-5 Maintain Site Cleanliness: If trash receptacles are used on-site, the project proponent will use fully covered trash receptacles with secure lids (wildlife proof) to contain all food, food scraps, food wrappers, beverages, and other worker generated miscellaneous trash. Remove all temporary non-biodegradable flagging, trash, debris, and barriers from the project site upon completion of project activities. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR AD-6 Public Notifications for Treatment Projects. One to three days prior to the commencement of a treatment activity, the project proponent will post signs in a	Y	Prior to treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
conspicuous location near the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will be provided with the notice) if they have questions or concerns. This SPR applies to all treatment activities and all treatment types, including treatment maintenance. Prescribed burning is subject to the additional notification requirements of SPR AD-4.				
SPR AD-7 Provide Information on Proposed, Approved, and Completed Treatment Projects. For any vegetation treatment project using the CalVTP PEIR for CEQA compliance, the project proponent will provide the information listed below to the Board or CAL FIRE during the proposed, approved, and completed stages of the project. The Board or CAL FIRE will make this information available to the public via an online database or other mechanism. Information on proposed projects (PSA in progress): ▶ GIS data that include project location (as a point); ▶ project size (typically acres); ▶ treatment types and activities; and ▶ contact information for a representative of the project proponent. The project proponent will provide information on the proposed project to the Board or CAL FIRE as early as feasible in the planning phase. The project proponent will provide this information to the Board or CAL FIRE with sufficient lead time to allow those agencies to make the information available to the public no later than two weeks prior to project approval. The project proponent may also make information available to the public via other mechanisms (e.g., the proponent's own website). Information on approved projects (PSA complete): ▶ A completed PSA Environmental Checklist; ▶ A completed Mitigation Monitoring and Reporting Program (using Attachment A to the Environmental Checklist); ▶ GIS data that include a polygon(s) of the project area, showing the extent of each treatment type included in the project (ecological restoration, fuel break, WUI fuel reduction). Information on completed projects: ▶ GIS data that include a polygon(s) of the treated area, showing the extent of each treatment type implemented (ecological restoration, fuel break, WUI fuel reduction) ▶ A post-project implementation report (referred to by CAL FIRE as a Completion Report) that includes ▪ Size of treated area (typically acres); ▪ Treatment types and activities; ▪ Dates of work; ▪ A list of the SPRs and mitigation measures that were implemented ▪ Any explanations regarding implementation if required by SPRs and mitigation measures (e.g., explanation for feasibility determination required by SPR BIO-12; explanation for reduction of a no-disturbance buffer below the general minimum size described in Mitigation Measures BIO-1a and BIO-2b).	Y	Prior to, during, and post-treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
This SPR applies to all treatment activities and all treatment types, including treatment maintenance.				
SPR AD-8 Request Access for Post-Treatment Assessment. For CAL FIRE projects, during contract development, CAL FIRE will include access to the treated area over a prescribed period (usually up to three years) to assess treatment effectiveness in achieving desired fuel conditions and other CalVTP objectives as well as any necessary maintenance, as a contract term for consideration by the landowner. For public landowners, access to the treated area over a prescribed period will be a requirement of the executed contract. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR AD-9: Obtain a Coastal Development Permit for Proposed Treatment Within the Coastal Zone Where Required. When planning a treatment project within the Coastal Zone, the project proponent will contact the local Coastal Commission district office, or applicable local government to determine if the project area is within the jurisdiction of the Coastal Commission, a local government with a certified Local Coastal Program (LCP), or both. All treatment projects in the Coastal Zone will be reviewed by the local Coastal Commission district office or local government with a certified LCP (in consultation with the local Coastal Commission district office regarding whether a Coastal Development Permit (CDP) is required). If a CDP is required, the treatment project will be designed to meet the following conditions: i. The treatment project will be designed in compliance with applicable provisions of the Coastal Act that provide substantive performance standards for the protection of potentially affected coastal resources, if the treatment activity will occur within the original jurisdiction of the Commission or an area of a local coastal government without a certified LCP; and ii. The treatment project will be designed in compliance with the applicable provisions of the certified LCP, specifically the substantive performance standards for the protection of potentially affected coastal resources, if the treatment activity will occur within the jurisdiction of a local coastal government with a certified LCP. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	N	NA	NA	NA
Aesthetic and Visual Resource Standard Project Requirements				
SPR AES-1 Vegetation Thinning and Edge Feathering: The project proponent will thin and feather adjacent vegetation to break up or screen linear edges of the clearing and mimic forms of natural clearings as reasonable or appropriate for vegetation conditions. In general, thinning and feathering in irregular patches of varying densities, as well as a gradation of tall to short vegetation at the clearing edge, will achieve a natural transitional appearance. The contrast of a distinct clearing edge will be faded into this transitional band. This SPR only applies to mechanical and manual treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR AES-2 Avoid Staging within Viewsheds: The project proponent will store all treatment-related materials, including vehicles, vegetation treatment debris, and equipment, outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. The project proponent will also locate materials	Y	During treatment	HCRCD, CAL FIRE	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
staging and storage areas outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. Staging of project equipment at the old airstrip area, which currently houses a logging-related operation and equipment, would not adversely affect views compared with existing conditions. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
SPR AES-3 Provide Vegetation Screening: The project proponent will preserve sufficient vegetation within, at the edge of, or adjacent to treatment areas to screen views from public trails, parks, recreation areas, and roadways as reasonable or appropriate for vegetation conditions. Staging of project equipment at the old airstrip area, which currently houses a logging-related operation and equipment, may not be fully screened, but would not adversely affect views compared with existing conditions. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
Air Quality Standard Project Requirements				
SPR AQ-1 Comply with Air Quality Regulations: The project proponent will comply with the applicable air quality requirements of air districts within whose jurisdiction the project is located. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD, CAL FIRE	HCRCD
SPR AQ-2 Submit Smoke Management Plan: The project proponent will submit a smoke management plan for all prescribed burns to the applicable air district, in accordance with 17 CCR Section 80160. Pursuant to this regulation a smoke management plan will not be required for burns less than 10 acres that also will not be conducted near smoke sensitive areas, unless otherwise directed by the air district. Burning will only be conducted in compliance with the burn authorization program of the applicable air district(s) having jurisdiction over the treatment area. Example of a smoke management plan is in Appendix PD-2. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR AQ-3 Create Burn Plan: The project proponent will create a burn plan using the CAL FIRE burn plan template for all prescribed burns. The burn plan will include a fire behavior model output of First Order Fire Effects Model and BEHAVE or other fire behavior modeling simulation and that is performed by a qualified fire behavior technical specialist that predicts fire behavior, calculates consumption of fuels, tree mortality, predicted emissions, greenhouse gas emissions, and soil heating. The project proponent will minimize soil burn severity from broadcast burning to reduce the potential for runoff and soil erosion. The burn plan will be created with input from a qualified technician or certified State burn boss. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	Y .	Prior to treatment	CAL FIRE, HCRCD	HCRCD
SPR AQ-4 Minimize Dust: To minimize dust during treatment activities, the project proponent will implement the following measures: ▶ Limit the speed of vehicles and equipment traveling on unpaved areas to 15 miles per hour to reduce fugitive dust emissions, in accordance with the California Air Resources Board (CARB) Fugitive Dust protocol.	Y	During treatment	HCRCD, CAL FIRE	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ If road use creates excessive dust, the project proponent will wet appurtenant, unpaved, dirt roads using water trucks or treat roads with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material) during dry, dusty conditions. Any dust suppressant product used will be environmentally benign (i.e., non-toxic to plants and will not negatively impact water quality) and its use will not be prohibited by ARB, EPA, or the State Water Resources Control Board (SWRCB). The project proponent will not over-water exposed areas such that the water results in runoff. The type of dust suppression method will be selected by the project proponent based on soil, traffic, site-specific conditions, and air quality regulations. ▶ Remove visible dust, silt, or mud tracked-out on to public paved roadways where sufficient water supplies and access to water is available. The project proponent will remove dust, silt, and mud from vehicles at the conclusion of each workday, or at a minimum of every 24 hours for continuous treatment activities, in accordance with Vehicle Code Section 23113. ▶ Suspend ground-disturbing treatment activities, including land clearing and bulldozer lines, when there is visible dust transport (particulate pollution) outside the treatment boundary, if the particulate emissions may "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property," per Health and Safety Code Section 41700. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
SPR AQ-5 Avoid Naturally Occurring Asbestos: The project proponent will avoid ground-disturbing treatment activities in areas identified as likely to contain naturally occurring asbestos (NOA) per maps and guidance published by the California Geological Survey, unless an Asbestos Dust Control Plan (17 CCR Section 93105) is prepared and approved by the air district(s) with jurisdiction over the treatment area. Any NOA-related guidance provided by the applicable air district will be followed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	N	NA	NA	NA
SPR AQ-6: Prescribed Burn Safety Procedures. Prescribed burns planned and managed by non-CAL FIRE crews will follow all safety procedures required of CAL FIRE crew, including the implementation of an approved Incident Action Plan (IAP). The IAP will include the burn dates; burn hours; weather limitations; the specific burn prescription; a communications plan; a medical plan; a traffic plan; and special instructions such as minimizing smoke impacts to specific local roadways. The IAP will also assign responsibilities for coordination with the appropriate air district, such as conducting onsite briefings, posting notifications, weather monitoring during burning, and other burn related preparations. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
Archaeological, Historical, and Tribal Cultural Resources Standard Project Requirements				
SPR CUL-1 Conduct Record Search: An archaeological and historical resource record search will be conducted per the applicable state or local agency procedures. Instead of conducting a new search, the project proponent may use recent record	Y	Prior to treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
searches containing the treatment area requested by a landowner or other public agency in accordance applicable agency guidance. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	This search has been conducted as part of this PSA.			
SPR CUL-2 Contact Geographically Affiliated Native American Tribes: The project proponent will obtain the latest Native American Heritage Commission (NAHC) provided Native Americans Contact List. Using the appropriate Native Americans Contact List, the project proponent will notify the California Native American Tribes in the counties where the treatment activity is located. The notification will contain the following: ▶ A written description of the treatment location and boundaries. ▶ Brief narrative of the treatment objectives. ▶ A description of the activities used (e.g., prescribed burning, mastication) and associated acreages. ▶ A map of the treatment area at a sufficient scale to indicate the spatial extent of activities. ▶ A request for information regarding potential impacts to cultural resources from the proposed treatment. ▶ A detailed description of the depth of excavation, if ground disturbance is expected. In addition, the project proponent will contact the NAHC for a review of their Sacred Lands File. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y Tribal contact and notification has been conducted as part of this PSA.	Prior to treatment	HCRCD	HCRCD
SPR-CUL-3 Pre-field Research: The project proponent will conduct research prior to implementing treatments as part of the cultural resource investigation. The purpose of this research is to properly inform survey design, based on the types of resources likely to be encountered within the treatment area, and to be prepared to interpret, record, and evaluate these findings within the context of local history and prehistory. The qualified archaeologist and/or archaeologically-trained resource professional will review records, study maps, read pertinent ethnographic, archaeological, and historical literature specific to the area being studied, and conduct other tasks to maximize the effectiveness of the survey. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y This study has been conducted as part of the PSA	Prior to treatment	HCRCD	HCRCD
SPR CUL-4 Archaeological Surveys: The project proponent will coordinate with an archaeologically-trained resource professional and/or qualified archaeologist to conduct a site-specific survey of the treatment area. The survey methodology (e.g., pedestrian survey, subsurface investigation) depends on whether the area has a low, moderate, or high sensitivity for resources, which is based on whether the records search, pre-field research, and/or Native American consultation identifies archaeological or historical resources near or within the treatment area. A survey report will be completed for every cultural resource survey completed. The specific requirements will comply with the applicable state or local agency procedures. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y Surveys have been conducted as part of this PSA.	Prior to treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
SPR CUL-5 Treatment of Archaeological Resources: If cultural resources are identified within a treatment area, and cannot be avoided, a qualified archaeologist will notify the culturally affiliated tribe(s) based on information provided by NAHC and assess, whether an archaeological find qualifies as a unique archaeological resource, an historical resource, or in coordination with said tribe(s), as a tribal cultural resource. The project proponent, in consultation with culturally affiliated tribe(s), will develop effective protection measures for important cultural resources located within treatment areas. These measures may include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. These protection measures will be written in clear, enforceable language, and will be included in the survey report in accordance with applicable state or local agency procedures. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR CUL-6 Treatment of Tribal Cultural Resources: The project proponent, in consultation with the culturally affiliated tribe(s), will develop effective protection measures for important tribal cultural resources located within treatment areas. These measures may include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. The project proponent will provide the tribe(s) the opportunity to submit comments and participate in consultation to resolve issues of concern. The project proponent will defer implementing the treatment until the tribe approves protection measures, or if agreement cannot be reached after a good-faith effort, the proponent determines that any or all feasible measures have been implemented, where feasible, and the resource is either avoided or protected. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR CUL-7 Avoid Built Historical Resources: If the records search identifies built historical resources, as defined in Section 15064.5 of the State CEQA Guidelines, the project proponent will avoid these resources. Within a buffer of 100 feet of the built historical resource, there will be no prescribed burning or mechanical treatment activities Buffers less than 100 feet for built historical resources will only be used after consultation with and receipt of written approval from a qualified archaeologist. If the records search does not identify known historical resources in the treatment area, but structures (i.e., buildings, bridges, roadways) over 50 years old that have not been evaluated for historic significance are present in the treatment area, they will similarly be avoided. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD, CAL FIRE	HCRCD
SPR CUL-8 Cultural Resource Training: The project proponent will train all crew members and contractors implementing treatment activities on the protection of sensitive archaeological, historical, or tribal cultural resources. Workers will be trained to halt work if archaeological resources are encountered on a treatment site and the treatment method consists of physical disturbance of land surfaces (e.g., soil disturbance). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
Biological Resources Standard Project Requirements				
SPR BIO-1: Review and Survey Project-Specific Biological Resources. The project proponent will require a qualified RPF or biologist to conduct a data review and	Y	Prior to treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
reconnaissance-level survey prior to treatment, no more than one year prior to the submittal of the PSA, and no more than one year between completion of the PSA and implementation of the treatment project. The data reviewed will include the biological resources setting, species and sensitive natural communities tables, and habitat information in this PEIR for the ecoregion(s) where the treatment will occur. It will also include review of the best available, current data for the area, including vegetation mapping data, species distribution/range information, CNDDB, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, relevant BIOS queries, and relevant general and regional plans. Reconnaissance-level biological surveys will be general surveys that include visual and auditory inspection for biological resources to help determine the environmental setting of a project site. The qualified surveyor will 1.) identify and document sensitive resources, such as riparian or other sensitive habitats, sensitive natural community, wetlands, or wildlife nursery site or habitat (including bird nests), and 2.) assess the suitability of habitat for special-status plant and animal species. The surveyor will also record any incidental wildlife observations. For each treatment project, habitat assessments will be completed at a time of year that is appropriate for identifying habitat and no more than one year prior to the submittal of the PSA, unless it can be demonstrated in the PSA that habitat assessments older than one year remain valid (e.g., site conditions are unchanged and no treatment activity has occurred since the assessment). If more than one year passes between completion of the PSA and initiation of the treatment project, the project proponent will verify the continued accuracy of the PSA prior to beginning the treatment project by reviewing for any data updates and/or visiting the site to verify conditions. Based on the results of the data review and reconnaissance-level survey, the project proponent, in consultation with a qualified RPF or biologist, will determine which one of the following best characterizes the treatment:	A data review and reconnaissance-level survey have been conducted as part of this PSA. See Biological Resources section of PSA for additional details on database results and site survey.			
1. **Suitable Habitat Is Present but Adverse Effects Can Be Clearly Avoided**. If, based on the data review and reconnaissance-level survey, the qualified RPF or biologist determines that suitable habitat for sensitive biological resources is present but adverse effects on the suitable habitat can clearly be avoided through one of the following methods, the avoidance mechanism will be implemented prior to initiating treatment and will remain in effect throughout the treatment: a. by physically avoiding the suitable habitat, or b. by conducting treatment outside of the season when a sensitive resource could be present within the suitable habitat or outside the season of sensitivity (e.g., outside of special-status bird nesting season, during dormant season of sensitive annual or geophytic plant species, or outside of maternity and rearing season at wildlife nursery sites). Physical avoidance will include flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway) to delineate the boundary of the avoidance area around the suitable habitat. For physical avoidance, a buffer may be implemented as determined necessary by the qualified RPF or biologist. 2. **Suitable Habitat is Present and Adverse Effects Cannot Be Clearly Avoided**. Further review and surveys will be conducted to determine presence/absence of sensitive biological resources that may be affected, as described in the SPRs	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
below. Further review may include contacting USFWS, NOAA Fisheries, CDFW, CNPS, or local resource agencies as necessary to determine the potential for special-status species or other sensitive biological resources to be affected by the treatment activity. Focused or protocol-level surveys will be conducted as necessary to determine presence/absence. If protocol surveys are conducted, survey procedures will adhere to methodologies approved by resource agencies and the scientific community, such as those that are available on the CDFW webpage at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols. Specific survey requirements are addressed for each resource type in relevant SPRs (e.g., additional survey requirements are presented for special-status plants in SPR BIO-7). This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
SPR BIO-2: Require Biological Resource Training for Workers. The project proponent will require crew members and contractors to receive training from a qualified RPF or biologist prior to beginning a treatment project. The training will describe the appropriate work practices necessary to effectively implement the biological SPRs and mitigation measures and to comply with the applicable environmental laws and regulations. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats with the potential to occur in the treatment area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during treatment activities to leave the area unharmed and when it is necessary to report encounters to a qualified RPF, biologist, or biological technician. The qualified RPF, biologist, or biological technician will immediately contact CDFW or USFWS, as appropriate, if any wildlife protected by the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own (without being handled). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
Sensitive Natural Communities and Other Sensitive Habitats				
SPR BIO-3: Survey Sensitive Natural Communities and Other Sensitive Habitats. If SPR BIO-1 determines that sensitive natural communities or sensitive habitats may be present and adverse effects cannot be avoided, the project proponent will: ▶ require a qualified RPF or biologist to perform a protocol-level survey following the CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (current version dated March 20, 2018) of the treatment area prior to the start of treatment activities for sensitive natural communities and sensitive habitats. Sensitive natural communities will be identified using the best means possible, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at http://vegetation.cnps.org/), or referring to relevant reports (e.g., reports found on the VegCAMP website). ▶ map and digitally record, using a Global Positioning System (GPS), the limits of any potential sensitive habitat and sensitive natural community identified in the treatment area.	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
SPR BIO-4: Design Treatment to Avoid Loss or Degradation of Riparian Habitat Function. Project proponents, in consultation with a qualified RPF or qualified biologist, will design treatments in riparian habitats to retain or improve habitat functions by implementing the following within riparian habitats: ▶ Retain at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within the limits of riparian habitat identified and mapped during surveys conducted pursuant to SPR BIO-3. Native riparian vegetation will be retained in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of treatment activities. ▶ Treatments will be limited to removal of uncharacteristic fuel loads (e.g., removing dead or dying vegetation), trimming/limbing of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the riparian vegetation types characteristic of the region. This includes hand removal (or mechanized removal where topography allows) of dead or dying riparian trees and shrubs, invasive plant removal, selective thinning, and removal of encroaching upland species. ▶ Removal of large, native riparian hardwood trees (e.g., willow, ash, maple, oak, alder, sycamore, cottonwood) will be minimized to the extent feasible and 75 percent of the pretreatment native riparian hardwood tree canopy will be retained. Because tree size varies depending on vegetation type present and site conditions, the tree size retention parameter will be determined on a site-specific basis depending on vegetation type present and setting; however, live, healthy, native trees that are considered large for that type of tree and large relative to other trees in that location will be retained. A scientifically-based, project-specific explanation substantiating the retention size parameter for native riparian hardwood tree removal will be provided in the Biological Resources Discussion of the PSA. Consideration of factors such as site hydrology, erosion potential, suitability of wildlife habitat, presence of sufficient seed trees, light availability, and changes in stream shading may inform the tree size retention requirements. ▶ Removed trees will be felled away from adjacent streams or waterbodies and piled outside of the riparian vegetation zone (unless there is an ecological reason to do otherwise that is approved by applicable regulatory agencies, such as adding large woody material to a stream to enhance fish habitat, e.g., see Accelerated Wood Recruitment and Timber Operations: Process Guidance from the California Timber Harvest Review Team Agencies and National Marine Fisheries Service). ▶ Vegetation removal that could reduce stream shading and increase stream temperatures will be avoided. ▶ Ground disturbance within riparian habitats will be limited to the minimum necessary to implement effective treatments. This will consist of the minimum disturbance area necessary to reduce hazardous fuels and return the riparian community to a natural fire regime (i.e., Condition Class 1) considering historic fire return intervals, climate change, and land use constraints. ▶ Only hand application of herbicides approved for use in aquatic environments will be allowed and only during low-flow periods or when seasonal streams are dry.	Y	Prior to treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ The project proponent will notify CDFW when required by California Fish and Game Code Section 1602 prior to implementing any treatment activities in riparian habitats. Notification will identify the treatment activities, map the vegetation to be removed, identify the impact avoidance identification methods to be used (e.g., flagging), and appropriate protections for the retention of shaded riverine habitat, including buffers and other applicable measures to prevent erosion into the waterway. ▶ In consideration of spatial variability of riparian vegetation types and condition and consistent with California Forest Practice Rules Section 916.9(v) (February 2019 version), a different set of vegetation retention standards and protection measures from those specified in the above bullets may be implemented on a site-specific basis if the qualified RPF and the project proponent demonstrate through substantial evidence that alternative design measures provide a more effective means of achieving the treatment goals objectives and would result in effects to the Beneficial Functions of Riparian Zones equal or more favorable than those expected to result from application of the above measures. Deviation from the above design specifications, different protection measures and design standards will only be approved when the treatment plan incorporates an evaluation of beneficial functions of the riparian habitat and with written concurrence from CDFW. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
SPR BIO-5: Avoid Environmental Effects of Type Conversion and Maintain Habitat Function in Chaparral and Coastal Sage Scrub. The project proponent will design treatment activities to avoid type conversion where native coastal sage scrub and chaparral are present. An ecological definition of type conversion is used in the CalVTP PEIR for assessment of environmental effects: a change from a vegetation type dominated by native shrub species that are characteristic of chaparral and coastal sage scrub vegetation alliances to a vegetation type characterized predominantly by weedy herbaceous cover or annual grasslands. For the PEIR, type conversion is considered in terms of habitat function, which is defined here as the arrangement and capability of habitat features to provide refuge, food source, and reproduction habitat to plants and animals, and thereby contribute to the conservation of biological and genetic diversity and evolutionary processes (de Groot et al. 2002). Some modification of habitat characteristics may occur provided habitat function is maintained (i.e., the location, essential habitat features, and species supported are not substantially changed). During the reconnaissance-level survey required in SPR BIO-1, a qualified RPF or biologist will identify chaparral and coastal sage scrub vegetation to the alliance level and determine the condition class and fire return interval departure of the chaparral and/or coastal sage scrub present in each treatment area. For all treatment types in chaparral and coastal sage scrub, the project proponent, in consultation with a qualified RPF or qualified biologist will: ▶ Develop a treatment design that avoids environmental effects of type conversion in chaparral and coastal sage scrub vegetation alliances, which will include evaluating and determining the appropriate spatial scale at which the proponent would consider type conversion, and substantiating its appropriateness. The project proponent will demonstrate with substantial evidence that the habitat function of chaparral and coastal sage scrub would be at least maintained within the identified spatial scale at which type conversion is evaluated for the specific treatment project. Consideration of factors such as site hydrology, erosion potential, suitability of wildlife habitat, spatial needs of sensitive species, presence of sufficient seed plants and nurse plants, light availability, and edge effects may inform the determination of an appropriate spatial scale. ▶ The treatment design will maintain a minimum percent cover of mature native shrubs within the treatment area to maintain habitat function; the appropriate percent cover will be identified by the project proponent in the development of treatment design and be specific to the vegetation alliances that are present in the identified spatial scale used to evaluate type conversion. Mature native shrubs that are retained will be distributed contiguously or in patches within the stand. If the stand consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity, to the extent needed to avoid type conversion. These SPR requirements apply to all treatment activities and all treatment types, including treatment maintenance. Additional measures will be applied to ecological restoration treatment types: ▶ For ecological restoration treatment types, complete removal of the mature shrub layer will not occur in native chaparral and coastal sage scrub vegetation types. ▶ Ecological restoration treatments will not be implemented in vegetation types that are within their natural fire return interval (i.e., time since last burn is less than the average time listed as the fire return interval range in Table 3.6-1) unless	N Type conversion for chapparal and coastal sage scrub is not being proposed, and therefore no measures are recommended for that habitat type.	NA	NA	NA

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
the project proponent demonstrates with substantial evidence that the habitat function of chaparral and coastal sage scrub would be improved. ▶ A minimum of 35 percent relative cover of existing shrubs and associated native vegetation will be retained at existing densities in patches distributed in a mosaic pattern within the treated area or the shrub canopy will be thinned by no more than 20 percent from baseline density (i.e., if baseline shrub canopy density is 60 percent, post treatment shrub canopy density will be no less than 40 percent). A different percent relative cover can be retained if the project proponent demonstrates with substantial evidence that alternative treatment design measures would result in effects on the habitat function of chaparral and coastal sage scrub that are equal or more favorable than those expected to result from application of the above measures. Biological considerations that may inform a deviation from the minimum 35 percent relative cover retention include but are not limited to soil moisture requirements, increased soil temperatures, changes in light/shading, presence of sufficient seed plants and nurse plants, erosion potential, and site hydrology. ▶ If the stand within the treatment area consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity. These SPR requirements apply to all treatment activities and only the ecosystem restoration treatment type, including treatment maintenance. A determination of compliance with the SB 1260 prohibition of type conversion in chaparral and coastal sage scrub is a statutory issue separate from CEQA compliance that may involve factors additional to the ecological definition and habitat functions presented in the PEIR, such as geographic context. It is beyond the legal scope of the PEIR to define SB 1260 type conversion and statutory compliance. The project proponent, acting as lead agency for the proposed later treatment project, will be responsible for defining type conversion in the context of the project and making the finding that type conversion would not occur, as required by SB 1260. The project proponent will determine its criteria for defining and avoiding type conversion and, in making its findings, may draw upon information presented in this PEIR.				
SPR BIO-6: Prevent Spread of Plant Pathogens. When working in sensitive natural communities, riparian habitats, or oak woodlands that are at risk from plant pathogens (e.g., Ione chaparral, blue oak woodland), the project proponent will implement the following best management practices to prevent the spread of *Phytopthora* and other plant pathogens (e.g., pitch canker (*Fusarium*), goldspotted oak borer, shot hole borer, bark beetle): ▶ clean and sanitize vehicles, equipment, tools, footwear, and clothes before arriving at a treatment site and when leaving a contaminated site, or a site in a county where contamination is a risk; ▶ include training on *Phytopthora* diseases and other plant pathogens in the worker awareness training; ▶ minimize soil disturbance as much as possible by limiting the number of vehicles, avoiding off-road travel as much as possible, and limiting use of mechanized equipment; ▶ minimize movement of soil and plant material within the site, especially between areas with high and low risk of contamination;	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ clean soil and debris from equipment and sanitize hand tools, buckets, gloves, and footwear when moving from high risk to low risk areas or between widely separated portions of a treatment area; and ▶ follow the procedures listed in Guidance for plant pathogen prevention when working at contaminated restoration sites or with rare plants and sensitive habitat (Working Group for *Phytoptheras* in Native Habitats 2016). This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
Special-Status Plants				
SPR BIO-7: Survey for Special-Status Plants. If SPR BIO-1 determines that suitable habitat for special-status plant species is present and cannot be avoided, the project proponent will require a qualified RPF or botanist to conduct protocol-level surveys for special-status plant species with the potential to be affected by a treatment prior to initiation of the treatment. The survey will follow the methods in the current version of CDFW's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities." Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the treatment and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified RPF or botanist), or all species in the same genus as the target species will be assumed to be special-status. If potentially occurring special-status plants are listed under CESA or ESA, protocol-level surveys to determine presence/absence of the listed species will be conducted in all circumstances, unless determined otherwise by CDFW or USFWS. For other special-status plants not listed under CESA or ESA, as defined in Section 3.6.1 of this PEIR, surveys will not be required under the following circumstances: ▶ If protocol-level surveys, consisting of at least two survey visits (e.g., early blooming season and later blooming season) during a normal weather year, have been completed in the 5 years before implementation of the treatment project and no special-status plants were found, and no treatment activity has occurred following the protocol-level survey, treatment may proceed without additional plant surveys. ▶ If the target special-status plant species is an herbaceous annual, stump-sprouting, or geophyte species, the treatment may be carried out during the dormant season for that species or when the species has completed its annual lifecycle without conducting presence/absence surveys provided the treatment will not alter habitat or destroy seeds, stumps, or roots, rhizomes, bulbs and other underground parts in a way that would make it unsuitable for the target species to reestablish following treatment. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
Environmentally Sensitive Habitat Areas				
SPR BIO-8: Identify and Avoid or Minimize Impacts in Coastal Zone ESHAs. When planning a treatment project within the Coastal Zone, the project proponent will, in consultation with the Coastal Commission or a local government with a certified	N	N/A	N/A	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Local Coastal Program (LCP) (as applicable), identify the habitat types and species present to determine if the area qualifies as an Environmentally Sensitive Habitat Area (ESHA). If the area is an ESHA, the treatment project may be allowed pursuant to this PEIR, if it meets the following conditions. If a project requires a CDP by the Coastal Commission or a local government with a certified LCP (as applicable), the CDP approval may require modification to these conditions to further avoid and minimize impacts: ▶ The treatment will be designed, in compliance with the Coastal Act or LCP if a site is within a certified LCP area, to protect the habitat function of the affected ESHA, protect habitat values, and prevent loss or type conversion of habitat and vegetation types that define the ESHA, or loss of special-status species that inhabit the ESHA. ▶ Treatment actions will be limited to eradication or control of invasive plants, removal of uncharacteristic fuel loads (e.g., removing dead, diseased, or dying vegetation), trimming/limbing of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the vegetation types present in the ESHA. ▶ A qualified biologist or RPF familiar with the ecology of the treatment area will monitor all treatment activities in ESHAs. ▶ Appropriate no-disturbance buffers will be developed in compliance with the Coastal Act or relevant LCP policies for treatment activities in the vicinity of ESHAs to avoid adverse direct and indirect effects to ESHAs. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Not in Coastal Zone			
Invasive Plants and Wildlife				
SPR BIO-9: Prevent Spread of Invasive Plants, Noxious Weeds, and Invasive Wildlife. The project proponent will take the following actions to prevent the spread of invasive plants, noxious weeds, and invasive wildlife (e.g., New Zealand mudsnail): ▶ clean clothing, footwear, and equipment used during treatments of soil, seeds, vegetative matter, other debris or seed-bearing material, or water (e.g., rivers, streams, creeks, lakes) before entering the treatment area or when leaving an area with infestations of invasive plants, noxious weeds, or invasive wildlife; ▶ for all heavy equipment and vehicles traveling off road, pressure wash, if feasible, or otherwise appropriately decontaminate equipment at a designated weed-cleaning station prior to entering the treatment area from an area with infestations of invasive plants, noxious weeds, or invasive wildlife. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect native species; ▶ inspect all heavy equipment, vehicles, tools, or other treatment-related materials for sand, mud, or other signs that weed seeds or propagules could be present prior to use in the treatment area. If the equipment is not clean, the qualified RPF or biological technician will deny entry to the work areas; ▶ stage equipment in areas free of invasive plant infestations unless there are no uninfested areas present within a reasonable proximity to the treatment area; ▶ identify significant infestations of invasive plant species (i.e., those rated as invasive by Cal-IPC or designated as noxious weeds by California Department of Food and Agriculture) during reconnaissance-level surveys and target them for removal during treatment activities. Treatment methods will be selected based	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
on the invasive species present and may include herbicide application, manual or mechanical treatments, prescribed burning, and/or herbivory, and will be designed to maximize success in killing or removing the invasive plants and preventing reestablishment based on the life history characteristics of the invasive plant species present. Treatments will be focused on removing invasive plant species that cause ecological harm to native vegetation types, especially those that can alter fire cycles; ▶ treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and ▶ implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version). This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
Wildlife				
SPR BIO-10: Survey for Special-Status Wildlife and Nursery Sites. If SPR BIO-1 determines that suitable habitat for special-status wildlife species or nurseries of any wildlife species is present and cannot be avoided, the project proponent will require a qualified RPF or biologist to conduct focused or protocol-level surveys for special-status wildlife species or nursery sites (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries, monarch overwintering sites) with potential to be directly or indirectly affected by a treatment activity. The survey area will be determined by a qualified RPF or biologist based on the species and habitats and any recommended buffer distances in agency protocols. The qualified RPF or biologist will determine if following an established protocol is required, and the project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate survey protocols. Unless otherwise specified in a protocol, the survey will be conducted no more than 14 days prior to the beginning of treatment activities. Focused or protocol surveys for a special-status species with potential to occur in the treatment area may not be required if presence of the species is assumed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
SPR BIO-11. Install Wildlife-Friendly Fencing (Prescribed Herbivory). If temporary fencing is required for prescribed herbivory treatment, a wildlife-friendly fencing design will be used. The project proponent will require a qualified RPF or biologist to review and approve the design before installation to minimize the risk of wildlife entanglement. The fencing design will meet the following standards: ▶ Minimize the chance of wildlife entanglement by avoiding barbed wire, loose or broken wires, or any material that could impale or snag a leaping animal; and, if feasible, keeping electric netting-type fencing electrified at all times or laid down while not in use. ▶ Charge temporary electric fencing with intermittent pulse energizers; continuous output fence chargers will not be permitted. ▶ Allow wildlife to jump over easily without injury by installing fencing that can flex as animals pass over it and installing the top wire low enough (no more than approximately 40 inches high on flat ground) to allow adult ungulates to jump over it. The determination of appropriate fence height will consider slope, as steep slopes are more difficult for wildlife to pass. ▶ Be highly visible to birds and mammals by using high-visibility tape or wire, flagging, or other markers. This SPR applies only to prescribed herbivory and all treatment types, including treatment maintenance.	N This SPR is not included as prescribed herbivory is not part of this project.	NA	NA	NA
SPR BIO-12. Protect Common Nesting Birds, Including Raptors. The project proponent will schedule treatment activities to avoid the active nesting season of common native bird species, including raptors, that could be present within or adjacent to the treatment site, if feasible. Common native birds are species not otherwise treated as special status in the CalVTP PEIR. The active nesting season will be defined by the qualified RPF or biologist. If active nesting season avoidance is not feasible, a qualified RPF or biologist will conduct a survey for common nesting birds, including raptors. Existing records (e.g., CNDDB, eBird database, State Wildlife Action Plan) should be reviewed in advance of the survey to identity the common nesting birds, including raptors, that are known to occur in the vicinity of the treatment site. The survey area will encompass reasonably accessible areas of the treatment site and the immediately surrounding vicinity viewable from the treatment site. The survey area will be determined by a qualified RPF or biologist, based on the potential species in the area, location of suitable nesting habitat, and type of treatment. For vegetation removal or project activities that would occur during the nesting season, the survey will be conducted at a time that balances the effectiveness of detecting nests and the reasonable consideration of potential avoidance strategies. Typically, this timeframe would be up to 3 weeks before treatment. The survey will occur in a single survey period of sufficient duration to reasonably detect nesting birds, including raptors, typically one day for most treatment projects (depending on the size, configuration, and vegetation density in the treatment site), and conducted during the active time of day for target species, typically close to dawn and/or dusk. The survey may be conducted concurrently with other biological surveys, if they are required by other SPRs. Survey methods will be tailored by the qualified RPF or biologist to site and habitat conditions, typically involving walking throughout the survey area, visually searching for nests and birds exhibiting behavior that is typical of breeding (e.g., delivering food).	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
If an active nest is observed (i.e., presence of eggs and/or chicks) or determined to likely be present based on nesting bird behavior, the project proponent will implement a feasible strategy to avoid disturbance of active nests, which may include, but is not limited to, one or more of the following: ▶ **Establish Buffer.** The project proponent will establish a temporary, species-appropriate buffer around the nest sufficient to reasonably expect that breeding would not be disrupted. Treatment activities will be implemented outside of the buffer. The buffer location will be determined by a qualified RPF or biologist. Factors to be considered for determining buffer location will include: presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and expected treatment activities. Nests of common birds within the buffer need not be monitored during treatment. However, buffers will be maintained until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. ▶ **Modify Treatment.** The project proponent will modify the treatment in the vicinity of an active nest to avoid disturbance of active nests (e.g., by implementing manual treatment methods, rather than mechanical treatment methods). Treatment modifications will be determined by the project proponent in coordination with the qualified RPF or biologist. ▶ **Defer Treatment.** The project proponent will defer the timing of treatment in the portion(s) of the treatment site that could disturb the active nest. If this avoidance strategy is implemented, treatment activity will not commence until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. Feasible actions will be taken by the project proponent to avoid loss of common native bird nests. The feasibility of implementing the avoidance strategies will be determined by the project proponent based on whether implementation of this SPR will preclude completing the treatment project within the reasonable period of time necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. Considerations may include limitations on the presence of environmental and atmospheric conditions necessary to execute treatment prescriptions (e.g., the limited seasonal windows during which prescribed burning can occur when vegetation moisture, weather, wind, and other physical conditions are suitable). If it is infeasible to avoid loss of common bird nests (not including raptor nests), the project proponent will document the reasons implementation of the avoidance strategies is infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). The following avoidance strategies may also be considered together with or in lieu of other actions for implementation by a project proponent to avoid disturbance to raptor nests: ▶ **Monitor Active Raptor Nest During Treatment**. A qualified RPF, biologist, or biological technician will monitor an active raptor nest during treatment activities to identify signs of agitation, nest defense, or other behaviors that signal disturbance of the active nest is likely (e.g., standing up from a brooding position, flying off the nest). If breeding raptors are showing signs of nest				

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
disturbance, one of the other avoidance strategies (establish buffer, modify treatment or defer treatment) will be implemented or a pause in the treatment activity will occur until the disturbance behavior ceases. ▶ **Retention of Raptor Nest Trees**. Trees with visible raptor nests, whether occupied or not, will be retained. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
Geology, Soils, and Mineral Resource Standard Project Requirements				
SPR GEO-1 Suspend Disturbance during Heavy Precipitation: The project proponent will suspend mechanical, prescribed herbivory, and herbicide treatments if the National Weather Service forecast is a "chance" (30 percent or more) of rain within the next 24 hours. Activities that cause mechanical soil disturbance may resume when precipitation stops and soils are no longer saturated (i.e., when 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, (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. This SPR applies only to mechanical, prescribed herbivory, and herbicide treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR GEO-2 Limit High Ground Pressure Vehicles: The project proponent will limit heavy equipment that could cause soil disturbance or compaction to be driven through treatment areas when soils are wet and saturated to avoid compaction and/or damage to soil structure. Saturated soil means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. If use of heavy equipment is required in saturated areas, other measures such as operating on organic debris, using low ground pressure vehicles, or operating on frozen soils/snow covered soils will be implemented to minimize soil compaction. Existing compacted road surfaces are exempted as they are already compacted from use. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR GEO-3 Stabilize Disturbed Soil Areas: The project proponent will stabilize soil disturbed during mechanical, prescribed herbivory treatments, and prescribed burns that result in exposure of bare soil over 50 percent or more of the treatment area with mulch or equivalent immediately after treatment activities, to the maximum extent practicable, to minimize the potential for substantial sediment discharge. If mechanical, prescribed herbivory, or prescribed burn treatment activities could result in substantial sediment discharge from soil disturbed by machinery, animal hooves, or being bare, organic material from mastication or mulch will be incorporated onto at least 75 percent of the disturbed soil surface where the soil erosion hazard is moderate or high, and 50 percent of the disturbed soil surface where soil erosion hazard is low to help prevent erosion. Where slash mulch is used, it will be packed into the ground surface with heavy equipment so that it is sufficiently in contact with the soil surface. This SPR only applies to mechanical, prescribed herbivory, and prescribed burns that result in exposure of bare soil over	Y	During treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
50 percent of the project area treatment activities and all treatment types, including treatment maintenance.				
SPR GEO-4 Erosion Monitoring: The project proponent will inspect treatment areas for the proper implementation of erosion control SPRs and mitigations prior to the rainy season. If erosion control measures are not properly implemented, they will be remediated prior to the first rainfall event per SPR GEO-3 and GEO-8. Additionally, the project proponent will inspect for evidence of erosion after the first large storm or rainfall event (i.e., ≥ 1.5 inches in 24 hours) as soon as is feasible after the event. Any area of erosion that will result in substantial sediment discharge will be remediated within 48 hours per the methods stated in SPRs GEO-3 and GEO-8. This SPR applies only to mechanical, prescribed herbivory, and prescribed burning treatment activities and all treatment types, including treatment maintenance.	Y	During and post-treatment	HCRCD	HCRCD
SPR GEO-5 Drain Stormwater via Water Breaks: The project proponent will drain compacted and/or bare linear treatment areas capable of generating storm runoff via water breaks using the spacing and erosion control guidelines contained in Sections 914.6, 934.6, and 954.6(c) of the California Forest Practice Rules (February 2019 version). Where waterbreaks cannot effectively disperse surface runoff, including where waterbreaks cause surface run-off to be concentrated on downslopes, other erosion controls will be installed as needed to maintain site productivity by minimizing soil loss. This SPR applies only to mechanical, manual, and prescribed burn treatment activities and all treatment types, including treatment maintenance.	Y	During and post-treatment	HCRCD	HCRCD
SPR GEO-6 Minimize Burn Pile Size: The project proponent will not create burn piles that exceed 20 feet in length, width, or diameter, except when on landings, road surfaces, or on contour to minimize the spatial extent of soil damage. In addition, burn piles will not occupy more than 15 percent of the total treatment area (Busse et al. 2014). The project proponent will not locate burn piles in a Watercourse and Lake Protection Zone as defined in SPR HYD-4. This SPR applies to mechanical, manual, and prescribed burning treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR GEO-7 Minimize Erosion: To minimize erosion, the project proponent will: (1) Prohibit use of heavy equipment where any of the following conditions are present: (i) Slopes steeper than 65 percent. (ii) Slopes steeper than 50 percent where the erosion hazard rating is high or extreme. (iii) Slopes steeper than 50 percent that lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake. (2) On slopes between 50 percent and 65 percent where the erosion hazard rating is moderate, and all slope percentages are for average slope steepness based on sample areas that are 20 acres, or less, heavy equipment will be limited to: (i) Existing tractor roads that do not require reconstruction, or (ii) New tractor roads flagged by the project proponent prior to the treatment activity.	Y	During treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
(3) Prescribed herbivory treatments will not be used in areas with over 50 percent slope. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.				
SPR GEO-8 Steep Slopes: The project proponent will require a Registered Professional Forester (RPF) or licensed geologist to evaluate treatment areas with slopes greater than 50 percent for unstable areas (areas with potential for landslide) and unstable soils (soil with moderate to high erosion hazard). If unstable areas or soils are identified within the treatment area, are unavoidable, and will be potentially directly or indirectly affected by the treatment, a licensed geologist (P.G. or C.E.G.) will determine the potential for landslide, erosion, of other issue related to unstable soils and identity measures (e.g., those in SPR GEO-7) that will be implemented by the project proponent such that substantial erosion or loss of topsoil would not occur. This SPR applies only to mechanical treatment activities and WUI fuel reduction, non-shaded fuel breaks, and ecological restoration treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
Greenhouse Gas Emissions Standard Project Requirements				
SPR GHG-1 Contribute to the AB 1504 Carbon Inventory Process: The project proponent of treatment projects subject to the AB 1504 process will provide all necessary data about the treatment that is needed by the U.S. Forest Service and FRAP to fulfill requirements of the AB 1504 carbon inventory, and to aid in the ongoing research about the long-term net change in carbon sequestration resulting from treatment activity. This SPR applies to all treatment activities and all treatment types, including treatment maintenance. .	Y	NA	NA	NA
Hazardous Material and Public Health and Safety Standard Project Requirements				
SPR HAZ-1 Maintain All Equipment: The project proponent will maintain all diesel- and gasoline-powered equipment per manufacturer's specifications, and in compliance with all state and federal emissions requirements. Maintenance records will be available for verification. Prior to the start of treatment activities, the project proponent will inspect all equipment for leaks and inspect everyday thereafter until equipment is removed from the site. Any equipment found leaking will be promptly removed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR HAZ-2 Require Spark Arrestors: The project proponent will require mechanized hand tools to have federal- or state-approved spark arrestors. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR HAZ-3 Require Fire Extinguishers: The project proponent will require tree cutting crews to carry one fire extinguisher per chainsaw. Each vehicle would be equipped with one long-handled shovel and one axe or Pulaski consistent with PRC Section 4428. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR HAZ-4 Prohibit Smoking in Vegetated Areas: The project proponent will require that smoking is only permitted in designated smoking areas barren or cleared to mineral soil at least 3 feet in diameter (PRC Section 4423.4). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
SPR HAZ-5 Spill Prevention and Response Plan: The project proponent or licensed Pest Control Advisor (PCA) will prepare a Spill Prevention and Response Plan (SPRP) prior to beginning any herbicide treatment activities to provide protection to onsite workers, the public, and the environment from accidental leaks or spills of herbicides, adjuvants, or other potential contaminants. The SPRP will include (but not be limited to): ▶ a map that delineates staging areas, and storage, loading, and mixing areas for herbicides; ▶ a list of items required in an onsite spill kit that will be maintained throughout the life of the activity; ▶ procedures for the proper storage, use, and disposal of any herbicides, adjuvants, or other chemicals used in vegetation treatment. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	Y	Prior to treatment	HCRCD	HCRCD
SPR HAZ-6 Comply with Herbicide Application Regulations: The project proponent will coordinate pesticide use with the applicable County Agricultural Commissioner(s), and all required licenses and permits will be obtained prior to herbicide application. The project proponent will prepare all herbicide applications to do the following: ▶ Be implemented consistent with recommendations prepared annually by a licensed PCA. ▶ Comply with all appropriate laws and regulations pertaining to the use of pesticides and safety standards for employees and the public, as governed by the EPA, DPR, and applicable local jurisdictions. ▶ Adhere to label directions for application rates and methods, storage, transportation, mixing, container disposal, and weather limitations to application such as wind speed, humidity, temperature, and precipitation. ▶ Be applied by an applicator appropriately licensed by the State. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	N This SPR does not apply to this project because no herbicides will be used.	N/A	N/A	N/A
SPR HAZ-7 Triple Rinse Herbicide Containers: The project proponent will triple rinse all herbicide and adjuvant containers with clean water at an approved site, and dispose of rinsate by placing it in the batch tank for application per 3 CCR Section 6684. The project proponent will puncture used containers on the top and bottom to render them unusable, unless said containers are part of a manufacturer's container recycling program, in which case the manufacturer's instructions will be followed. Disposal of non-recyclable containers will be at legal dumpsites. Equipment will not be cleaned, and personnel will not be washed in a manner that would allow contaminated water to directly enter any body of water within the treatment area or adjacent watersheds. Disposal of all herbicides will follow label requirements and waste disposal regulations. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	N This SPR does not apply to this project because no herbicides will be used.	N/A	N/A	N/A
SPR HAZ-8 Minimize Herbicide Drift to Public Areas: The project proponent will employ the following herbicide application parameters during herbicide application to minimize drift into public areas:	N	N/A	N/A	N/A

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ application will cease when weather parameters exceed label specifications or when sustained winds at the site of application exceeds 7 miles per hour (whichever is more conservative); ▶ spray nozzles will be configured to produce the largest appropriate droplet size to minimize drift; ▶ low nozzle pressures (30-70 pounds per square inch) will be utilized to minimize drift; and ▶ spray nozzles will be kept within 24 inches of vegetation during spraying. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	This SPR does not apply to this project because no herbicides will be used.			
SPR HAZ-9 Notification of Herbicide Use in the Vicinity of Public Areas: For herbicide applications occurring within or adjacent to public recreation areas, residential areas, schools, or any other public areas within 500 feet, the project proponent will post signs at each end of herbicide treatment areas and any intersecting trails notifying the public of the use of herbicides. The signs will include the signal word (i.e., Danger, Warning or Caution), product name, and manufacturer; active ingredient; EPA registration number; target pest; treatment location; date and time of application; restricted entry interval, if applicable per the label requirements; date which notification sign may be removed; and a contact person with a telephone number. Signs will be posted prior to the start of treatment and notification will remain in place for at least 72 hours after treatment ceases. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	N This SPR does not apply to this project because no herbicides will be used.	N/A	N/A	N/A
Hydrology and Water Quality Standard Project Requirements				
SPR HYD-1 Comply with Water Quality Regulations: Project proponents must also conduct proposed vegetation treatments in conformance with appropriate RWQCB timber, vegetation and land disturbance related Waste Discharge Requirements (WDRs) and/or related Conditional Waivers of Waste Discharge Requirements (Waivers), and appropriate Basin Plan Prohibitions. Where these regulatory requirements differ, the most restrictive will apply. If applicable, this includes compliance with the conditions of general waste discharge requirements (WDR) and waste discharge requirement waivers for timber or silviculture activities where these waivers are designed to apply to non-commercial fuel reduction and forest health projects. In general, WDR and Waivers of waste discharge requirements for fuel reduction and forest health activities require that wastes, including but not limited to petroleum products, soil, silt, sand, clay, rock, felled trees, slash, sawdust, bark, ash, and pesticides must not be discharged to surface waters or placed where it may be carried into surface waters; and that Water Board staff must be allowed reasonable access to the property in order to determine compliance with the waiver conditions. The specifications for each WDR and Waiver vary by region. Regions 2 (San Francisco Bay), 4 (Los Angeles), 8 (Santa Ana), and 7 (Colorado River) are highly urban or minimally forested and do not offer WDRs or Waivers for fuel reduction or vegetation management activities. The current applicable WDRs and Waivers for timber and vegetation management activities are included in Appendix HYD-1. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to and during treatment	HCRCD	HCRCD

<table>
<tr><th>Standard Project Requirements</th><th>Applicable? (Y/N)</th><th>Timing</th><th>Implementing Entity</th><th>Verifying/ Monitoring Entity</th></tr>
<tr><td>SPR HYD-2 Avoid Construction of New Roads: The project proponent will not construct or reconstruct (i.e., cutting or filling involving less than 50 cubic yards/0.25 linear road miles) any new roads (including temporary roads). This SPR applies to all treatment activities and treatment types, including treatment maintenance.</td><td>Y</td><td>Prior to and during treatment</td><td>HCRCD</td><td>HCRCD</td></tr>
<tr><td>SPR HYD-3 Water Quality Protections for Prescribed Herbivory: The project proponent will include the following water quality protections for all prescribed herbivory treatments:
▶ Environmentally sensitive areas such as waterbodies, wetlands, or riparian areas will be identified in the treatment prescription and excluded from prescribed herbivory project areas using temporary fencing or active herding. A buffer of approximately 50 feet will be maintained between sensitive and actively grazed areas.
▶ Water will be provided for grazing animals in the form of an on-site stock pond or a portable water source located outside of environmentally sensitive areas.
▶ Treatment prescriptions will be designed to protect soil stability. Grazing animals will be herded out of an area if accelerated soil erosion is observed.
This SPR applies to prescribed herbivory treatment activities and all treatment types, including treatment maintenance.</td><td>N

No prescribed herbivory is proposed with the project.</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>SPR HYD-4 Identify and Protect Watercourse and Lake Protection Zones: The project proponent will establish Watercourse and Lake Protection Zones (WLPZs) on either side of watercourses as defined in the table below, which is based on 14 CCR Section 916 .5 of the California Forest Practice Rules (February 2019 version). WLPZ's are classified based on the uses of the stream and the presence of aquatic life. Wider WLPZs are required for steep slopes.
Procedures for Determining Watercourse and Lake Protection Zone (WLPZ) widths
<table>
<tr><th>Water Class</th><th>Class I</th><th>Class II</th><th>Class III</th><th>Class IV</th></tr>
<tr><td>Water Class Characteristics or Key Indicator Beneficial Use</td><td>1) Domestic supplies, including springs, on site and/or within 100 feet downstream of the operations area and/or
2) Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.</td><td>1) Fish always or seasonally present offsite within 1000 feet downstream and/or
2) Aquatic habitat for non-fish aquatic species.
3) Excludes Class III waters that are tributary to Class I waters.</td><td>No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high-water flow conditions after completion of timber operations.</td><td>Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.</td></tr>
<tr><td colspan="5">WLPZ Width (ft) – Distance from top of bank to the edge of WLPZ</td></tr>
</table></td><td>Y</td><td>Prior to and during treatment</td><td>HCRCD</td><td>HCRCD</td></tr>
</table>

Standard Project Requirements				Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
< 30 % Slope	75	50	Sufficient to prevent the degradation of downstream beneficial uses of water. Determined on a site-specific basis.				
30-50 % Slope	100	75					
>50 % Slope	150	100					

Source: 14 CCR Section 916.5 [936.5, 956.5] (February 2019)

The following WLPZ protections will be applied for all treatments:

- Treatment activities with WLPZs will retain at least 75 percent surface cover and undisturbed are to act as a filter strip for raindrop energy dissipation and for wildlife habitat. If this percentage is reduced a qualified RPF will provide the project proponent with a site- and/or treatment activity-specific explanation for the percent surface cover reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced percent as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). This requirement is based on 14 CCR Section 916.4 [936.4, 956.4] Subsection (b)(6) (February 2019 version) and 14 CCR Section 916.5 (February 2019 version).
- Equipment, including tractors and vehicles, must not be driven in wet areas or WLPZs, except over existing roads or watercourse crossings where vehicle tires or tracks remain dry.
- Equipment used in vegetation removal operations will not be serviced in WLPZs, within wet meadows or other wet areas, or in locations that would allow grease, oil, or fuel to pass into lakes, watercourses, or wet areas.
- WLPZs will be kept free of slash, debris, and other material that harm the beneficial uses of water. Accidental deposits will be removed immediately.
- Burn piles will be located outside of WLPZs.
- No fire ignition (nor use of associated accelerants) will occur within WLPZs however low intensity backing fires may be allowed to enter or spread into WLPZs.
- Within Class I and Class II WLPZs, locations where project operations expose a continuous area of mineral soil 800 square feet or larger shall be treated for reduction of soil loss. Treatment shall occur prior to October 15th and disturbances that are created after October 15th shall be treated within 10 days. Stabilization measures shall be selected that will prevent significant movement of soil into water bodies and may include but are not limited to mulching, rip-rap, grass seeding, or chemical soil stabilizers.
- Where mineral soil has been exposed by project operations on approaches to watercourse crossings of Class I, II, or III within a WLPZ, the disturbed area shall be stabilized to the extent necessary to prevent the discharge of soil into watercourses or lakes in amounts that would adversely affect the quality and beneficial uses of the watercourse.

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ Where necessary to protect beneficial uses of water from project operations, protection measures such as seeding, mulching, or replanting shall be used to retain and improve the natural ability of the ground cover within the WLPZ to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes. ▶ Equipment limitation zones (ELZs) will be designated adjacent to Class III and Class IV watercourses with minimum widths of 25 feet where side-slope is less than 30 percent and 50 feet where side-slope is 30 percent or greater. An RPF will describe the limitations of heavy equipment within the ELZ and, where appropriate, will include additional measures to protect the beneficial uses of water. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
SPR HYD-5 Protect Non-Target Vegetation and Special-status Species from Herbicides: The project proponent will implement the following measures when applying herbicides: ▶ Locate herbicide mixing sites in areas devoid of vegetation and where there is no potential of a spill reaching non-target vegetation or a waterway. ▶ Use only herbicides labeled for use in aquatic environments when working in riparian habitats or other areas where there is a possibility the herbicide could come into direct contact with water. Only hand application of herbicides will be allowed in riparian habitats and only during low-flow periods or when seasonal streams are dry. ▶ No terrestrial or aquatic herbicides will be applied within WLPZs of Class I and II watercourses, if feasible. If this is not feasible, hand application of herbicides labeled for use in aquatic environments may be used within the WLPZ provided that the project proponent notifies the applicable regional water quality control board no fewer than 15 days prior to herbicide application. The feasibility of avoiding herbicide application within WLPZ of Class I and II watercourses will be determined by the project proponent and may be based on whether doing so will preclude achieving CalVTP program objectives, including, but not limited to, protection of vulnerable communities. The reasons for infeasibility will be documented in the PSA. ▶ No herbicides will be applied within a 50-foot buffer of ESA or CESA listed plant species or within 50 feet of dry vernal pools. ▶ For spray applications in and adjacent to habitats suitable for special-status species, use herbicides containing dye (registered for aquatic use by DPR, if warranted) to prevent overspray. ▶ Application will cease when weather parameters exceed label specifications or when sustained winds at the site of application exceeds 7 miles per hour (whichever is more conservative); ▶ No herbicide will be applied during precipitation events or if precipitation is forecast 24 hours before or after project activities. This SPR applies to herbicide treatment activities and all treatment types, including treatment maintenance.	N This SPR does not apply to this project because no herbicides will be used.	N/A	N/A	N/A
SPR HYD-6 Protect Existing Drainage Systems: If a treatment activity is adjacent to a roadway with stormwater drainage infrastructure, the existing stormwater drainage infrastructure will be marked prior to ground disturbing activities. If a drainage	N	NA	NA	NA

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
structure or infiltration system is inadvertently disturbed or modified during project activities, the project proponent will coordinate with owner of the system or feature to repair any damage and restore pre-project drainage conditions. This SPR applies to all treatment activities and treatment types, including treatment maintenance.				
Noise Standard Project Requirements				
SPR NOI-1 Limit Heavy Equipment Use to Daytime Hours: The project proponent will require that operation of heavy equipment associated with treatment activities (heavy off-road equipment, tools, and delivery of equipment and materials) will occur during daytime hours if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship). Cities and counties in the treatable landscape typically restrict construction-noise (which would apply to vegetation treatment noise) to particular daytime hours. If the project proponent is subject to local noise ordinance, it will adhere to those to the extent the project is subject to them. If the applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating activity can occur noise-generating vegetation treatment activity will be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday and federal holidays. If the project proponent is not subject to local ordinances (e.g., CAL FIRE), it will adhere to the restrictions stated above or may elect to adhere to the restrictions identified by the local ordinance encompassing the treatment area. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	During treatment	HCRCD	
SPR NOI-2 Equipment Maintenance: The project proponent will require that all powered treatment equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered treatment equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. This SPR applies to all activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR NOI-3 Engine Shroud Closure: The project proponent will require that engine shrouds be closed during equipment operation. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR NOI-4 Locate Staging Areas Away from Noise-Sensitive Land Uses: The project proponent will locate treatment activities, equipment, and equipment staging areas away from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship), to the extent feasible, to minimize noise exposure. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	NA	NA	NA
SPR NOI-5 Restrict Equipment Idle Time: The project proponent will require that all motorized equipment be shut down when not in use. Idling of equipment and haul trucks will be limited to 5 minutes. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	Y	During treatment	HCRCD	HCRCD
SPR NOI-6 Notify Nearby Off-Site Noise-Sensitive Receptors: For treatment activities utilizing heavy equipment, the project proponent will notify noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of the treatment activity. Notification will include anticipated dates and hours during which treatment activities are anticipated to occur and contact	Y	NA	NA	NA

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.				
Recreation Standard Project Requirements				
SPR REC-1 Notify Recreational Users of Temporary Closures. If a treatment activity would require temporary closure of a public recreation area or facility, the project proponent to will coordinate with the owner/manager of that recreation area or facility. If temporary closure of a recreation area or facility is required, the project proponent will work with the owner/manager to post notifications of the closure at least 2 weeks prior to the commencement of the treatment activities. Additionally, notification of the treatment activity will be provided to the Administrative Officer (or equivalent official responsible for distribution of public information) of the county(ies) in which the affected recreation area or facility is located. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	N No recreation areas would be closed by the proposed project treatment.	NA	NA	NA
Transportation Standard Project Requirements				
SPR TRAN-1 Implement Traffic Control during Treatments: Prior to initiating vegetation treatment activities the project proponent will work with the agency(ies) with jurisdiction over affected roadways to determine if a Traffic Management Plan (TMP) is needed. A TMP will be needed if traffic generated by the project would result in obstructions, hazards, or delays exceeding applicable jurisdictional standards along access routes for individual vegetation treatments. If needed, a TMP will be prepared to provide measures to reduce potential traffic obstructions, hazards, and service level degradation along affected roadway facilities. The scope of the TMP will depend on the type, intensity, and duration of the specific treatment activities under the CalVTP. Measures included in the TMP could include (but are not be limited to) construction signage to provide motorists with notification and information when approaching or traveling along the affected roadway facilities, flaggers for lane closures to provide temporary traffic control along affected roadway facilities, treatment schedule restrictions to avoid seasons or time periods of peak vehicle traffic, haul-trip, delivery, and/or commute time restrictions that would be implemented to avoid peak traffic days and times along affected roadway facilities. If the TMP identifies impacts on transportation facilities outside of the jurisdiction of the project proponent, the TMP will be submitted to the agency with jurisdiction over the affected roadways prior to commencement of vegetation treatment projects. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Y	Prior to and during treatment	HCRCD	HCRCD
Smoke generated during prescribed burn operations could potentially affect driver visibility and traffic operations along nearby roadways. Direct smoke impacts to roadway visibility and indirect impacts related to driver distraction will be considered during the planning phase of burning operations. Smoke impacts and smoke management practices specific to traffic operations during prescribed fire operations will be identified and addressed within the TMP. The TMP will include measures to monitor smoke dispersion onto public roadways, and traffic control operations will be initiated in the event burning operations could affect traffic safety	Y	Prior to and during treatment	HCRCD	HCRCD

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
along any roadways. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.				
Public Services and Utilities Standard Project Requirements				
SPR UTIL-1: Solid Organic Waste Disposition Plan. For projects requiring the disposal of material outside of the treatment area, the project proponent will prepare an Organic Waste Disposition Plan prior to initiating treatment activities. The Solid Organic Waste Disposition Plan will include the amount (e.g., tons) of solid organic waste to be managed onsite (i.e., scattering of wood materials, generating unburned piles, and pile burning) and transported offsite for processing (i.e., biomass power plant, wood product processing facility, composting). If the project proponent intends to transport solid organic waste offsite, the Solid Organic Waste Disposition Plan will clearly identify the location and capacity of the intended processing facility, consistent with local and state regulations to demonstrate that adequate capacity exists to accept the treated materials. This SPR applies only to mechanical and manual treatment activities and all treatment types, including treatment maintenance.	N This SPR does not apply to this project because no biomass will be hauled off-site.	NA	NA	NA

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Aesthetics and Visual Resources				
Mitigation Measure AES-3: Conduct Visual Reconnaissance for Non-Shaded Fuel Breaks and Relocate or Feather and Screen Publicly Visible Non-Shaded Fuel Breaks The project proponent will conduct a visual reconnaissance of the treatment area prior to implementing non-shaded fuel breaks to observe the surrounding landscape and determine if public viewing locations, including scenic vistas, public trails, and state scenic highways, have views of the proposed treatment area. If none are identified, the non-shaded fuel break may be implemented without additional visual mitigation. If the project proponent identifies public viewing points, including heavily used scenic vistas, public trails, recreation areas, and state scenic highways with lengthy views (i.e., longer than a few seconds) of a proposed non-shaded fuel break treatment area, the project proponent will, prior to implementation, attempt to identify any feasible change in location of the fuel break to reduce its visibility from public viewpoints. If no feasible location changes exist that would reduce impacts to public viewers and achieve the intended wildfire risk reduction objectives of the proposed non-shaded fuel break, the project proponent will implement, where feasible, a shaded fuel break rather than a non-shaded fuel break, if the shaded fuel break would achieve the intended wildfire risk reduction objectives. With the shaded fuel break, the project proponent will thin and feather adjacent vegetation to break up the linear edges of the fuel break and strategically preserve vegetation at the edge of the fuel break, as feasible, to help screen public views and minimize the contrast between the fuel break and surrounding vegetation.	N No fuel breaks in public viewing locations are proposed as part of the project.	NA	NA	NA

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Air Quality				
Mitigation Measure AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques Where feasible, project proponents will implement emission reduction techniques to reduce exhaust emissions from off-road equipment. It is acknowledged that due to cost, availability, and the limits of current technology, there may be circumstances where implementation of certain emission reduction techniques will not feasible. The project proponent will document the emission reduction techniques that will be applied and will explain the reasons other techniques that could reduce emissions are infeasible. Techniques for reducing emissions may include, but are not limited to, the following: ▶ Diesel-powered off-road equipment used in construction will meet EPA's Tier 4 emission standards as defined in 40 CFR 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. Tier 3 models can be used if a Tier 4 version of the equipment type is not yet produced by manufacturers. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. Prior to implementation of treatment activities, the project proponent will demonstrate the ability to supply the compliant equipment. A copy of each unit's certified tier specification or model year specification and operating permit (if applicable) will be available upon request at the time of mobilization of each unit of equipment. ▶ Use renewable diesel fuel in diesel-powered construction equipment. Renewable diesel fuel must meet the following criteria: ▪ meet California's Low Carbon Fuel Standards and be certified by CARB Executive Officer; ▪ be hydrogenation-derived (reaction with hydrogen at high temperatures) from 100 percent biomass material (i.e., non-petroleum sources), such as animal fats and vegetables; ▪ contain no fatty acids or functionalized fatty acid esters; and ▪ have a chemical structure that is identical to petroleum-based diesel and complies with American Society for Testing and Materials D975 requirements for diesel fuels to ensure compatibility with all existing diesel engines. ▶ Electric- and gasoline-powered equipment will be substituted for diesel-powered equipment. ▶ Workers will be encouraged to carpool to work sites, and/or use public transportation for their commutes. ▶ Off-road equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NO_X and PM.	Y	During treatment	HCRCD	HCRCD
Archaeological, Historical, and Tribal Cultural Resources				
Mitigation Measure CUL-2: Protect Inadvertent Discoveries of Unique Archaeological Resources or Subsurface Historical Resources If any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during ground-disturbing activities, all ground-disturbing	Y	During treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
activity within 100 feet of the resources will be halted and a qualified archaeologist will assess the significance of the find. The qualified archaeologist will work with the project proponent to develop a primary records report that will comply with applicable state or local agency procedures. If the archaeologist determines that further information is needed to evaluate significance, a data recovery plan will be prepared. If the find is determined to be significant by the qualified archaeologist (i.e., because the find constitutes a unique archaeological resource, subsurface historical resource, or tribal cultural resource), the archaeologist will work with the project proponent to develop appropriate procedures to protect the integrity of the resource. Procedures could include preservation in place (which is the preferred manner of mitigating impacts to archaeological sites), archival research, subsurface testing, or recovery of scientifically consequential information from and about the resource. Any find will be recorded standard DPR Primary Record forms (Form DPR 523) will be submitted to the appropriate regional information center.				
Biological Resources				
Mitigation Measure BIO-1a: Avoid Loss of Special-Status Plants Listed under ESA or CESA If listed plants are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will avoid and protect these species by establishing a no-disturbance buffer around the area occupied by listed plants and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway), exceptions to this requirement are listed later in this measure. The no-disturbance buffers will generally be a minimum of 50 feet from listed plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid killing or damaging listed plants or that a larger buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate buffer size will be determined based on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. For example, paint-on or wicking application of herbicides to invasive plants may be implemented within 50 feet of listed plant species without posing a risk, especially if the listed plants are dormant at the time of application. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform the determination of buffer width. If a no-disturbance buffer is reduced below 50 feet from a listed plant, a qualified RPF or botanist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report) with a science-based justification for the deviation. No fire ignition (nor use of associated accelerants) will occur within 50 feet of listed plants.	Y	Prior to and during treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
For species listed under ESA or CESA, if the project proponent cannot avoid loss by implementing no-disturbance buffers, the project proponent will implement Mitigation Measure BIO-1c. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist, in consultation with CDFW and USFWS, as appropriate depending on species status and location, that the listed plants would benefit from treatment in the occupied habitat area even though some of the listed plants may be lost during treatment activities. For a treatment to be considered beneficial to listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to listed plants, no compensatory mitigation for loss of individuals will be required.				
Mitigation Measure BIO-1b: Avoid Loss of Special-Status Plants Not Listed Under ESA or CESA If non-listed special-status plant species (i.e., species not listed under ESA or CESA, but meeting the definition of special-status as stated in Section 3.6.1 of the Program EIR) are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will implement the following measures to avoid loss of individuals and maintain habitat function of occupied habitat: ▶ Physically avoid the area occupied by the special-status plants by establishing a no-disturbance buffer around the area occupied by species and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The no-disturbance buffers will generally be a minimum of 50 feet from special-status plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid loss of or damaging to special-status plants or that a larger buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate size and shape of the buffer zone will be determined by a qualified RPF or botanist and will depend on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform an appropriate buffer size and shape. ▶ Treatments may be conducted within this buffer if the potentially affected special-status plant species is a geophytic, stump-sprouting, or annual species, and the treatment can be conducted outside of the growing season (e.g., after it has completed its annual life cycle) or during the dormant season using only treatment activities that would not damage the stump, root system or other underground parts of special-status plants or destroy the seedbank.	Y	During treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ Treatments will be designed to maintain the function of special-status plant habitat. For example, for a fuel break proposed in treatment areas occupied by special-status plants, if the removal of shade cover would degrade the special-status plant habitat despite the requirement to physically or seasonally avoid the special-status plant itself, habitat function would be diminished and the treatment would need to be modified or precluded from implementation. ▶ No fire ignition (nor use of associated accelerants) will occur within the special-status plant buffer. A qualified RPF or botanist with knowledge of the special-status plant species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment would not maintain habitat function of the special-status plant habitat (i.e., the habitat would be rendered unsuitable) or because the loss of special-status plants would substantially reduce the number or restrict the range of a special-status plant species. If the project proponent determines the impact on special-status plants would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status plants or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-1c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the special-status plants would benefit from treatment in the occupied habitat area even though some of the non-listed special-status plants may be killed during treatment activities. For a treatment to be considered beneficial to non-listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status plants, no compensatory mitigation will be required.				
Mitigation Measure BIO-1c: Compensate for Unavoidable Loss of Special-Status Plants If significant impacts on listed or non-listed special-status plants cannot feasibly be avoided as specified under the circumstances described under Mitigation Measures BIO-1a and 1b, the project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant impacts that require compensatory mitigation and describes the compensatory mitigation strategy being implemented and how unavoidable losses of special-status plants will be compensated. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. If the special-status	Y Currently, no special-status plants are anticipated to be affected on the site. Measure would be employed if any are detected during site work.			

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
plant taxa are listed under ESA or CESA, the plan will be submitted to CDFW and/or USFWS (as appropriate) for review and comment. The first priority for compensatory mitigation will be preserving and enhancing existing populations outside of the treatment area in perpetuity, or if that is not an option because existing populations that can be preserved in perpetuity are not available, one of the following mitigation options will be implemented by the project proponent instead: ▶ creating populations on mitigation sites outside of the treatment area through seed collection and dispersal (annual species) or transplantation (perennial species); ▶ purchasing mitigation credits from a CDFW- or USFWS-approved conservation or mitigation bank in sufficient quantities to offset the loss of occupied habitat; and ▶ if the affected special-status plants are not listed under ESA or CESA, compensatory mitigation may include restoring or enhancing degraded habitats so that they are made suitable to support special-status plant species in the future. If relocation efforts are part of the Compensatory Mitigation Plan, the plan will include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements. The following performance standards will be applied for relocation: ▶ the extent of occupied area will be substantially similar to the affected occupied habitat and will be suitable for self-producing populations. Re-located/re-established populations will be considered suitable for self-producing when: ▶ habitat conditions allow for plants to reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and ▶ reestablished habitats contain an occupied area comparable to existing occupied habitat areas in similar habitat types in the region. If preservation of existing populations or creation of new populations is part of the mitigation plan, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands and actions (e.g., the number and type of credits, location of mitigation bank or easement, restoration or enhancement actions), parties responsible for the long-term management of the land, and the legal and funding mechanisms (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity. If mitigation includes dedication of conservation easements, purchase of mitigation credits, or other offsite conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, funding assurances, and				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations. If mitigation includes restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored habitat. If the loss of occupied habitat cannot be offset (e.g., if preservation of existing populations or creation of new populations through relocation efforts are not available for a certain species), and as a result, treatment activities would substantially reduce the number or restrict the range of listed plant species, then the treatment will not qualify as within the scope of this PEIR. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit for state-listed plants), if these requirements are equally or more effective than the mitigation identified above.				
Mitigation Measure BIO-2a: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Listed Wildlife Species and California Fully Protected Species (All Treatment Activities) If California Fully Protected Species or species listed under ESA or CESA are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid adverse effects to the species by implementing the following. <u>Avoid Mortality, Injury, or Disturbance of Individuals</u> The project proponent will implement one of the following 2 measures to avoid mortality, injury, or disturbance of individuals: 1. Treatment will not be implemented within the occupied habitat. Any treatment activities outside occupied habitat will be a sufficient distance from the occupied habitat such that mortality, injury, or disturbance of the species will not occur, as determined by a qualified RPF or biologist using the most current and commonly-accepted science and considering published agency guidance; OR 2. Treatment will be implemented outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, CDFW and/or USFWS/NOAA Fisheries will be consulted to determine if there is a period of time within which treatment could occur that would avoid mortality, injury, or disturbance of the species. ▶ For species listed under ESA or CESA, if the project proponent cannot avoid mortality, injury or disturbance by implementing one of the two options listed above, the project proponent will implement Mitigation Measure BIO-2c. ▶ Injury or mortality of California Fully Protected Species is prohibited pursuant to Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code and will be avoided.	Y			

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Maintain Habitat Function ▶ The project proponent will design treatment activities to maintain the habitat function, by implementing the following: ▪ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms; dens; tree snags; large raptor nests [including inactive nests]; downed woody debris; food sources). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science. ▪ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that listed or fully protected wildlife with specific requirements for high canopy cover (e.g., Humboldt marten, fisher, spotted owl, coastal California gnatcatcher, riparian woodrat) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted [e.g., 50 percent for coastal California gnatcatcher]) such that habitat function is maintained. ▶ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. Because this measure pertains to species listed under CESA or ESA or are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS/NOAA Fisheries regarding the determination that habitat function is maintained. If consultation determines that the treatment will not maintain habitat function for the special-status species, the project proponent will implement Mitigation Measure BIO-2c.				
Mitigation Measure BIO-2b: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Other Special-Status Wildlife Species (All Treatment Activities) If other special-status wildlife species (i.e., species not listed under CESA or ESA or California Fully Protected, but meeting the definition of special status as stated in Section 3.6.1 of the Program EIR) are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid or minimize adverse effects to the species by implementing the following. Avoid Mortality, Injury, or Disturbance of Individuals ▶ The project proponent will implement the following to avoid mortality, injury, or disturbance of individuals: For all treatment activities except prescribed burning, the project proponent will establish a no-disturbance buffer around occupied sites (e.g., nests, dens, roosts, middens, burrows, nurseries). Buffer size will be determined by a qualified RPF or biologist using the most current, commonly accepted science	Y	Prior to and during treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
and will consider published agency guidance; however, buffers will generally be a minimum of 100 feet, unless site conditions indicate a smaller buffer would be sufficient for protection or a larger buffer would be needed. Factors to be considered in determining buffer size will include, but not be limited to, the species' tolerance to disturbance; the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; baseline levels of noise and human activity; and treatment activity. Buffer size may be adjusted if the qualified RPF or biologist determines that such an adjustment would not be likely to adversely affect (i.e., cause mortality, injury, or disturbance to) the species within the nest, den, burrow, or other occupied site. If a no-disturbance buffer is reduced below 100 feet from an occupied site, a qualified RPF or biologist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). ▶ No-disturbance buffers will be marked with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). No activity will occur within the buffer areas until the qualified RPF or biologist has determined that the young have fledged or dispersed; the nest, den, or other occurrence is no longer active; or reducing the buffer would not likely result in disturbance, mortality, or injury. A qualified RPF, biologist, or biological technician will be required to monitor the effectiveness of the no-disturbance buffer around the nest, den, burrow, or other occurrence during treatment. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in mortality, injury or disturbance to special-status species. ▶ For prescribed burning, the project proponent will implement the treatment outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, the qualified RPF or biologist will determine the period of time within which prescribed burning could occur that will avoid or minimize mortality, injury, or disturbance of the species. The project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate limited operating periods. <u>Maintain Habitat Function</u> ▶ For all treatment activities, the project proponent will design treatment activities to maintain the habitat function by implementing the following: ▪ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms;				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
tree snags; large raptor nests [including inactive nests]; downed woody debris). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science. ▪ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that special-status wildlife with specific requirements for high canopy cover (e.g., northern goshawk, Sierra Nevada snowshoe hare) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted) such that the habitat function is maintained. ▸ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding habitat function. A qualified RPF or biologist with knowledge of the special-status wildlife species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat function of the special-status wildlife species' habitat or because the loss of special-status wildlife would substantially reduce the number or restrict the range of a special-status wildlife species. If the project proponent determines the impact on special-status wildlife would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status wildlife or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the non-listed special-status wildlife would benefit from treatment in the occupied habitat area even though some of the non-listed special-status wildlife may be killed, injured, or disturbed during treatment activities. For a treatment to be considered beneficial to non-listed special-status wildlife, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status wildlife, no compensatory mitigation will be required. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding the				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
determination that a non-listed special-status species would benefit from the treatment.				
Mitigation Measure BIO-2c: Compensate for Mortality, Injury, or Disturbance and Loss of Habitat Function for Special-Status Wildlife if Applicable (All Treatment Activities) If the provisions of Mitigation Measure BIO-2a, BIO-2b, BIO-2d, BIO-2e, BIO-2f, or BIO-2g cannot be implemented and the project proponent determines that additional mitigation is necessary to reduce significant impacts, the project proponent will compensate for such impacts to species or habitat by acquiring and/or protecting land that provides (or will provide in the case of restoration) habitat function for affected species that is at least equivalent to the habitat function removed or degraded as a result of the treatment. Compensation may include: 1. Preserving existing habitat outside of the treatment area in perpetuity; this may entail purchasing mitigation credits and/or lands from a CDFW- or USFWS-approved entity in sufficient quantity to offset the residual significant impacts, generally at a ratio of 1:1 for habitat; and 2. Restoring or enhancing existing habitat within the treatment area or outside of the treatment area (including decommissioning roads, adding perching structures, removing existing perching structures, or removing existing movement barriers or other existing features that are adversely affecting the species). The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanisms for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored habitat. Review requirements are as follows: ▶ The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan.	N The biological surveys found no need for compensatory mitigation. See Biological Resources section of PSA.	NA	NA	NA

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
▶ For species listed under ESA or CESA or a California Fully Protected Species, the project proponent will submit the mitigation plan to CDFW and/or USFWS/NOAA Fisheries for review and comment. ▶ For other special-status wildlife species the project proponent may consult with CDFW and/or USFWS regarding the availability and applicability of compensatory mitigation and other related technical information. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit), if these requirements are equally or more effective than the mitigation identified above.				
Mitigation Measure BIO-2d: Implement Protective Measures for Valley Elderberry Longhorn Beetle (All Treatment Activities) If elderberry shrubs within the documented range of valley elderberry longhorn beetle are identified during review and surveys for SPR BIO-1, and valley elderberry longhorn beetle or likely occupied suitable elderberry habitat (e.g., within riparian, within historic riparian, containing exit holes) is confirmed to be present during protocol-level surveys following the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017) per SPR BIO-10, the following protective measures will be implemented to avoid and minimize impacts to valley elderberry longhorn beetle: ▶ If elderberry shrubs are 165 feet or more from the treatment area, and treatment activities would not encroach within this distance, direct or indirect impacts are not expected and further mitigation is not required. ▶ If elderberry shrubs are located within 165 feet of the treatment area, the following measures will be implemented: ▪ A minimum avoidance area of at least 20 feet from the dripline of each elderberry plant will be fenced or flagged and maintained to avoid direct impacts (e.g., damage to root system) that could damage or kill the plant, with the exception of the following activities: - Manual trimming of elderberry shrubs will only occur between November and February and will avoid removal of any branches or stems that are greater than or equal to 1 inch in diameter to avoid and minimize adverse effects on valley elderberry longhorn beetle. - Manual or mechanical vegetation treatment within the drip-line of any elderberry shrub will be limited to the season when adults are not active (August - February), will be limited to methods that do not cause ground disturbance, and will avoid damaging the elderberry. ▪ A qualified RPF, biologist, or biological technician familiar with valley elderberry longhorn beetle and its life history will monitor the work area to verify the avoidance and minimization measures are implemented. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in potential adverse effects to valley elderberry longhorn beetle. If the project proponent cannot implement the measures above to avoid mortality, injury, or disturbance of VELB or degradation of occupied habitat	N The project is located outside of the VELB range.	N/A	N/A	N/A

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c.				
Mitigation Measure BIO-2e: Design Treatment to Retain Special-Status Butterfly Host Plants (All Treatment Activities) If federally listed butterflies are identified as occurring or having potential to occur during review and surveys for SPR BIO-1 and confirmed during protocol-level surveys per SPR BIO-10, then the following measures will be implemented: ▶ Treatment areas within the range of these species will be surveyed for the host plant for each species (Table 3.6-34). ▶ Host plants for federally listed butterflies within the occupied habitat will be marked with high-visibility flagging, fencing, or stakes, and no treatment activities will occur within 10 feet of these plants. ▶ Because prescribed herbivory could result in the indiscriminate removal of the host plants for federally listed butterflies, this treatment type will not be used within occupied habitat of any federally listed butterfly species, unless it is known that the host plant is unpalatable to the herbivore. ▶ Treatment areas that are not occupied but are within the range of the federally listed butterfly will be divided into as many treatment units as feasible such that the entirety of the habitat is not treated within the same year. ▶ Treatments will be conducted in a patchy pattern to the extent feasible in areas that are not occupied but are within the range of the federally listed butterfly, such that the entirety of the habitat is not burned or removed and untreated portions of suitable habitat are retained. If the project proponent cannot implement the measures above to avoid mortality, injury, or disturbance of federally listed butterflies or degradation of occupied habitat (host plants) such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c. **CESA and ESA Listed Species.** A qualified RPF or biologist will determine if, after implementation of any feasible impact avoidance measures (potentially including others not listed above), the treatment will result in mortality, injury, or disturbance, or if after implementation of the treatment, habitat function will remain for the affected species. For species listed under CESA or ESA or that are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding this determination. If consultation determines that mortality, injury, or disturbance of listed butterflies or degradation of occupied habitat such that its function would not be maintained would occur, the project proponent will implement Mitigation Measure BIO-2c. **Other Special-status Species.** A qualified RPF or biologist with knowledge of the special-status species' habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA, because implementation of the treatment will not maintain habitat function of the special-status species' habitat or because the loss of special-status individuals would substantially reduce the number or restrict the range of a special-status species. If the project proponent determines the impact on special-status butterflies would be less than significant, no further mitigation will be required. If the project	**Initial Treatment: Y** Currently, no special-status butterfly host plants are anticipated to be affected on the site, within the range of the associated butterfly species. Measure would be employed if any are detected during general surveys.			

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity

proponent determines that the loss of special-status butterflies or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented.

The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the special-status butterfly species would benefit from treatment in the occupied habitat area even though some may be killed, injured or disturbed during treatment activities. For a treatment to be considered beneficial to special-status butterfly species, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources). If it is determined that treatment activities would be beneficial to special-status butterflies, no compensatory mitigation will be required.

Table 3.6-34 Special-status Butterflies and Associated Host Plants

Butterfly Species	Host Plants
bay checkerspot butterfly	dwarf plantain (*Plantago virginica*), purple owl' (*Castilleja exserta*)
Behren's silverspot butterfly	blue violet (*Viola adunca*)
callippe silverspot butterfly	California golden violet (*Viola pedunculata*)
Carson wandering skipper	salt grass (*Distichlis spicata*)
El Segundo blue butterfly	seacliff buckwheat (*Eriogonum parvifolium*)
Hermes copper butterfly	spiny redberry (*Rhamnus crocea*)
Kern primrose sphinx moth	plains evening-primrose (*Camissonia contorta*) primrose (*Camissonia campestris*)
Laguna Mountains skipper	Cleveland's horkelia (*Horkelia clevelandii*), stick cinquefoil (*Drymocallis glandulosa*)
Lange's metalmark butterfly	naked-stemmed buckwheat (*Eriogonum nudu*
lotis blue butterfly	seaside bird's foot trefoil (*Hosackia gracilis*)
Mission blue butterfly	lupine (*Lupinus* spp.)
Myrtle's silverspot butterfly	blue violet
Oregon silverspot butterfly	blue violet
Palos Verdes blue butterfly	Santa Barbara milkvetch (*Astragalus trichopod* common deerweed (*Acmispon glaber*)
San Bruno elfin butterfly	broadleaf stonecrop (*Sedum spathulifolium*), manzanita (*Arctostaphylos* spp.), huckleberry (*Vaccinuum* spp.)
Smith's blue butterfly	seacliff buckwheat, seaside buckwheat (*Eriogo latifolium*)

Mitigation Measures		Applicable? (Y/N)	Timing	Implementing Entity	Verifying/ Monitoring Entity
Quino checkerspot butterfly	dwarf plantain, purple owl's clover				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
Mitigation Measure BIO-2f: Avoid Habitat for Special-Status Beetles, Flies, Grasshoppers, and Snails (All Treatment Activities) If treatment activities would occur within the limited range of any state or federally listed beetle, fly, grasshopper, or snail, and these species are identified as occurring or having potential to occur due to the presence of potentially suitable habitat during review and surveys for SPR BIO-1 and surveys for SPR BIO-10, then the following measures will be implemented: ▶ To avoid and minimize impacts to Mount Hermon June beetle and Zayante band-winged grasshopper, treatment activities will not occur within "Sandhills" habitat in Santa Cruz County, the only suitable habitat for these species. ▶ To avoid and minimize impacts to Casey's June beetle, Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*), Delta green ground beetle (*Elaphrus virisis*), Morro shoulderband snail, Ohlone tiger beetle (*Cicindela ohlone*), and Trinity bristle snail, treatment activities will not occur within habitat in the range of these species that is deemed suitable by a qualified RPF or biologist with familiarity of the species. If the project proponent cannot implement the measures above to avoid mortality, injury or disturbance to listed beetles, flies, grasshoppers, and snails, or degradation of suitable habitat such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c.	N No habitat for special-status beetles, flies, grasshoppers, or snails exists on the treatment areas	NA	NA	NA
Mitigation Measure BIO-2g: Design Treatment to Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Special-Status Bumble Bees (All Treatment Activities) If special-status bumble bees are identified as occurring during review and surveys under SPR BIO-1 and confirmed during protocol-level surveys per SPR BIO-10, or if suitable habitat for special-status bumble bees is identified during review and surveys under SPR BIO-1 (e.g., wet meadow, forest meadow, riparian, grassland, or coastal scrub habitat containing sufficient floral resources within the range of the species), then the project proponent will implement the following measures, as feasible: ▶ Prescribed burning within occupied or suitable habitat for special-status bumble bees will occur from October through February to avoid the bumble bee flight season. ▶ Treatment areas in occupied or suitable habitat will be divided into a sufficient number of treatment units such that the entirety of the habitat is not treated within the same year; the objective of this measure is to provide refuge for	Y	Prior to and during treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
special-status bumble bees during treatment activities and temporary retention of suitable floral resources proximate to the treatment area. ▶ Treatments will be conducted in a patchy pattern to the extent feasible in occupied or suitable habitat, such that the entirety of the habitat is not burned or removed and untreated portions of occupied or suitable habitat are retained (e.g., fire breaks will be aligned to allow for areas of unburned floral resources for special-status bumble bees within the treatment area). ▶ Herbicides will not be applied to flowering native plants within occupied or suitable habitat to the extent feasible during the flight season (March through September). **CESA and ESA Listed Species.** A qualified RPF or biologist will determine if, after implementation of feasible avoidance measures (potentially including others not listed above), the treatment will result in mortality, injury, or disturbance to the species, or if after implementation of the treatment, habitat function will remain for the affected species. For species listed under CESA or ESA or that are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding this determination. If consultation determines that mortality, injury, or disturbance of listed bumble bees (in the event the Candidate listing is confirmed) or degradation of occupied (or assumed to be occupied) habitat such that its function would not be maintained would occur, the project proponent will implement Mitigation Measure BIO-2c. **Other Special-status Species.** A qualified RPF or biologist with knowledge of the special-status species' habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat function of the special-status species' habitat or because the loss of special-status individuals would substantially reduce the number or restrict the range of a special-status species. If the project proponent determines the impact on special-status bumble bees would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status bumble bees or degradation of occupied (or assumed to be occupied) habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the special-status bumble bee species would benefit from treatment in the occupied (or assumed to be occupied) habitat area even though some of the non-listed special-status bumble bees may be killed, injured, or disturbed during treatment				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
activities. For a treatment to be considered beneficial to special-status bumble bee species, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status bumble bees, no compensatory mitigation will be required.				
Mitigation Measure BIO-2h: Avoid Potential Disease Transmission Between Domestic Livestock and Special-Status Ungulates (Prescribed Herbivory) The project proponent will implement the following measure if treatment activities are planned within the range of desert bighorn sheep, peninsular bighorn sheep, Sierra Nevada bighorn sheep, or pronghorn: ▶ Prescribed herbivory activities will be prohibited within a 14-mile buffer around suitable habitat for any species of bighorn sheep within the range of these species consistent with the more stringent recommendations in the Recovery Plan for Sierra Nevada bighorn sheep (USFWS 2007). ▶ Prescribed herbivory activities will be avoided within the range of pronghorn where feasible (where this range does not overlap with the range of any species of bighorn sheep).	N No prescribed herbivory is proposed with the project	NA	NA	NA
Mitigation Measure BIO-3a: Design Treatments to Avoid Loss of Sensitive Natural Communities and Oak Woodlands The project proponent will implement the following measures when working in treatment areas that contain sensitive natural communities identified during surveys conducted pursuant to SPR BIO-3: ▶ Reference the *Manual of California Vegetation*, Appendix 2, Table A2, *Fire Characteristics* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/) or other best available information to determine the natural fire regime of the specific sensitive natural community type (i.e., alliance) present. The condition class and fire return interval departure of the vegetation alliances present will also be determined. ▶ Design treatments in sensitive natural communities and oak woodlands to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function of the affected sensitive natural community. Treatments will be designed to replicate the fire regime attributes for the affected sensitive natural community or oak woodland type including seasonality, fire return interval, fire size, spatial	Y Sensitive communities will be avoided, except where the treatment is designed to benefit the community.	Prior to and during treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
complexity, fireline intensity, severity, and fire type as described in *Fire in California's Ecosystems* (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/). Treatments will not be implemented in sensitive natural communities that are within their natural fire return interval (i.e., time since last burn is less than the average time required for that vegetation type to recover from fire) or within Condition Class 1. ▶ To the extent feasible, no fuel breaks will be created in sensitive natural communities with rarity ranks of S1 (critically imperiled) and S2 (imperiled). ▶ To the extent feasible, fuel breaks will not remove more than 20 percent of the native vegetation relative cover from a stand of sensitive natural community vegetation in sensitive natural communities with a rarity rank of S3 (vulnerable) or in oak woodlands. In forest and woodland sensitive natural communities with a rarity rank of S3, and in oak woodlands, only shaded fuel breaks will be installed, and they will not be installed in more than 20 percent of the stand of sensitive natural community or oak woodland vegetation (i.e., if the sensitive natural community covers 100 acres, no more than 20 acres will be converted to create the fuel break). ▶ Use prescribed burning as the primary treatment activity in sensitive natural communities that are fire dependent (e.g., closed-cone forest and woodland alliances, chaparral alliances characterized by fire-stimulated, obligate seeders), to the extent feasible and appropriate based on the fire regime attributes as described in *Fire in California's Ecosystems* (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/). ▶ Time prescribed herbivory to occur when non-target vegetation is not susceptible to damage (e.g. non-target vegetation is dormant or has completed its reproductive cycle for the year). For example, use herbivores to control invasive plants growing in sensitive habitats or sensitive natural communities when sensitive vegetation is dormant but invasive plants are growing. Timing of herbivory to avoid non-target vegetation will be determined by a qualified botanist, RPF, or biologist based on the specific vegetation alliance being treated, the life forms and life conditions of its characteristic plant species, and the sensitivity of the non-target vegetation to the effects of herbivory. The feasibility of implementing the avoidance measures will be determined by the project proponent based on whether implementation of this mitigation measure will preclude				

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
completing the treatment project within the reasonable period of time necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. If the avoidance measures are determined by the project proponent to be infeasible, the project proponent will document the reasons implementation of the avoidance strategies are infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). A qualified RPF or botanist with knowledge of the affected sensitive natural community will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat functions of the sensitive natural community or oak woodland. If the project proponent determines the impact on sensitive natural communities or oak woodlands would be less than significant, no further mitigation will be required. If the project proponent determines that the loss or degradation of sensitive natural communities or oak woodlands would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-3b will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the sensitive natural community or oak woodland would benefit from treatment in the occupied habitat area even though some loss may occur during treatment activities. For a treatment to be considered beneficial to a sensitive natural community or oak woodland, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the community (or similar community) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to sensitive natural communities or oak woodlands, no compensatory mitigation will be required.				
Mitigation Measure BIO-3b: Compensate for Loss of Sensitive Natural Communities and Oak Woodlands If significant impacts on sensitive natural communities or oak woodlands cannot feasibly be avoided or reduced as specified	N Treatment is designed to avoid or	NA	NA	NA

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
under Mitigation Measure BIO-3a, the project proponent will implement the following actions: ▶ Compensate for unavoidable losses of sensitive natural community and oak woodland acreage and function by: ▪ restoring sensitive natural community or oak woodland functions and acreage within the treatment area; ▪ restoring degraded sensitive natural communities or oak woodlands outside of the treatment area at a sufficient ratio to offset the loss of acreage and habitat function; or ▪ preserving existing sensitive natural communities or oak woodlands of equal or better value to the sensitive natural community lost through a conservation easement at a sufficient ratio to offset the loss of acreage and habitat function. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on sensitive natural communities or oak woodlands that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan.	benefit natural communities.			
Mitigation Measure BIO-3c: Compensate for Unavoidable Loss of Riparian Habitat	N Project is designed to benefit riparian	NA	NA	NA

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
If, after implementation of SPR BIO-4, impacts to riparian habitat remain significant under CEQA, the project proponent will implement the following: ▶ Compensate for unavoidable losses of riparian habitat acreage and function by: ▪ restoring riparian habitat functions and acreage within the treatment area; ▪ restoring degraded riparian habitat outside of the treatment area; ▪ purchasing riparian habitat credits at a CDFW-approved mitigation bank; or ▪ preserving existing riparian habitat of equal or better value to the riparian habitat lost through a conservation easement at a sufficient ratio to offset the loss of riparian habitat function and value. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on riparian habitat that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing riparian habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity. 2. For restoring or enhancing riparian habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., Lake and Streambed Alteration	habitat. Measure would be employed if such loss were determined to occur during site work.			

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
Agreement), if these requirements are equally or more effective than the mitigation identified above.				
Mitigation Measure BIO-4: Avoid State and Federally Protected Wetlands Impacts to wetlands will be avoided using the following measures: ▶ The qualified RPF or biologist will delineate the boundaries of federally protected wetlands according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and the appropriate regional supplement for the ecoregion in which the treatment is being implemented. ▶ The qualified RPF or biologist will delineate the boundaries of wetlands that may not meet the definition of waters of the United States, but would qualify as waters of the state, according to the state wetland procedures (California Water Boards 2019 or current procedures).	Y	Prior to and during treatment	HCRCD	HCRCD
▶ A qualified RPF or biologist will establish a buffer around wetlands and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The buffer will be a minimum width of 25 feet but may be larger if deemed necessary. The appropriate size and shape of the buffer zone will be determined in coordination with the qualified RPF or biologist and will depend on the type of wetland present (e.g., seasonal wetland, wet meadow, freshwater marsh, vernal pool), the timing of treatment (e.g., wet or dry time of year), whether any special-status species may occupy the wetland and the species' vulnerability to the treatment activities, environmental conditions and terrain, and the treatment activity being implemented. ▶ A qualified RPF or biological technician will periodically inspect the materials demarcating the buffer to confirm that they are intact and visible, and wetland impacts are being avoided. ▶ Within this buffer, herbicide application is prohibited. ▶ Within this buffer, soil disturbance is prohibited. Accordingly, the following activities are not allowed within the buffer zone: mechanical treatments, prescribed herbivory, equipment and vehicle access or staging. ▶ Only prescribed (broadcast) burning may be implemented in wetland habitats if it is determined by a qualified RPF or biologist that: ▪ No special-status species are present in the wetland habitat ▪ The wetland habitat function would be maintained. ▪ The prescribed burn is within the normal fire return interval for the wetland vegetation types present	Y	Prior to and during treatment	HCRCD	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ Fire containment lines and pile burning are prohibited within the buffer ▪ No fire ignition (nor use of associated accelerants) will occur within the wetland buffer				
Mitigation Measure BIO-5: Retain Nursery Habitat and Implement Buffers to Avoid Nursery Sites The project proponent will implement the following measures while working in treatment areas that contain nursery sites identified in surveys conducted pursuant to SPR BIO-10: ▶ **Retain Known Nursery Sites**. A qualified RPF or biologist will identify the important habitat features of the wildlife nursery and, prior to treatment activities, will mark these features for avoidance and retention during treatment ▶ **Establish Avoidance Buffers.** The project proponent will establish a non-disturbance buffer around the nursery site if activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer will be determined by a qualified RPF or biologist, based on potential effects of project-related habitat disturbance, noise, visual disturbance, and other factors. No treatment activity will commence within the buffer area until a qualified RPF or biologist confirms that the nursery site is no longer active/occupied. Monitoring of the effectiveness of the non-disturbance buffer around the nursery site by a qualified RPF, biologist, or biological technician during and after treatment activities will be required. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in potential adverse effects to special-status species.	N No nursery sites or habitats exist in the treatment areas	NA	NA	NA
Greenhouse Gas Emissions				
Mitigation Measure GHG-2. Implement GHG Emission Reduction Techniques During Prescribed Burns When planning for and conducting a prescribed burn, project proponents implementing a prescribed burn will incorporate feasible methods for reducing GHG emissions, including the following, which are identified in the National Wildfire Coordinating Group Smoke Management Guide for Prescribed Fire (NWCG 2018): ▶ reduce the total area burned by isolating and leaving large fuels (e.g., large logs, snags) unburned; ▶ reduce the total area burned through mosaic burning; ▶ burn when fuels have a higher fuel moisture content; ▶ reduce fuel loading by removing fuels before ignition. Methods to remove fuels include mechanical treatments, manual treatments, prescribed herbivory, and biomass utilization; and	Y	Prior to and during treatment	CAL FIRE	HCRCD

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ schedule burns before new fuels appear. As the science evolves, other feasible methods or technologies to sequester carbon could be incorporated, such as conservation burning, a technique for burning woody material that reduces the production of smoke particulates and carbon released into the atmosphere and generates more biochar. Biochar is produced from the material left over after the burn and spread with compost to increase soil organic matter and soil carbon sequestration. Technologies to reduce greenhouse gas emissions may also include portable units that perform gasification to produce electricity or pyrolysis that produces biooil that can be used as liquid fuel and/or syngas that can be used to generate electricity. The project proponent will document in the Burn Plan required pursuant to SPR AQ-3 which methods for reducing GHG emissions can feasibly be integrated into the treatment design.				
Hazardous Materials, Public Health and Safety				
Mitigation Measure HAZ-3: Identify and Avoid Known Hazardous Waste Sites Prior to the start of vegetation treatment activities requiring soil disturbance (i.e., mechanical treatments) or prescribed burning, CAL FIRE and other project proponents will make reasonable efforts to check with the landowner or other entity with jurisdiction (e.g., California Department of Parks and Recreation) to determine if there are any sites known to have previously used, stored, or disposed of hazardous materials. If it is determined that hazardous materials sites could be located within the boundary of a treatment site, the project proponent will conduct a DTSC EnviroStor web search (https://www.envirostor.dtsc.ca.gov/public/) and consult DTSC's Cortese List to identify any known contamination sites within the project site. If a proposed mechanical treatment or prescribed burn is located on a site included on the DTSC Cortese List as containing potential soil contamination that has not been cleaned up and deemed closed by DTSC, the area will be marked and no prescribed burning or soil disturbing treatment activities will occur within 100 feet of the site boundaries. If it is determined through coordination with landowners or after review of the Cortese List that no potential or known contamination is located on a project site, the project may proceed as planned.	N No known hazardous waste sites exist in the treatment areas	Prior to treatment	CAL FIRE	HCRCD

Note: No maintenance treatments are being proposed as part of this project.

ATTACHMENT B – BIOLOGICAL EVALUATION REPORT

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Biological Evaluation Report

The Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
Petrolia, California

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1.0 INTRODUCTION

This report presents the methods and results of a biological resource evaluation conducted by Vollmar Natural Lands Consulting, Inc. (VNLC) for the Mattole and Salmon Creek Forest Health and Wildfire Resilience Project (Project) for the Humboldt County Resource Conservation District (HCRCD) and California Board of Forestry and Fire Protection Vegetation Treatment Plan (CalVTP). The Study Area for the Project is located one mile east of the town of Petrolia within unincorporated Humboldt County, California (**Figure 1**). The Project includes approximately 1,100 acres of total impact, including approximately 1,056 acres of Fuel Break Treatment and 43 acres of Ecological Restoration Treatment. Proposed fuel break treatments will occur on Apple Tree Ridge, Everets Ridge, and Burgess Ridge, which are located just outside of the town of Petrolia on private and industrial forestlands in the Mattole River Watershed. Proposed treatments include mechanical and manual forest thinning, mechanical removal of encroaching trees and shrubs form historic grasslands, prescribed fire, invasive plant removal and manual tree planting. Ecological Restoration Treatments will include installation of whole trees for in-stream aquatic habitat restoration and riparian tree planting in McGinnis Creek and the Mattole River (**Figure 2**). The total number of acres for each treatment type and treatment activity are detailed in **Table 1.**

Table 1. Proposed Treatment Types and Areas within the Study Area (acreages exceed total acreage due to overlapping treatments)

Proposed Treatment Type	Treatment Area (Acres)
Fuel Break Treatment Areas	
Mechanical and manual thinning; pile burn; tree planting	680
Mechanical and manual thinning; pile burn	68
Mechanical and manual thinning; broadcast burn; tree planting	222
Mechanical and manual thinning; pile burn; native seeding	76
Manual removal; pile burn; native seeding	8
Ecological Restoration	
In-stream tree replacement	32
Riparian tree planting	11

This biological evaluation was conducted to identify and characterize existing conditions, as well as to assess the potential for special-status species and sensitive habitats to occur within the Project disturbance areas. In the absence of minimization and avoidance measures, the Project could result in disturbance to the regulated biological resources listed below, which have potential to occur within the Study Area.

- Five Federal or State listed wildlife species:
    - Northern spotted owl (*Strix occidentalis caurina*, Federal Threatened [FT] and State Threatened [ST]);
    - Chinook salmon – California coastal ESU (*Oncorhynchus tshawytscha* pop. 17, [FT]);

    - Coho salmon – southern Oregon/northern California DPS (*Oncorhychus kisutch* pop.2, [FT] and [ST]);
    - Steelhead – northern California DPS summer-run (*Oncorhynchus mykiss irideus* pop. 48, [FT]); and
    - Humboldt marten (*Martes caurina humboldtensis*, [FT] and [SE]).
- Seventeen non listed special-status wildlife species:
    - Foothill yellow-legged frog (*Rana boylii,* Northwest/North Coast Clade [SSC]); Pacific tailed frog (*Ascaphus truei* [SSC]); Red-bellied newt (*Taricha rivularis* [SSC]); Southern torrent salamander (*Rhyacotriton variegatus* [SSC]); American peregrine falcon (*Falco peregrinus* [FP]); Cooper's hawk (*Accipiter cooperii* [WL]); Great blue heron (*Ardea herodias* [S]); Great egret (*Ardea alba* [S]); Golden eagle (*Aquila chrysaetos* [FP]); Sharp-shinned hawk (*Accipiter striatus* [WL]); Pacific lamprey (*Entosphenus tridentatus* [SSC]); Western bumble bee (*Bombus occidentalis* [SCE]); American badger (*Taxidea taxus* [SSC]); Fisher (*Pekania pennanti* [SSC]); North American porcupine (*Erethizon dorsatum* [LC]); Sonoma tree vole (*Arborimus pomo* [SSC]); and Western pond turtle (*Emys marmorata* [SSC]).
- Active nests of bird species protected by the Migratory Bird Treaty Act and California Fish and Game Code.
- Ten special-status plant species, including one State Listed species and nine plant species with a California Rare Plant Rank (CRPR) of 1-2: leafy reed grass (*Calamagrostis foliosa*, California Rare [CR] and CRPR 4.2); giant fawn lily (*Erythronium oregonium*, CRPR 2B.2); coast fawn lily (*Erythronium revolutum*, CRPR 2B.2); Pacific gilia (*Gilia capitata* ssp. *pacifica*, CRPR 1B.2); Howell's montia (*Montia howellii*, CRPR 2B.2); seacoast ragwort (*Packera bolanderi* var. *bolanderi*, CRPR 2B.2); white-flowered rein orchid (*Piperia candida*, CRPR 1B.2); Oregon polemonium (*Polemonium carneum*, CRPR 2B.2); Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*, CRPR 1B.2); and Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*).
- Sensitive vegetation communities and aquatic resources.

The implementation of Standard Project Requirements (SPRs) and Mitigation Measures included in California Board of Forestry and Fire Protection VTP Program EIR (CalVTP PEIR) would reduce potential impacts to habitats and features to less-than-significant levels and avoid take of special-status species.

FIGURE 1
Regional Vicinity Map

Mattole Valley
Humboldt County, California

Legend

- Stream
- Selected Local Road
- Study Area
- Treatment Area
- Public or Preserved Land

N
W E
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1:100,000

(1 inch = 2 miles at tabloid layout)

0 1 2 3 4 Km

0 1 2 3 4 Mi

Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021
GIS/Cartography by Anton Bokisch, March 2023
Map File: 590_Vicinity_B-L_2023-0410.mxd

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2.0 EXTENT AND LOCATION OF THE PROJECT AREA

The Study Area consists of approximately 7,300-acres, across 7 properties (6 private landowners and one industrial timber company, the Humboldt Redwood Company). The Project area consists of approximately 1,100 acres within the larger Study Area where Project actions and likely impacts will be concentrated. The Study Area is significantly larger and encompasses more habitat to assist in evaluation of wildlife species with potential to occur near the Project area (**Figure 2**).

The Study Area is within the Petrolia and Buckeye Mountain U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles. It may be accessed from Eureka by way of US-101 South, then State Route 211 South. Turn right onto Ocean Avenue, then left onto Wildcat Avenue and keep right to continue on Mattole Road for approximately 28 miles, then turn left onto Lincoln Street, right onto Conklin Creek Road, and continue onto private ranch roads.

The Project area is located along ridgeline forests with surrounding grasslands with a network of ridgeline and mid-slope gravel road throughout the area. Forested portions of the project consist of North Coast Coniferous Forest habitat type. Tree species present within the project include tanoak (*Notholithocarpus densiflorus*), Douglas-fir (*Pseudotsuga menziesii*), Pacific madrone (*Arbutus menziesii*), California bay laurel (*Umbellularia californica*), canyon live oak (*Quercus chrysolepis*), grand fir (*Abies grandes*), California black oak (*Quercus kelloggii*), and Oregon white oak (*Quercus garryana*). Species present within the shrub and herbaceous layer include poison oak (*Toxicodendron diversilobum*), evergreen huckleberry (*Vaccinium ovatum*), blue blossom (*Ceanothus thyrsiflorus*), whitethorne (*Ceanothus incanus*), red-flowering currant (*Ribes sanguineum*), western sword fern (*Polystichum munitum*), and California blackberry (*Rubus ursinus*). Forested areas are generally dominated by dense stands of tanoak and Douglas-fir, with intermittent stands of Pacific madrone and California bay laurel present throughout. The shrub layer is typically dominated by western sword fern, evergreen huckleberry, California blackberry, and various ceanothus species, however many areas are void of shrubs due to the presence of dense stands of young Douglas-fir and tanoak. Many areas that are currently dominated by dense stands of tanoak were historically old-growth Douglas-fir prior to industrial timber harvest in the 1970s. Forested areas along the edges of grasslands typically consist of young, dense, stands of Douglas-fir that have encroached into grassland areas. Grassland areas within the project area are defined as California Coastal Prairie and consist of a mix of native and non-native grass species and native forbs. Species present throughout the grassland areas include blue wildrye (*Elymus glaucus*), Sitka brome (*Bromus sitchensis*), wild oats (*Avena barbata*), rattlesnake grass (*Briza minor*), and soft brome (*Bromus hordeaceus*) with dense patches of coyote brush (*Baccharis pilularis*) throughout. Several grassland areas are dominated by dense patches of the invasive Scotch broom (*Cytisus scoparius*).

FIGURE 2
Study Area and Proposed Project Map

The Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
Humboldt County, California

Legend

- Stream
- Study Area

Treatment Area

- Mechanical and Manual Thinning; Pile Burn; Tree Planting (680 ac.)
- Mechanical and Manual Thinning; Pile Burn (68 ac.)
- Mechanical and Manual Thinning; Broadcast Burn; Tree Planting (222 ac.)
- Mechanical and Manual Removal; Pile Burn; Native Seeding (76 ac.)
- Manual Removal; Pile Burn; Native Seeding (7 ac.)

Treatment Area

- In-Stream Tree Placement (32 ac.)
- Riparian Tree Planting (11 ac.)

N
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1:42,000

(1 inch = 3,500 feet at tabloid layout)

0 500 1,000 2,000 Meters

0 2,000 4,000 8,000 Feet

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Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021
GIS/Cartography by Anton Bokisch, April 2023
Map File: 590_Site_Map_B-L_2023-0411.mxd

3.0 PROPOSED CALVTP TREATMENT TYPES

3.1 Fuel break

The proposed Project includes approximately 1,056 acres of manual and mechanical vegetation treatments under the Fuel Break Treatment Type. The various fuel break treatment types are detailed in **Table 2**. A detailed description of each activity can be found below. The treatments described in **Table 2** occur in overlapping areas.

3.1.1 Mechanical Forest Thinning

Mechanical forest thinning treatments will occur within forested areas on slopes less than 50% in areas that are accessible to heavy equipment. Treatments may be completed with a variety of equipment types including excavator mounted forestry mulchers/masticators, cut-to-length harvesters, and tracked mulchers, depending on site conditions, tree size class, and the type of equipment available at the time of implementation. Excavator mounted forestry mulchers and tracked mulchers will masticate whole trees up to 18 inches in diameter, leaving in place a chip bed, with an average spacing of 20-30 feet between trees. Dense patches of shrubs will be masticated in areas where they would act as ladder fuels and pose a threat to increased wildfire, but diverse patches of shrubs will be left in place in a mosaic pattern to increase native plant and vegetative structural diversity in the understory. Cut to length (CTL) harvesters and other equipment will harvest trees up to 18 inches in diameter resulting in an average spacing of 20-30 feet between trees. For all mechanical thinning, trees under 18 inches in diameter that are retained will achieve a spacing of 15-20 feet when feasible. Special attention will be given to retain individual trees of species that are under-represented within the forest stand and the larger project area as well as trees that provide wildlife habitat. Special attention will be given to opportunities to release and retain suppressed conifers in the understory of dense tanoak stands. In some areas of dense tanoak that were historically Douglas-fir, larger openings will be created by clearing 100% tanoak to allow for planting of containerized conifer tree stock. Felled trees will be bucked into sections no longer that 8 feet, using a lop-and-scatter method, so that all portions of the felled tree are touching the ground. Slash that has been lopped and scattered will be no higher than 18 inches off the ground, and slash will not be placed near the base of residual trees. When feasible, excavators and other small tracked equipment can be used to mechanically pile slash to be burned later. Mechanical treatments will occur year-round as weather and environmental conditions allow. All mechanical thinning treatments will be followed up with manual hand crew treatments with pole saws to prune limbs up to 12 feet high, and use chainsaws to cut any slash left by equipment that is not meeting the specifications.

Table 2. Treatment Activities within the Fuel Break Treatment Type

FUEL BREAK TREATMENT ACTIVITY	ACRES	SLOPE	SPECIFICATIONS	EQUIPMENT REQUIRED
Mechanical Forest Thinning	482	Under 50%	Masticate, lop and scatter, and/or pile trees up to 18 inches in diameter	Excavator mounted forestry mulcher/masticator; CTL harvester; water truck/tender; tracked mulcher, or similar; 4x4 truck; all-terrain vehicle (ATV); utility task vehicle (UTV)
Manual Forest Thinning	974	Under 50%/Over 50%	In areas over 50% in slope and in follow up to mechanical treatment areas - Fell trees up to 18 inches with chainsaw; lop and scatter no higher than 18 inches above grade; and/or pile slash; prune tree limbs up to 12 feet in height	Chainsaw; Pole saw; 4x4 truck; ATV; UTV
Mechanical Tree Removal from Grasslands	11	Under 30%	Tip or fell whole trees up to 24 inches in diameter with root wad intact; stage on-site for helicopter; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; Chainsaw; 4x4 truck; ATV; UTV
Mechanical Invasive Plant Removal	41	Under 30%	Remove Scotch broom and other species by compressing base of plant stem with excavator thumb and bucket; pull entire above and below ground portion of plant; mechanically pile slash; grade disturbed soils; install native grass seed and harrow in	Excavator; Bulldozer; Loader; 4x4 truck; ATV; UTV

Manual Invasive Plant Removal	12	Over 50%	Remove Scotch broom with weed wrench or hand pulling and pile	Weed wrench/hand tools
Manual Tree Planting	906	Under 50%/Over 50%	Manually install trees and shrubs using hoedad and/or shovel	Hoedad/shovel; 4x4 truck; ATV; UTV
Prescribed Fire (Pile Burn)	818	Under 50%	Burn piles in appropriate burn window; chunk in; install native grass seed and rake in	Chainsaw; Pole saw; 4x4 truck; ATV; UTV; Water tender
Prescribed Fire (Broadcast Burn)	220	Under 50%	Burn understory; lop and scatter slash in appropriate burn window and as detailed in burn plan	Chainsaw; Pole saw; 4x4 truck; ATV; UTV

3.1.2 Manual Forest Thinning

Manual forest thinning treatments will occur within forested areas on slopes greater than 50% in areas that are not accessible to heavy equipment as well as areas under 50% where mechanical treatments have been completed. Manual hand crew treatments will follow mechanical thinning treatments to prune limbs up to 12 feet high with pole saws, and use chainsaws to cut and move any slash left by equipment that is not meeting the specifications. Manual treatments will be completed by using a chainsaw to fell trees up to 18 inches in diameter leaving an average spacing of residual trees at 20-30 feet apart. Dense patches of shrubs will be masticated in areas where they act as ladder fuels and pose a threat to increased wildfire, but diverse patches of shrubs will be left in place in a mosaic pattern to increase native plant and vegetative structural diversity in the understory. Trees under 18 inches in diameter that are retained will achieve a spacing of 15-20 feet when feasible. Special attention will be given to retain individual trees of species that are under-represented within the stand and the project area as well as trees that provide wildlife habitat. Special attention will be given to opportunities to release and retain suppressed conifers in the understory of dense tanoak stands. Felled trees will be bucked into sections no longer that 8 feet in length, using a lop-and-scatter method, so that all portions of the felled tree are touching the ground. Slash that has been lopped and scattered will be no higher than 18 inches off the ground, and slash will not be placed near the base of residual trees. When feasible, felled trees and slash can be piled for later burning. Manual thinning treatments will occur year-round as weather and environmental conditions allow.

3.1.3 Mechanical Tree Removal from Grasslands

Mechanical tree removal from grassland areas will occur within forested areas that were historically grassland. This treatment has the objective of restoring historic grassland structure and species composition as well providing a source for in-stream wood for aquatic habitat restoration

projects within the project area. The goal is 100% removal of trees from historic grasslands within treatment areas. Tree removal will occur on slopes less than 30% in areas that are accessible to heavy equipment and have access to nearby grassland opening for staging trees. Treatments will be completed by tipping whole trees out of the ground with an excavator or felling trees. A total of approximately 400 trees between 12 inches and 30 inches in diameter will be harvested from encroached grassland areas. Trees within the removal areas less than 12 inches in diameter will be piled and eventually burned. Once the larger trees are on the ground, an excavator or wheel loader will move trees just outside of the harvest area to a grassland staging area, where trees will later be picked up by a helicopter and placed at planned locations in McGinnis Creek. At the staging area, trees will be marked with spray paint with a unique identifying code, measured for length and diameter, and weighed using an industrial crane scale mounted to the excavator or a built-in scale on the wheel loader. Weighing the tree ensures that the helicopter will be able to carry it at time of pick up. Once trees are staged, any disturbed soil will be graded using a bulldozer or the bucket of the excavator. Mechanical vegetation removal will occur between May and September. All bare soils will be seeded with a native grass and forb seed mix in the fall when adequate soil moisture is available for germination. Seeding specifications can be found in **Table 3**.

3.1.4 Mechanical and Manual Invasive Plant Removal

Mechanical invasive plant removal from grassland areas will occur in areas that were historically grassland. This treatment has the objective of restoring historic grassland structure and species composition. Invasive plant removal will target removal of Scotch broom and coyote brush from grasslands. Mechanical invasive plant removal will take place on slopes less than 50%. Plants will be removed using an excavator by compressing base of plant stem with excavator thumb and bucket and pulling the entire above and below ground portion of plant out. Vegetation will be mechanically piled. Manual treatments will take place on all slopes over 50% and where plants are too small or not able to be reached by the excavator. Manual treatments will be completed using a weed wrench to remove plants from the ground and vegetation will be manually piled. All disturbed soils will be graded with a bulldozer or excavator with a blade attachment. Manual treatments will occur year-round as weather and environmental conditions allow.

All bare soils will be seeded with a native grass and forb seed mix in the fall when adequate soil moisture is available for germination. Seeding specifications can be found in **Table 3**.

Table 3. Native seed mix and installation specifications

Treatment	Specifications	Install Density
Native Grass Seed Mix	Install seed on bare soils using the following ratios: *Elymus glaucus* (30%), *Bromus sitchensis* (20%), *Stipa pulchra* (20%), *Deschampsia cespitosa* (10%) *Festuca idahoensis* (10%), and *Danthonia californica* (10%). Broadcast by hand or ATV spreader, rake or harrow in.	30 lbs/acre
Native Forb Seed Mix	Install seed on bare soils using the following ratios: *Achillea millefolium* (5%), *Acmispon americanus* var. *americanus* (5%), *Clarkia amoena* (10%), *Eschscholzia californica* (20%), *Lupinus bicolor* (20%), *Ranunculus occidentalis* (10%), *Sisyrinchium bellum* (10%), and *Trifolium willdenovii* (20%). Broadcast by hand or ATV spreader, rake or harrow in.	15 lbs/acre

3.1.5 Manual Plant Installation

Manual plant installation will take place in forest thinning areas that have been cleared of tanoak to allow for planting of Douglas-fir to restore historic tree species composition to the site. Planting of native shrubs also will occur in forest thinning areas to increase shrub diversity. Tree planting will occur on slopes under and over 50%. The treatment will be completed by planting crews carrying trees and tree bags and installing trees using a hoedad or shovel. Micro-site selection will prioritize planting sites with adequate soil moisture and protection from summer heat. All container stock seed will be sourced from the 390 and/or 092 seed zone from relevant elevations to the planting sites. Manual treatments will occur between November and March as weather and environmental conditions allow.

3.1.6 Prescribed Fire (Pile Burn)

Biomass from mechanical and manual treatments would be piled using equipment (e.g., skid steer, tractor, bulldozer or excavator) or hand crews. A qualified burn boss will develop a burn plan and oversee all burning activities. Pile burning will occur in forest thinning areas with little to no live overstory as well as in open grasslands. Piles will measure approximately 10 feet by 10 feet in area and 6 feet in height. No more than 30 piles per acre will be constructed and burned. Pile burning would not occur in wet meadows or areas that have abundant native plants or sensitive plant species. Pile burn areas will be seeded with a native seed mix detailed in **Table 4**. Pile burn

treatments will occur between November and March as weather and environmental conditions allow.

Table 4. Pile burn seed mix and installation specifications.

Treatment	Specifications	Install Density
Native Grass Seed Mix (Pile Burn)	Install seed on bare soils using the following ratios: *Elymus glaucus* (30%), *Bromus sitchensis* (20%), *Festuca californica* (50%), Broadcast by hand or ATV spreader, rake or harrow in.	40 bs/acre

3.1.7 Prescribed Fire (Broadcast Burn)

Broadcast burning treatments will occur in forested areas that have been previously treated with manual and mechanical thinning. A qualified burn boss will develop a burn plan and oversee all burning activities. Biomass from lop and scatter activities with cure for at least six months prior to burning. The burn will remove post-thinning biomass and will occur between a grassland ridgeline and an access road at the lower extent of the fuel break. The burn will be completed by qualified individuals under the supervision of the burn boss. Resources including heavy equipment and water tenders from agencies and local fire departments will be on-site during all burn activities. Sensitive habitat and culturally sensitive areas within the burn unit will be delineated prior burning activities. Broadcast burn treatments will occur between October and June as weather and environmental conditions allow.

3.2 ECOLOGICAL RESTORATION

The proposed project includes 43 acres of ecological restoration treatments including installation of whole trees for in-stream habitat and riparian tree planting in McGinnis Creek and the Mattole River. The ecological restoration treatment types are detailed in **Table 5**.

Table 5. Ecological Restoration Treatment Activities and associated information

Ecological Restoration Treatment Activity	Acres	Slope	Specifications	Equipment Required
In-stream wood installation	32	Under 50%	Install whole trees from grassland tree removal areas with helicopter	Vertol or Chinook Helicopter; Fuel Truck; 4x4 Truck; ATV;UTV
Riparian Tree Planting	11	Under 50%	Manually install trees and shrubs using hoedad and/or shovel	Hoedad/shovel;4x4 Truck; ATV; UTV

3.2.1 *In-stream Habitat Restoration*

In-stream habitat restoration activities include placing approximately 400 whole trees in-stream to improve aquatic and salmonid habitat in McGinnis Creek, a tributary to the Mattole River. This activity will be completed by transporting whole trees from grassland vegetation removal areas to in-stream tree placement sites using a helicopter. Trees will be staged during tree removal activities in grassland areas that are accessible to the helicopter. Individual trees and bundles of trees will be secured with a choker cable prior to arrival of the helicopter. Upon arrival of the helicopter, ground personnel will attach a hook connected to the helicopter to the cable choker and trees. Trees will be transported in the air from staging location to the in-stream placement site by hovering above the placement site and releasing the choker cable from the hook when the tree or bundles of trees are touching the ground. In-stream ground crews retrieve the choker cables when placement is complete and helicopter is no longer hovering overhead. This method is repeated throughout the stream restoration reach. In-stream habitat restoration treatments will occur between August and October as weather and environmental conditions allow.

3.2.2 *Riparian Tree Planting*

Manual plant installation will take place in riparian areas adjacent to in-stream habitat restoration sites. Tree planting of Douglas-fir will occur on slopes under and over 50%. The treatment will be completed by planting crews carrying trees and tree bags and installing trees using a hoedad or shovel. Micro-site selection will prioritize planting sites with adequate soil moisture and protection from summer heat. All container stock seed will be sourced from the 390 and/or 092 seed zone from relevant elevations to the planting sites. Manual treatments will occur between November and March as weather and environmental conditions allow.

4.0 METHODS

4.1 Preliminary Review

Prior to conducting field surveys, VNLC project ecologists compiled and reviewed existing information pertaining to the Study Area. Specifically, the ecologists compiled and reviewed the latest version of the California Natural Diversity Database (CNDDB; CDFW 2023), the California Native Plant Society (CNPS) Inventory of Rare Plants (CNPS 2023a), and a U.S. Fish and Wildlife Service (USFWS) Information Planning and Consultation System (IPaC) list (USFWS 2023). Site aerial imagery, previous reports, project description, and general regional conditions were also reviewed prior to the site survey.

4.2 Targeted Sensitive Biological Resources

Special-status animal species targeted and analyzed in this report include those listed by the USFWS and/or California Department of Fish and Wildlife (CDFW) as threatened or endangered, as well as those proposed for listing or that are candidates for listing as threatened or endangered. The listing of "Endangered, Rare, or Threatened" is defined in Section 15380 of the *California Environmental Quality Act* (*CEQA*) *Guidelines*. Section 15380(b) states that a species of animal or plant is "endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is "rare" when either "(A) although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (B) the species is likely to become endangered within the foreseeable future throughout all or a portion of its range and may be considered 'threatened' as that term is used in the Federal Endangered Species Act" (ESA).

Animal species are designated as "Fully Protected," "Species of Special Concern," or "Watch List" by the CDFW. Although these species have no legal status under the California Endangered Species Act (CESA), the CDFW recommends their protection as their populations are generally declining and they could be listed as threatened or endangered (under CESA) in the future. The "Species of Special Concern" designation is meant to call attention to the plight of the species and address the issues of concern early enough to secure their long-term viability. "Watch List" species were previously designated as "Species of Special Concern" but no longer meet that status, or do not yet meet that status but there is concern and need for more information to clarify status.

Birds are designated by the USFWS as "Birds of Conservation Concern." Although these species have no legal status under ESA, the USFWS recommends their protection as their populations are generally declining, and they could be listed as threatened or endangered (under ESA) in the future.

Special-status plants include species that are designated rare, threatened, or endangered as well as candidate species for listing by the USFWS. Special-status plants also include species considered rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those

plant species identified by the CNPS as California Rare Plant Rank (CRPR) 1A, 1B, and 2 in the Inventory of Rare and Endangered Vascular Plants of California.

For the purposes of this report, 'sensitive plant communities' include those designated as such by the CDFW, either in the CNDDB, the list of California Sensitive Natural Communities (CDFW 2022), or as sensitive alliances classified in the online Manual of California Vegetation (MCV) (CNPS 2023b). Alliances included within the MCV that are designated as global or state rank ("G" or "S") 1-3 are considered "rare or threatened" at the global and/or state level and are therefore considered sensitive.

In addition, wetland and riparian habitats, regardless of MCV/CDFW status, are considered sensitive. Wetlands, streams, and permanent and intermittent drainages are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) under Section 404 of the Federal Clean Water Act (CWA). The CDFW can also claim jurisdiction over these resources, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602-1603 of the California Fish and Game Code. The CDFW asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor. The Regional Water Quality Control Board (RWQCB) can also have jurisdiction over streams and wetlands under Section 401 or the Porter-Cologne Act. Any grading, excavation, or filling of jurisdictional drainage corridors or wetlands would require permitting consultation with the above-listed resource agencies.

4.3 Field Survey

A habitat reconnaissance survey was conducted within the Study Area on April 26, 2023 by VNLC Senior Ecologist Cassie Pinnell. A more detailed survey was conducted on April 24-28, 2023 by Mattole Restoration Council (MRC) biologists Sean Rowe, Dominic Dipaolo, Hugh McGee, and Sarah March. During the survey, the ecologists traversed as much of the Study Area as possible (excluding inaccessible land) and recorded all dominant plant taxa and commonly observed animal species, along with general ecological conditions and notable habitat features. In addition, the survey involved a search for habitat with potential to support special-status species (e.g., nesting potential, mammal burrows, aquatic habitats). Photographs detailing representative site conditions and habitats were also collected from across the Study Area (**Appendix A**).

5.0 EXISTING SITE CONDITIONS

The Study Area is located within the Mattole River Watershed. Land use within the Study Area is primarily privately held grasslands and forestlands.

The Mattole River follows the south-eastern boundary of the Study Area and is a large river with a riparian corridor. It flows in a north-westerly direction where it eventually enters the Pacific Ocean. The Mattole River has many tributaries, four of which are located within our Study Area. These tributaries are Mill Creek, Conklin Creek, McGinnis Creek, and Pritchard Creek, as well as smaller tributaries and drainages that feed into these creeks. All four of these creeks have dense riparian cover that provides shade to cool their waters. The Study Area features steep hills covered in North Coast coniferous forest, with open prairies scattered along some of the ridgelines as well as the lower reaches near the Mattole River. A more detailed description of the plant communities present within the Study Area is described below, in **Section 4.1**.

Soil units mapped throughout the Study Area are summarized below in **Table 6**. The most common soil map units are Canoecreek-Sproulish-Redwohly complex (27% of the Study Area); Crazycoyote-Sproulish-Canoecreek complex, 50 to 75 percent slopes (15% of the Study Area); and Crazycoyote-Sproulish-Canoecreek complex, 30 to 50 percent slopes (13% of the Study Area). Surface soil textures within the Study Area range from loam to very gravelly loam, with some sandy loam and silty loam as well

Table 6. Characteristics of Soil Units Mapped within the Study Area

Soil Map Unit Name	Acres in Study Area	Percent of Study Area	Parent Material	Surface Texture
Water and Fluvents, 0 to 2 percent slopes	7.3	1%	Alluvium derived from mixed sedimentary sources	gravelly fine sandy loam
Parkland-Garberville complex, 2 to 9 percent slopes	3.5	0%	Alluvium derived from mixed sedimentary sources	loam, gravelly loam
Conklin, 0 to 2 percent slopes	0.2	<1%	Alluvium derived from sedimentary rock	loam
Pepperwood-Shivelyflat complex, 0 to 2 percent slopes	0.3	<1%	Alluvium derived from mixed sedimentary sources	fine sandy loam, silt loam

Soil Map Unit Name	Acres in Study Area	Percent of Study Area	Parent Material	Surface Texture
Crazycoyote-Sproulish-Caperidge complex, 15 to 50 percent slopes	112.5	10%	Colluvium and residuum derived from sandstone and mudstone; Colluvium derived from mudstone and/or sandstone, and/or residuum weathered from mudstone and/or sandstone; Colluvium derived from sandstone and/or residuum weathered from sandstone	loam, very gravelly loam
Canoecreek, 75 to 110 percent slopes	16.1	1%	Colluvium and residuum derived from sandstone and mudstone	gravelly loam
Crazycoyote-Windynip-Caperidge complex, 15 to 50 percent slopes	132.1	12%	Colluvium and/or residuum derived from sandstone, mudstone and/or residuum weathered from sandstone	gravelly loam, loam, very gravelly loam
Sproulish-Canoecreek-Redwohly complex, 30 to 50 percent slopes, warm	85.1	8%	Colluvium and residuum derived from or weathered from sandstone and/or mudstone	gravelly silt loam, gravelly loam, very gravelly loam
Canoecreek-Sproulish-Redwohly complex, 50 to 75 percent slopes, warm	293	27%	Colluvium and/or residuum derived from or weathered from sandstone, mudstone, and/or conglomerate	very gravelly loam, gravelly loam
Wirefence-Windynip-Devilshole complex, 5 to 30 percent slopes	45	4%	Colluvium and/or residuum derived from sandstone and/or mudstone	loam, gravelly loam
Windynip-Wirefence-Devilshole complex, 30 to 50 percent slopes	83.3	8%	Colluvium and residuum derived from or weathered from sandstone and/or mudstone	loam, gravelly loam
Yorknorth-Windynip complex, 15 to 50 percent slopes	13.2	1%	Colluvium derived from sandstone and/or earthflow deposits derived from schist; Colluvium and residuum derived from or weathered from sandstone and/or mudstone	silt loam, loam

Soil Map Unit Name	Acres in Study Area	Percent of Study Area	Parent Material	Surface Texture
Crazycoyote-Sproulish-Canoecreek complex, 30 to 50 percent slopes	139.3	13%	Colluvium derived from mudstone and/or sandstone and/or residuum weathered from mudstone and/or sandstone	gravelly loam, loam, very gravelly loam
Crazycoyote-Sproulish-Canoecreek complex, 50 to 75 percent slopes	169.5	15%	Colluvium derived from mudstone and/or sandstone and/or residuum weathered from mudstone and/or sandstone	loam, gravelly loam, gravelly sandy loam

Source: USDA NRCS Web Soil Mapper 2023

Soil series documented in the Study Area have pH ranging from 4.9 to 6.00, which is considered to be slightly acidic (USDA 2023). This acidic pH range indicates the absence of alkaline soils (over 7.5 is considered alkaline) within the Study Area. There are no other specialized edaphic conditions that may give rise to special-status plants present in the Study Area.

5.1 Plant Communities

Figure 3, below, displays the natural plant communities mapped within the Study Area. Plant communities within the Study Area were mapped as the land cover classification units described in the United States Forest Service (USFS) Existing Vegetation Geodatabase (2018), which is part of the Classification and Assessment with LANDSAT of Visible Ecological Groupings (CALVEG) mapping project (USFS, 2018). The plant communities and their constituent plant taxa, as observed in the reconnaissance-level botanical survey on April 24-28, 2023, are described below.

5.1.1 Barren – 0.1% of Treatment Area

A small area of approximately 1.5 acres of barren ground occurs within the Treatment Area southeast of the confluence of the Mattole River and Conklin Creek. This cover type is defined as bare ground with less than 1% vegetation cover, and includes bare rock, soil, sand, or snow. The mapped area within the Treatment Area consists of the sparsely vegetated banks of the Mattole River.

The Pacific gilia occurs in microhabitats which include openings, and this taxon has the potential to occur along the margins of this land cover type. No other special-status plant taxa with potential to occur within the Study Area occur within this land cover type. This cover type does not qualify as an MCV-ranked sensitive natural community.

5.1.2 Conifer Forest / Woodland – 3% of the Treatment Area

Conifer forest/woodland covers approximately 35 acres of the Treatment Area and is concentrated in two areas: in the northwest portion of the Treatment Area immediately south of Apple Tree

Ridge, and in the southeast portion of the Treatment Area along Everets Ridge. This cover type is defined as being dominated by conifer species and corresponds with the CNPS habitat description of North Coast coniferous forest. The North Coast coniferous habitat is dominated by needle-leaved evergreen trees, typically in dense stands in wetter and foggy areas (CNPS, 1988). Within the Treatment Area, this habitat is mapped as being dominated by Douglas-fir (*Pseudotsuga menziesii*).

Most of the special-status plant taxa with potential to occur within the Treatment Area occur within North Coast coniferous forest, including leafy reed grass, coast fawn lily, Howell's Montia, seacoast ragwort, white-flowered rein orchid, and Siskiyou checkerbloom. This habitat may support MCV-ranked sensitive natural communities of Douglas fir - incense cedar forest and woodland (S3/G3), and Douglas fir - tanoak forest and woodland (S3/G3).

5.1.3 Hardwood Forest / Woodland – 26% of the Treatment Area

Hardwood forest/woodland covers approximately 286 acres of the Treatment area and occurs throughout the Treatment Area. It is concentrated along or near ridgelines, including Apple Tree Ridge, Burgess Ridge, and Everets Ridge. This cover type is defined by the dominance of hardwood tree species and corresponds with the CNPS habitat description of broadleaved upland forest (CNPS 1988). The broadleaved upland forest is composed of stands of evergreen and deciduous broadleaved trees which form closed canopies (ibid). Typical dominant species in this cover type include California bay (*Umbellularia californica*), coast live oak (*Quercus agrifolia*), canyon live oak (*Q. chrysolepis*), tanoak (*Notholithocarpus densiflorus*), as well as Oregon white oak (*Q. garryana*), California black oak (*Q. kelloggii*), madrone (*Arbutus menziesii*), and/or interior live oak (*Q. wislizeni*) (USFS 2018).

The coast fawn lily and white-flowered rein orchid are known to occur within broadleaved upland forest. This habitat does not qualify as an MCV-ranked sensitive natural community.

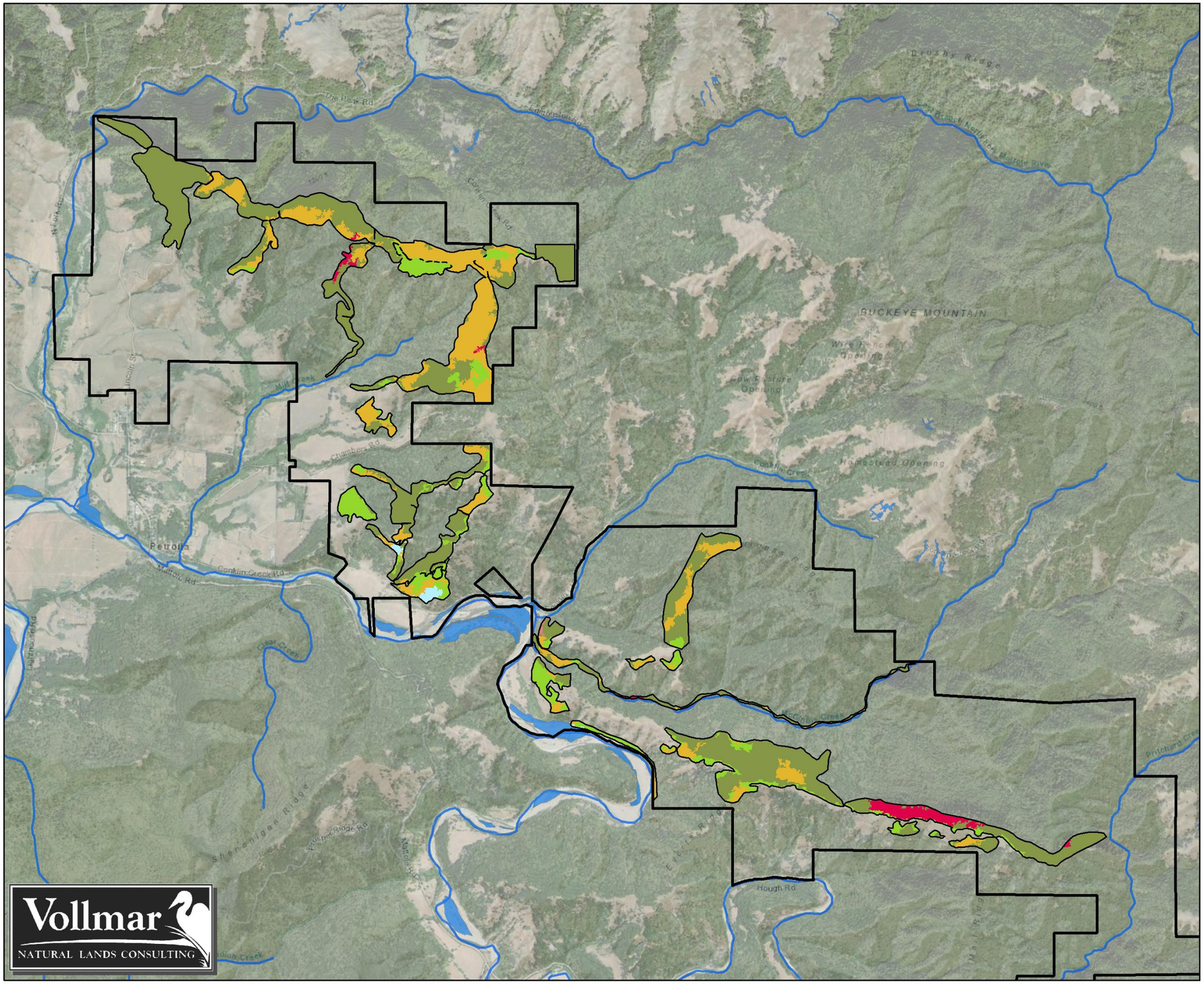
5.1.4 Herbaceous Habitat – 14 % of the Treatment Area

Herbaceous habitat covers approximately 156 acres within the central and southern portions of the Treatment Area. This cover type is defined by the dominance of annual grasses and forbs (USFW 2018), and it conforms to the CNPS habitat description of valley and foothill grassland. This habitat is typically composed of introduced, annual Mediterranean grasses with some native herbs (CNPS 1988).

Pacific gilia is known to occur within valley and foothill grassland as well as microhabitats including openings. This species may occur along the margins of this habitat. This habitat type may support MCV-ranked sensitive communities of California brome - blue wildrye prairie (S3/G3), and needle grass - melic grass grassland (S3S4 / G3G4).

FIGURE 3
Vegetation Map

The Mattole and Salmon Creek
Forest Health and Wildlife Resilience Project
Humboldt County, California



Legend

- Stream
- Wetland or Water
- Study Area
- Treatment Area

Vegetation Cover Type*

- Barren (Rock/Soil/Sand/Snow)
- Conifer Forest/Woodland
- Hardwood Forest/Woodland
- Herbaceous
- Mixed Conifer and Hardwood Forest/Woodland
- Shrub

*Vegetation cover type data is from USDA Forest Service classification.

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(1 inch = 3,250 feet at tabloid layout)

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Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021 | USFS, 2018
GIS/Cartography by R. Miller, April 2023
Map File: 590_Veg_Map_B-L_2023-0411.mxd

5.1.5 Mixed Conifer and Hardwood Forest / Woodland – 56% of the Treatment Area

Mixed conifer and hardwood forest covers approximately 612 acres and is distributed throughout the Treatment Area. This cover type includes stands of evergreen or deciduous, broadleaved trees forming closed canopies, and is included in the CNPS habitat description of broadleaved upland forest (CNPS 1988). Typical dominant species within this cover type include Douglas-fir, as well as tanoak, and Pacific madrone. Additional associates in this variable cover type include ponderosa pine (*Pinus ponderosa*), incense-cedar (*Calocedrus decurrens*), California black oak, and Oregon white oak. Within the Treatment Area, this habitat is mapped as being dominated by Douglas-fir (USFS 2018). The coast fawn lily and white-flowered rein orchid are known to occur within broadleaved upland forest, which includes mixed conifer and hardwood forest/woodland areas. This habitat does not qualify as an MCV-ranked sensitive natural community.

5.1.6 Shrub – 1% of the Treatment Area

Shrub-dominated habitat covers approximately 9 acres of the Treatment Area. It is concentrated within the lower elevations of the central and southern portions of the Treatment Area near the Mattole River. This cover type conforms to the CNPS habitat description of coastal scrub, and it is dominated by dense shrubs with scattered grassy openings (CNPS 1988). Typical dominant species for this habitat include coyote brush (*Baccharis pilularis*), and common associate species include blue blossom ceanothus, (*Ceanothus thyrsiflorus* var. *thyrsiflorus*), California coffeeberry (*Frangula californica*), salal (*Gaultheria shallon*), sticky monkeyflower (*Diplacus aurantiacus*), blackberry (*Rubus* sp.), and poison-oak (*Toxicodendron diversilobum*) (Mayer and Laudenslayer, 1988).

Leafy reed grass, Pacific gilia, and seacoast ragwort occur within coastal scrub habitat and may occur within this cover type. This habitat may support the MCV-ranked sensitive natural community of bush monkeyflower (S3/G3).

5.2 Aquatic Resources

A formal wetland delineation has not been conducted in the Study Area. However, a desktop delineation and reconnaissance level site assessment identified Mill Creek, Conklin Creek, McGinnis Creek, Pritchard Creek, north fork of the Mattole River, and the main stem of the Mattole River as well as smaller tributaries (**Figure 4**) as potential jurisdictional aquatic resources under the ACOE, CDFW, and RWQCB. In addition, the CDFW jurisdiction could include any additional riparian vegetation associated with these aquatic resources.

Coast fawn lily and Howell's montia are known to prefer mesic microhabitats and/or streambanks and may occur within or near aquatic resources.

6.0 SPECIAL-STATUS SPECIES AND SENSITIVE HABITATS

This section provides background information and lists recommended avoidance and/or minimization measures to reduce the potential for the Project to impact special-status species and sensitive habitats within the Study Area. Only listed species and/or special-status species with potential to occur within the Study Area are addressed, the remaining special-status species known from the region are detailed in **Appendix B**.

Based on the habitat requirements of these species, there are 22 special-status animal species with some potential to occur within the Study Area. These include five federal or State listed wildlife species, two Fully Protected wildlife species, one candidate State listed species, and 14 non-listed special-status animal species, as well as multiple birds that fall under the Migratory Bird Treaty Act (MBTA). There are ten special-status plant species with potential to occur in the Study Area, including one State listed species and nine plant species with a California Rare Plant Rank (CRPR) of 1 or 2. **Figures 5a-5c** show the distribution of special-status animal species and plant species that are documented in the vicinity of the Study Area. These and other special-status species known from the project region are listed in **Appendix B**, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur in the Study Area. These animal and plant taxa are described in more detail below.

The impacts of Project activities to special-status wildlife, plants and natural habitats have been examined in detail in the CalVTP Programmatic Environmental Impact Report (EIR). As such, the Standard Project Requirements (SPRs) and Mitigation Measures discussed below are already approved for the special-status species and habitats listed in this report and are consistent with those described in the EIR.

6.1 Designated Critical Habitat

As shown in **Figure 3**, critical habitat for the northern spotted owl surrounds the Study Area to the east, south, and west. Critical habitat for the marbled murrelet is found approximately 4.5 miles south of the Study Area.

FIGURE 4
Aquatic Resources Map

Mattole Valley
Humboldt County, California

Legend

Aquatic Habitat Within or Adjacent to Study Area

- Class I Aquatic Habitat
- Class III Aquatic Habitat
- Stream Outside Study Area
- 50-ft WPLZ
- 75-ft WPLZ
- 150-ft WPLZ
- Treatment Area
- Study Area

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Data Sources: CNDDB, 03/2023 | USGS, 2020
ESRI Online Imagery, 2021 | SFEI, 2014
GIS/Cartography by R. Miller, April 2023
Map File: 590_Aq_Resource_Map_B-L_2023-

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FIGURE 5a
Special-Status Animal Species Map

The Mattole and Salmon Creek
Forest Health and Wildfire Resilience Project
Humboldt County, California

Fuel Break Treatment Area

- Mechanical and Manual Thinning; Pile Burn; Tree Planting (680 ac.)
- Mechanical and Manual Thinning; Pile Burn (68 ac.)
- Mechanical and Manual Thinning; Broadcast Burn; Tree Planting (222 ac.)
- Mechanical and Manual Removal; Pile Burn; Native Seeding (76 ac.)
- Manual Removal; Pile Burn; Native Seeding (7 ac.)

Ecological Restoration Treatment Area

- In-Stream Tree Placement (32 ac.)
- Riparian Tree Planting (11 ac.)

southern torrent salamander
Cooper's hawk
southern torrent salamander
sharp-shinned hawk
Foothill yellow-legged frog - north coast DPS
Pacific lamprey
coho salmon - southern Oregon / northern California ESU
Stellar sea lion
great egret
great blue heron
western pond turtle
Pacific tailed frog
Fisher
Cooper's hawk
Cooper's hawk
southern torrent salamander
American badger
red-bellied newt
Steller sea lion

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Legend

- Study Area

Designated Critical Habitat

- Chinook Salmon
- Steelhead
- Northern Spotted Owl
- Marbled murrelet

CNDDB Special-Status Animal

- American Peregrine Falcon
- Fisher
- North American Porcupine
- Pacific Lamprey
- Sonoma Tree Vole
- Foothill Yellow-legged Frog - North Coast DPS
- Golden Eagle
- Steelhead - Northern California DPS Summer-run
- Western Bumble Bee

Other Special-status Animals

- Other Special-status Animal

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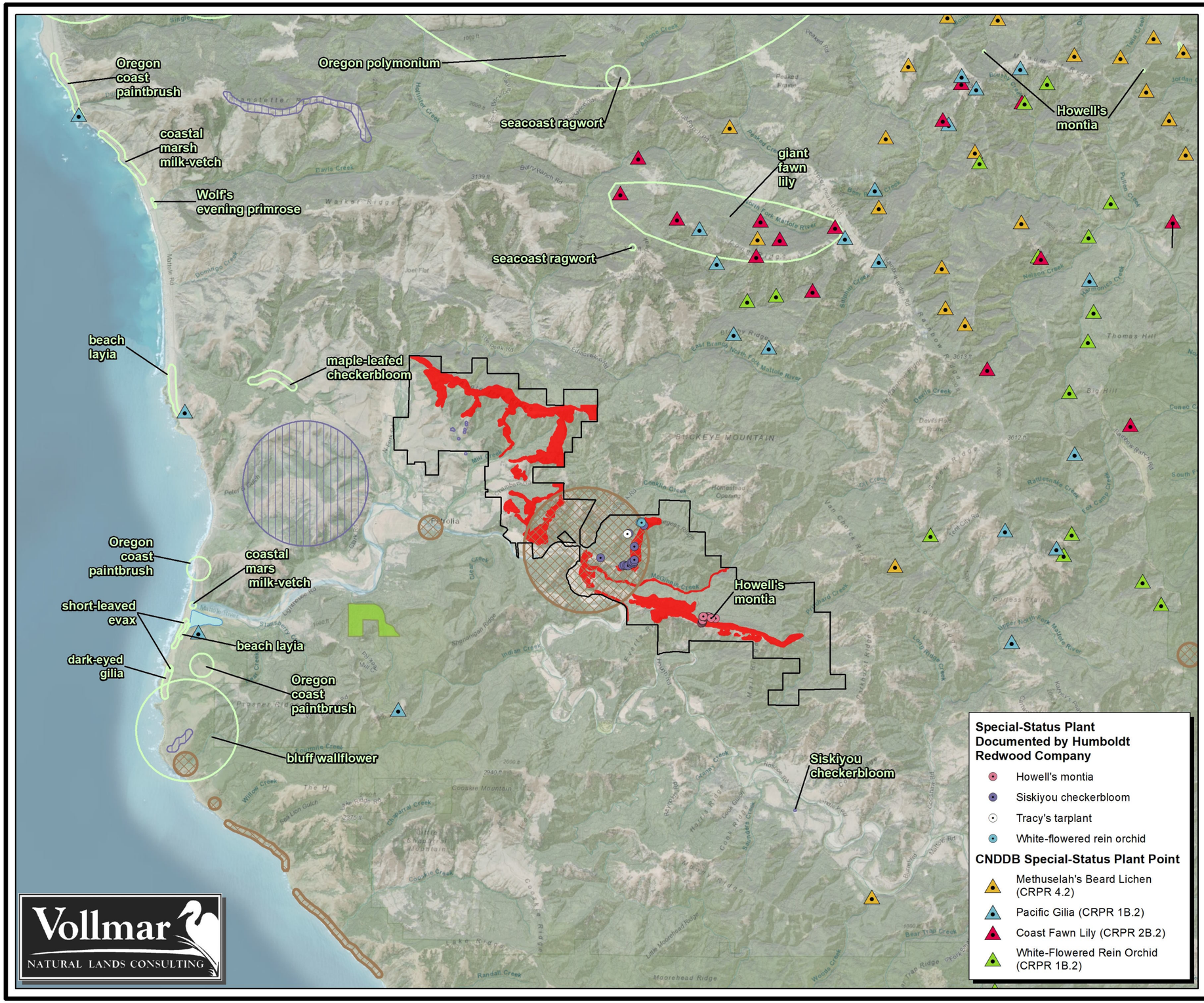
Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021
GIS/Cartography by Anton Bokisch, April 2023
Map File: 590_CNDDB_Animal_Ply_B-L_2023-

FIGURE 5b
Special-Status Plant Species Map

Mattole Valley
Humboldt County, California



Legend

- Study Area
- Treatment Area

CNDDB Special-Status Plant Species

- Siskiyou Checkerbloom (CRPR 1B.2)
- Leafy Reed Grass (CRPR 4.2)
- Other CNDDB Special Status Plant Species

CNDDB Sensitive Natural Community

- Coastal Douglas Fir Western Hemlock Forest (G4 / S2.1)
- Coastal and Valley Freshwater Marsh (G3 / S2.1)

Special-Status Plant Documented by Humboldt Redwood Company

- Howell's montia
- Siskiyou checkerbloom
- Tracy's tarplant
- White-flowered rein orchid

CNDDB Special-Status Plant Point

- Methuselah's Beard Lichen (CRPR 4.2)
- Pacific Gilia (CRPR 1B.2)
- Coast Fawn Lily (CRPR 2B.2)
- White-Flowered Rein Orchid (CRPR 1B.2)

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(1 inch = 1.5 miles at tabloid layout)

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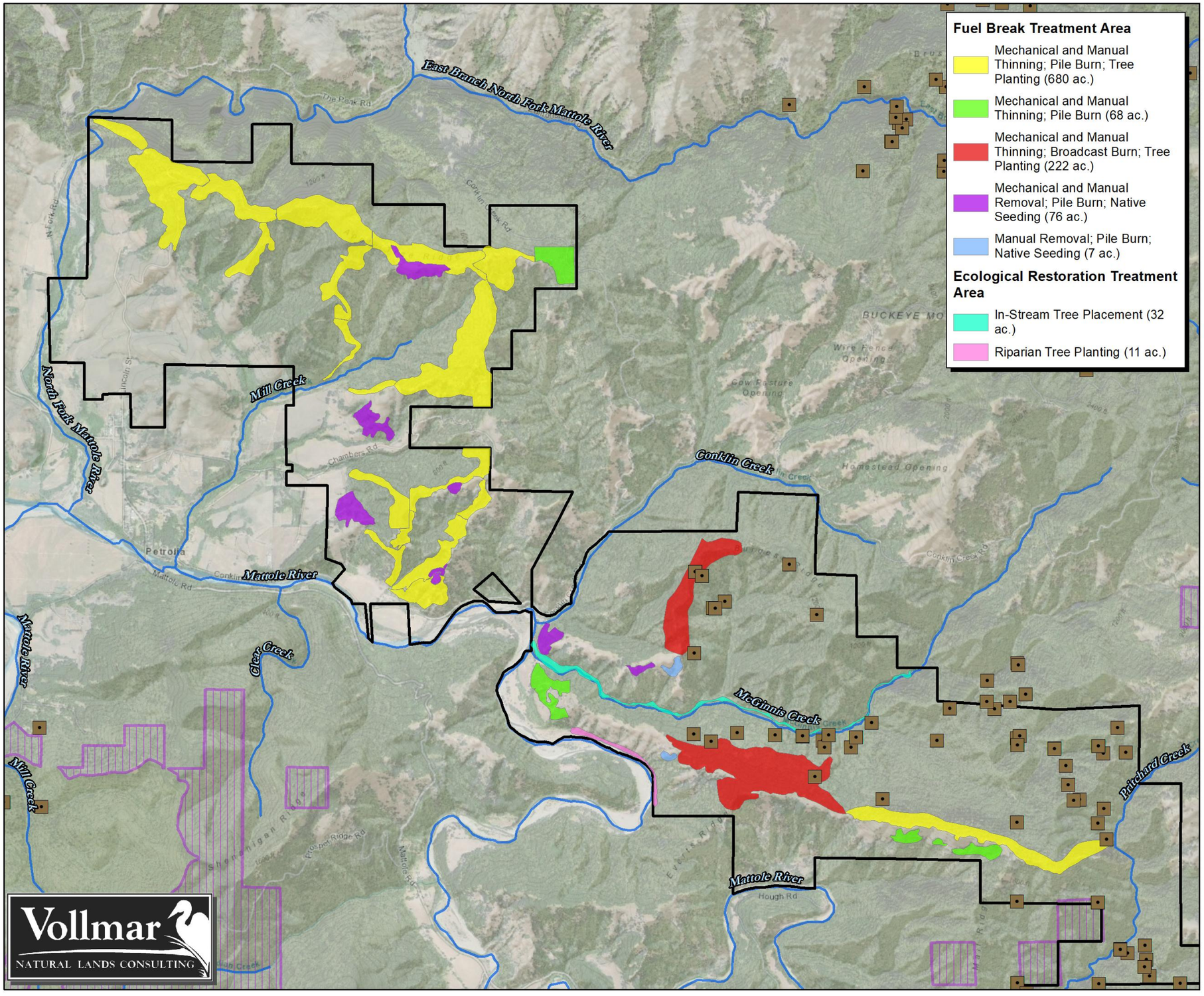
Data Sources: CNDDB, 03/2023 | USFWS, 2017 | ESRI Online Imagery, 2023 | Humboldt Redwood Company, 2023
GIS/Cartography by R. Miller, April 2023
Map File: 590_CNDDB_Plants_B-L_2023-0411.mxd

Vollmar
NATURAL LANDS CONSULTING

FIGURE 5c
Northern Spotted Owl Occurences Map

The Mattole and Salmon Creek Forest Health and Wildfire Resilience Project
Humboldt County, California



Legend

- Northern Spotted Owl CNDDB Occurrence
- Stream
- Study Area
- Northern Spotted Owl Designated Critical Habitat

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(1 inch = 3,250 feet at tabloid layout)

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Data Sources: CNDDB, 03/2023 | USFWS, 2017
ESRI Online Imagery, 2021
GIS/Cartography by Anton Bokisch, April 2023
Map File: 590_CNDDB_NSO_B-L_2023-

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6.2 Listed Species

6.2.1 Northern Spotted Owl

The northern spotted owl (*Strix occidentalis caurina*) is listed as Federally Threatened and State Threatened. The main threats to this species are competition from Barred Owls (*Strix varia*), which displace Spotted Owls by disrupting their nests and competing with them for food, as well as habitat loss due to timber harvest and land conversion (USFWS 2011).

This bird is approximately 18.5 inches in length with a 40-inch wingspan and a weight of 21 oz. The breeding range of this species extends from Southwestern British Columbia through California's North Coast Ranges to Marin County. Spotted Owls usually nest in tree or snag cavities, or in the broken top of large trees. Other nesting sites include caves or crevices within cliffs. They require mature forests with large old trees, snags, multiple canopy layers, and downed woody debris. Spotted Owls are not migratory, though some individuals may move down-slope in the winter (Zeiner and Laudenslayer 1990).

Potential Project Impacts

There are many documented CNDDB records of the northern spotted owl within the Study Area, and there are a few that fall within the Treatment Area. The mixed conifer forest habitat on site is suitable nesting habitat for the northern spotted owl. Any project activities that occur within the 0.25 mile buffer around an active NSO nest shall require consultation with CDFW. Disturbance from prescribed burns, heavy equipment, chain saws, and vehicles could potentially result in the abandonment of nests and loss of eggs or chicks. Therefore, SPRs BIO-1, BIO-2, SPR BIO-10, and MM BIO-2a are included to bring the potential impacts to a less than significant level. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.2.2 Chinook Salmon – California coast ESU

The chinook salmon (*Oncorhynchus tshawytscha* pop. 17) - California coast Evolutionary Significant Unit (ESU) is listed as a Federally Threatened species. California coast chinook salmon range from as far north as Redwood Creek all the way to the Russian River as their southernmost extent. They are a fall-run salmon. Following the early winter storms, they will swim upstream to return to their natal spawning grounds from September to November. Most of the juveniles will emerge from the gravel during late winter or spring and will slowly work their way downstream (Caltrout 2023). They will use floodplains or tidally influenced habitat with cover to forage until they are large enough to migrate out to sea. They will then spend the next year or two of their lives in the ocean feeding until they eventually return to the river in which they were born.

Potential Project Impacts

The Mattole River, McGinnis Creek, and Conklin Creek are considered designated critical habitat for chinook salmon. Although there are no documented occurrences of this species in either of the creeks it is highly likely they are used for spawning grounds. Any in-stream or riparian corridor activities (including installation of in-stream large woody debris by helicopter in McGinnis Creek) could result in take of this species or its eggs. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, SPRs BIO-1, BIO-2, BIO-10, HYD-4, and MM BIO-2a are included to bring the potential impacts to a less than significant level. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.2.3 Coho Salmon – Southern Oregon / Northern California ESU

The coho salmon (*Oncorhynchus kisutch* pop. 2) – southern Oregon / northern California Coast Evolutionary Significant Unit (ESU) is listed as a Federally and State Threatened species. Coho salmon are an anadromous fish with unique and complex life histories. They spend most of their adult lives in the ocean, and return to freshwater streams and rivers to spawn. They spawn in cobble or gravel bottom streams with cold, highly oxygenated water, from November through January, though it can extend into February or March under drought conditions. Timing of spawning and migration varies by stream and/or flow (CalFish 2018). Eggs incubate in natal streams from November through April, and fry emerge between March and July, with peak emergence from March to May. Fry and juveniles rear in their natal streams and then emigrate to the ocean during the course of one year (CalFish 2018, NMFS 2016). Coastal lagoons and estuaries are important transitional habitat between freshwater and saltwater environments (NMFS 2016).

Potential Project Impacts

Coho salmon are known to occur within the Mattole River and are highly likely to use McGinnis Creek and Conklin Creek as spawning grounds. Any in-stream or riparian corridor activities (including installation of in-stream large woody debris by helicopter in McGinnis Creek) could result in take of this species or its eggs. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Adoption of SPRs BIO-1, BIO-2, BIO-10, SPR HYD-4, and MM BIO-2a will bring the potential impacts to a less than significant level. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.2.4 Steelhead - Northern California DPS summer-run

The northern California steelhead (*Oncorhynchus mykiss irideus* pop. 48) Distinct Population Segment (DPS) summer-run are listed as Federally Threatened and State Endangered. Northern California summer-run steelhead range from Redwood Creek as their northern extent all the way south to the Mattole River (CDFW 2021). Steelhead are an anadromous fish with unique and complex life histories. They spend most of their adult lives in the ocean and return to freshwater streams and rivers to spawn (CalFish 2018). They spawn in cobble or gravel bottom streams with cold, highly oxygenated water, from December through April. The majority of adult steelhead die after spawning, though some return to the ocean and may spawn for multiple years (NMFS 2016). Fry and juveniles inhabit pools and riffles in the streams while they grow, typically emigrating to the ocean after one to three years (CalFish 2018, NMFS 2016). Coastal lagoons and estuaries are also important in the lifecycle of a steelhead, as they provide transitional habitat between freshwater and saltwater environments (NMFS 2016).

Potential Project Impacts

The Mattole River is an incredibly important waterway for the northern California summer-run steelhead as it is the southernmost extent of their range. They use many tributaries to the Mattole as spawning grounds. The Mattole River, McGinnis Creek and Conklin Creek are all designated critical habitat for this species. Any in-stream or riparian corridor activities (including installation of in-stream large woody debris by helicopter in McGinnis Creek). However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Adoption of SPRs BIO-1, BIO-2, BIO-10, SPR HYD-4, and MM BIO-2a will bring the potential impacts to a less than significant level. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.2.5 Humboldt Marten

The Humboldt marten (*Martes caurina humboldtensis*) is listed as a Federally Threatened and State Endangered species. The Humboldt marten is a permanent resident of the North Coast region. Its optimal habitats are mixed evergreen forests with more than 40% crown closure with large trees and snags. They are mostly carnivorous, predating mostly on small mammals such as tree squirrels, mice, shrew, rabbits, and hares. From spring through autumn they eat birds, insects, and fruits. They will also eat fish and forage along the edge of the water (Haley 1975). While hunting, individuals may travel up to 15 miles in a single night. The nearest documented occurrence of the Humboldt marten is 12.8 miles east of the Study Area.

For cover they will use crevices in rocky areas, caves, abandoned animal burrows, as well as cavities in logs, stumps, trees, and snags. The nests are located within cavities they use as dens. They breed during the summer and have a gestation period of 220-290 days (Maser et al. 1981).

Most litters are born in March and April with some as late as June. They have one litter per year which will contain 1-5 young. The young will stay with the mother until autumn where they will then begin their solitary life.

Potential Project Impacts

Project activities such as mechanical thinning and broadcast burns could potentially impact breeding dens of this species resulting in take of young. The Treatment Area contains suitable habitat for the Humboldt marten to create dens. Adoption of SPR BIO-1, BIO-2, BIO-10, and MM BIO-2a will bring the potential impacts to a less than significant level. Incorporation of the above-listed SPRs and Mitigation Measures would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3 Non-listed Special-Status Animal Species

6.3.1 Foothill Yellow-legged Frog

The foothill yellow-legged frog (*Rana boylii*) (FYLF) is listed as a CDFW Species of Special Concern. Foothill yellow-legged frogs prefer partly shaded, shallow streams and riffles with a rocky substrate that is at least cobble-sized. They occur in streams and rivers in woodlands, chaparral, and forest habitats (Stebbins 2012). In their 1989 study, Hayes and Jennings found that all sites at which post-metamorphic and larval FYF were recorded were ≤0.6m in average water depth. They also found that FYF were recorded significantly more frequently at sites with >40% riffle area than at sites with a riffle area of ≤40%. FYF diet consists of a wide variety of invertebrates such as flying, terrestrial, and aquatic insects, snails, spiders and grasshoppers. Tadpoles are known to graze the surfaces of rocks and vegetation consuming algae and detritus (Ashton et al. 1998).

Breeding occurs between mid-March to early June after high water of streams subsides (Stebbins 2012). Unlike other rain frogs, mating and egg-laying occur exclusively in rivers and streams, not in ponds or lakes. Small clusters of eggs are deposited on the downstream sides of rocks in shallow slow-moving water. Eggs hatch within 5-37 days depending on water temperature. Larvae remain close to the egg mass for about one week after hatching, and will take between 3-4 months to metamorphose, typically between July-October. Once metamorphosed, frogs typically migrate upstream of their hatching site (Fuller and Lind 1992). Adult breeding migrations appear to be limited to modest movements along stream corridors (Ashton et al. 1998), but the magnitude of such movements, any seasonal component, and differences between sexes remains largely unknown.

Potential Project Impacts

Conklin Creek has documented records of foothill yellow-legged frog presence. McGinnis Creek and other small drainages within the Study Area provide suitable habitat for this species. Uplands

around Conklin and McGinnis Creeks could provide dispersal habitat during the rainy season (November – May). Because this species could be present within a variety of different habitats throughout the treatment areas while dispersing, there is no feasible way to avoid all potentially suitable habitat for these species. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-9, BIO-10, HYD-4, GEO-1, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.2 Pacific Tailed Frog

The Pacific tailed frog (*Ascaphus truei*) is listed as a CDFW Species of Special Concern. This species prefers cold water streams that flow year-round in steep-walled valleys with dense vegetation. They occur in conifer-dominated habitats such as redwood, Douglass-fir, Klamath mixed-conifer, and ponderosa pine forests. They are more frequently found in mature, late-successional stands than in younger stands (Jennings and Hayes 1994). During the day, adults will seek cover under rocks and logs that are submerged. They will occasionally be found under surface objects that are close to the stream. Adults primarily forage terrestrially along stream banks but occasionally feed underwater. They will eat larval and adult insects, other arthropods, and snails (Metter 1964). Breeding occurs underwater throughout April to October. Eggs are laid several months later in masses attached to the underside of rocks (Nussbaum et al. 1983). Eggs will typically hatch after a month of being laid. The aquatic larvae require 2 to 3 years to metamorphose, which typically occurs in fall (Nussbaum et al. 1983)

Potential Project Impacts

Because this species could be present within a variety of different habitats throughout the treatment areas, there is no feasible way to avoid all potentially suitable habitat for these species. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-9, BIO-10, HYD-4, GEO-1, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.3 Red-bellied Newt

The red-bellied newt (*Taricha rivularis*) is listed as a CDFW Species of Special Concern. Its range includes Lake, Sonoma, Humboldt, and Mendocino Counties. It spends the dry season underground in old root channels and during the winter it takes advantage of the rains and migrates to streams and creeks. It can be found throughout valley-foothill woodlands, hardwood-conifer, montane hardwood, and mixed conifer forests. During their seasonal migration they have been

known to migrate over a mile to and from the stream in which they breed. Their migration is sparked by rainfall. Males will typically arrive at the breeding site before females during the month of February. Throughout March and April females will lay multiple egg clusters each with 6-16 eggs on the underside of rocks (Behler and King 1979). Females will breed on average every three years (Hedgecock 1978). Their defense mechanism is poisonous skin secretions that repel most of their predators. The poison is found throughout the skin, blood, muscles, and eggs (Calherps 2023).

Potential Project Impacts

The red-bellied newt may be present in creek corridors, riparian habitats, as well as upland habitats within the Study Area. Because this species could be present within a variety of different habitats throughout the treatment areas, there is no feasible way to avoid all potentially suitable habitat for these species. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-9, BIO-10, HYD-4, GEO-1, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.4 Southern Torrent Salamander

The southern torrent salamander (*Rhyacotriton variegatus*) is listed as a CDFW Species of Special Concern. It is found in wet coastal forests of northwestern California south to Point Arena in Mendocino County (Jennings and Hayes 1994). The southern torrent salamander occurs in cold watered permanent streams that are well shaded. They also occur along seepages in shady coastal habitats such as redwood, Douglas-fir, mixed conifer, montane riparian, and hardwood-confer forests (Stebbins 1951, Anderson 1968). Their elevation range is broad and ranges between sea level and 1,200 meters (Jennings and Hayes 1994). The southern torrent salamander will feed on small insects and spiders. Mating will occur throughout an extended period between October and July, peak egg laying occurs in spring or early summer (Nussbaum and Tait 1977). Clutch sizes range from 2-16 individuals.

Potential Project Impacts

Because this species could be present within a variety of different habitats throughout the treatment areas, there is no feasible way to avoid all potentially suitable habitat for these species. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-9, BIO-10, HYD-4, GEO-1, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.5 American Peregrine Falcon

The American peregrine falcon (*Falco americanus anatum*) is considered a Fully Protected species by the CDFW. The American peregrine falcon is a large bird of prey that features a dark head with a pale throat, a blue-slate neck and back, and a pale breast and belly with dark bars. Immature birds are browner than adults with strong brown streaking on the breast and belly. There are three subspecies that occur within North America, but *Falco peregrinus anatum* is the only subspecies that breeds in California (Mitchell 2000). American peregrine falcons are known to occur throughout California. Their breeding range occurs along the length of the coast and, less frequently, on the east side of the Sierras (Comrack and Logsdon 2008). American peregrine falcons prefer to breed near water with vertical nesting sites such as cliffs, steep banks, and ledges. They tend to establish territories near abundant food sources, which primarily consist of birds, though small mammals may also be consumed. Some of the American peregrine falcon populations occurring in California are migrants, while others are year-round residents (ibid). The peregrine falcon was delisted from its status as federally and state endangered in 2008, but remains classified as a sensitive species by the California Department of Forestry, and is fully protected by the State and is listed as a USFWS bird of conservation concern. The main threats to the species include pesticide consumption which reduces reproductive success by thinning eggshells and poisons birds, and habitat degradation from urban development (ibid).

Potential Project Impacts

The Study Area contains suitable sites for nesting habitat. The mechanical and manual thinning as well as the installation of large woody debris by helicopter could cause an adult to abandon its nest, resulting in the take of chicks or eggs of this species. Ultimately, this project is expected to increase the quality of nesting and foraging habitat for this species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2a will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is considered a Fully Protected species by the CDFW. In the past 50 years, Cooper's hawks' breeding numbers have decreased due to the degradation and destruction of their nesting habitat, in addition to bioaccumulation of pesticides (Grindrod and Walton, Polite 1988). Cooper's hawks tend to nest in deciduous trees, around 20-50 feet above the ground. Cooper's hawks nest in dense stands of pines, oaks, Douglas-firs, and other large trees, often next to streams, rivers, creeks, or other riparian habitat. They are also commonly found in wooded suburban areas (including parks, quiet neighborhoods, fields, and busy streets with sufficient tree cover). Cooper's hawks often prefer more patchy stands of trees for perching (Polite 1988).

Potential Project Impacts

The large trees, particularly the riparian-associated trees within the Study Area offer potential nesting habitat for this species. The mechanical thinning, manual thinning, and placement of large woody debris by helicopter could cause this species to abandon its nest leading to take of chicks or eggs. Ultimately, this project is expected to increase the quality of nesting and foraging habitat for this species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-4, BIO-10, and MM BIO-2a will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.6 Great Blue Heron

The great blue heron (*Ardea herodias*) is listed as a Sensitive Species by the California Department of Forestry & Fire Protection. Great blue herons are threatened by human disturbance of nesting sites, in addition to habitat degradation and pesticide use. Great blue herons exist throughout California yearlong and are generally non-migratory birds. Great blue herons hunt in freshwater wetland habitat by wading deep into the water and striking. They prefer to nest in high treetops adjacent to rivers, wetlands or other feeding areas that would contain shallow water with a substantial supply of fish and other prey. Great blue herons are often found nesting in mixed colonies with great egrets. (Granholm 1988).

Potential Project Impacts

Wetland habitat along the Mattole River and tributaries within the Study Area may provide suitable locations for foraging and nesting. If project activities occur within the nesting season, great blue herons could be harmed, or active nests could be abandoned. Ultimately, this project is expected to increase the quality of nesting and foraging habitat for this species. Therefore, with the inclusion of SPRs BIO-1, BIO-2, BIO-4, BIO-12, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.7 Great Egret

The great egret (*Ardea alba*) is listed as a Sensitive Species by the California Department of Forestry & Fire Protection. The great egret is a yearlong resident of California everywhere except in the mountains and deserts. They can be found nesting in large trees isolated from human activity but also close to wetlands they require for foraging (Custer and Osborn 1978). They will feed in fresh, and saline wetlands along the margins of estuaries, slow-moving streams, and lakes. They can also be found in irrigated croplands such as rice fields and pastures. When foraging they stand motionless or slowly stalk their prey, rapidly striking when given the chance (Kushlan 1976). They will nest from March to July. Clutch sizes range from 2-6 individuals. Eggshell thinning from pesticides has been a major contributor to lack of successful breeding (Ives 1972).

Potential Project Impacts

The creeks within the Study Area may provide wetland foraging habitat for this species. Ultimately, this project is expected to increase the quality of foraging habitat for this species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-4, BIO-12, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.8 Golden Eagle

Golden eagles (*Aquila chrysaetos*) are a Fully Protected species. They are the largest raptors in North America, are brown birds with golden feathers around the neck. They have a powerful beak and claws for snatching prey. Their wings are broad like those of a Red-tailed Hawk, but longer, with a wingspan ranging from six to eight feet in length.

Golden eagle pairs maintain territories that can be as large as 60 square miles. They typically nest in high places including cliffs and tall trees. They build large nests, which they may return to in subsequent breeding years. The timing of mating and egg-laying for golden eagles is variable depending on locality. Females lay one to four eggs, and both parents incubate them for 40 to 45 days. Golden Eagles nest and forage in a variety of habitats and have large home ranges. Habitat preferences are for rolling hills, grasslands, chaparral, and oak woodlands. They prey on small mammals, other birds, and reptiles.

Populations have undergone slight declines because of human disturbance, habitat loss and loss of prey. Current populations seem to be relatively stable.

Potential Project Impacts

Grasslands within the Study Area provide suitable foraging habitat and the large trees present may provide suitable nesting habitat. If project activities commence during nesting/breeding season, nesting Golden Eagles could be harmed or active nests could be abandoned. Ultimately, this project is expected to increase the quality of nesting and foraging habitat for this species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-4, BIO-10, and MM BIO-2a will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.9 Sharp-shinned Hawk

The sharp-shinned hawk (*Accipeter striatus*) is on the CDFW Watch List. It is a migrant to California, spending its time here in the winter. They prefer to roost in high-canopy forests. They will breed in Jeffrey pine, mixed conifer, riparian deciduous, ponderosa pine, and black oak habitats. Nests are usually found in dense pole and small tree stands of conifers. Preferably well shaded, cool, moist areas with little ground cover that are close to water. They will breed from April through August. Clutch averages are 4-5 eggs. Males will hunt and bring food to females and young. They feed mostly on small birds but will also eat small mammals, insects, reptiles, and

amphibians. Their hunting strategy is to perch and suddenly dart out to surprise its prey. They also preform low gliding flights in open areas such as edges of woodlands, brushy pastures and shorelines wherever migrating birds are found.

Potential Project Impacts

Coniferous forests of the Study Area provide suitable habitat for this species to reside. If project activities commence during the breeding season of the Sharp-shinned hawk, it could result in take of this species. Ultimately, this project is expected to increase the quality of foraging habitat for this species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-4, BIO-12, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.10 Pacific Lamprey

Pacific lamprey is a CDFW Species of Special Concern. Pacific lamprey spend the majority of their lives in the Pacific Ocean. Adults migrate to freshwater rivers and streams to spawn. Juveniles will spend 3-7 years in freshwater as a larval stage, known as ammocoetes, where the reside in the substrate and filter feed on detritus, diatoms, and algae (Hammond 1979). Adults are parasitic on fish and smooth skinned marine mammals, attaching and feeding on body fluids and blood (Goodman and Reid 2012). They face a variety of threats, including artificial barriers to migration, entrainment of migrating juveniles, desiccation of stream habitat, poor water quality, predation of native or non-native species, dredging, and loss of estuarine habitat (Goodman and Reid 2012).

Potential Project Impacts

The Mattole River watershed is known to support Pacific lamprey (CNDDB 2023). If construction activities affect water quality, Pacific lamprey could be impacted. Ultimately, this project is expected to increase the quality of habitat for this species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-4, HYD-4, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.11 Western Bumble Bee

Western bumble bee (*Bombus occidentalis*) is a candidate for State Endangered status. Western bumble bee was historically common throughout the western United States, from California to southern British Columbia in Canada (Williams et al. 2014). In California, western bumble bee is primarily found in the coastal and Sierra Nevada mountain ranges, but not in the Central Valley. The species is now mostly restricted to high elevation Sierra Nevada (Xerces Society 2012) and a few coastal locations (Xerces Society et al. 2017).

Western bumble bees nest in underground cavities such as old animal burrows or animal nests, although a few nests have been observed above ground such as in log cavities, in areas bordered

by trees (Macfarlane et al. 1994). They nest, forage, and overwinter in meadows and grasslands with abundant flowers (Williams et al. 2014). The biggest threats to western bumble bee are habitat loss and degradation, fungal pathogens, pesticides, disease, competition with non-native bees, and climate change (CDFW 2019).

Potential Project Impacts

Habitat for western bumblebee is present in open grasslands within the Study Area. Ultimately, this project is expected to increase the quality of habitat for this species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2g will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.12 American Badger

A member of the weasel family, Mustelidae, the American badger (*Taxidea taxus*) is a heavy bodied, short-legged, grayish mammal that features a white medial stripe from its nose over the top of the head and down its back. The species occurs in a variety of open, arid habitats throughout much of western North America, but are most commonly associated with grasslands, savannas, and open scrub along low to moderate slopes (Stephenson and Calcarone 1999). In California, the species is an uncommon, permanent resident throughout most of the state, with the exception of the North Coast area (Grinnell et al. 1937). Badgers require friable soils for digging burrows and their presence can often be determined by the presence of burrows with large openings. A Badger den may approach 30 ft. in length and have a 1 ft. diameter. A sizeable pile of excavated earth can often be found to one side of the burrow entrance.

Badgers are carnivorous and feed primarily on small rodents but also consume reptiles, insects, birds and bird eggs, and carrion (Ahlborn 2005). Their stout bodies, powerful forelimbs, and long curved claws allow badgers to capture their prey in burrows. When not actively foraging, individuals tend to retreat to their den/burrow. Individuals, especially males, are known to occupy relatively large home ranges, from approximately 480 to nearly 3,000 acres (Quinn 2008). The species is considered ferocious and has relatively few predators, though coyotes and golden eagles are known to occasionally prey upon them.

Badgers are solitary except during breeding the between July and August. Interestingly, embryos do not begin to grow until December or February. In March, females will give birth to 1-5 babies in underground nests lined with grass.

American Badgers are listed as a species of special concern by the CDFW due to population decline. The primary threat to the American badger is habitat conversion, as much of its habitat has been lost to agriculture and urban development. Other threats include heavy traffic volume (which leads to road kills), indiscriminate trapping and poisoning, and a reduction in prey base as a result of rodent control (Ahlborn 2005). The species has experienced significant population declines over the past century, particularly in southern California (Williams 1986).

Potential Project Impacts

Project activities such as mechanical thinning and broadcast burns could potentially impact this species. The treatment area provides suitable habitat for this species to den. The inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.13 Fisher

The fisher (*Pekania pennanti*) is listed as a Species of Special Concern by the CDFW. They are solitary creatures that occur in coniferous forests and riparian habitats that have dense canopy closure (Schempf and White 1977). They use shelter provided by slash or brush piles as well as cavities in trees, snags, logs or large rocks. They use dens in cover described above for reproduction. Young are born from February through May. Litter sizes average 1-4 individuals. The young will remain with the female until late autumn where they will then go their own way. Fishers are mostly carnivorous. They eat rabbits, hares, and rodents such as porcupines, squirrels, and mice. They will also eat birds and fruits during certain times of the year. They are opportunistic feeders that search for small mammals to prey on.

Potential Project Impacts

Project activities such as mechanical thinning and broadcast burns could potentially impact this species. The inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.14 North American Porcupine

The north American porcupine (*Erethizon dorsatum*) is given the status of Least Concern from the International Union for Conservation of Nature. The north American porcupine can be found in montane-conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats (Dodge 1982). They require a forest that has a good understory of herbs, grasses, and shrubs. For cover they will use caves, large rock crevices, hollow logs, and burrows of other animals. If other sites are unavailable, they will use dense foliage in trees (Taylor 1935, Woods 1973, Thomas 1979). This species will make seasonal migrations between habitats it uses during summer and forests that it uses during winter (Woods 1973). Breeding occurs during the winter, and they give birth to young from April to May. They give birth to a single individual, with few possible instances of twins (Dodge 1982). During the spring and summer they will feed on herbs, shrubs, fruits, leaves and buds. Throughout the winter their diet will mostly consist of twigs, bark, and the cambium layer of various trees.

Potential Project Impacts

Project activities such as mechanical thinning and broadcast burns could potentially impact this species. The inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.15 Sonoma Tree Vole

The Sonoma tree vole (*Arborinus pomo*) is listed as a Species of Special Concern by the CDFW. They are distributed along the North Coast from Sonoma County to the Oregon border. The Sonoma tree vole prefers habitats of old growth and large stand forests composed of Douglas-fir, redwood, and montane-conifers. They are mostly restricted to the fog belt. Males will build a nest in the tree composed of fir needles, less commonly will they nest in burrows at the base of the tree. Females spend most of their lives in the tree, creating large, domed nursery nests out of fir needles. Nests can be used by multiple generations, each generation contributing it, making it larger (). They will mostly breed from February to September but can breed year-round. Litter sizes range from 1-4 individuals. They are capable of having multiple litters per year. They are specialist feeders that consume needles of Douglad-fir and grand fir. Needles are collected during the night and can be eaten on the spot or brought back to the nest. They will remove the resin ducts from the fir needles and eat the remaining part. The resin ducts can be used to line the nest (Maser 1965, Maser et al. 1981).

Potential Project Impacts

Project activities such as mechanical thinning and broadcast burns could potentially impact breeding dens of this species. The treatment area provides suitable habitat for this species. The inclusion of SPRs BIO-1, BIO-2, BIO-10, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.3.16 Western Pond Turtle

Western pond turtle (WPT) (*Emys marmorata*) is a CDFW Species of Special Concern. WPT is declining throughout much of its range due to urbanization, loss of aquatic habitat, and competition and predation from invasive species (Nicholson et al. 2020).

WPT consists of two recently recognized species in the genus *Emys* (family *Emydidae*); some authors alternatively use the genus *Actinemys* (family *Emydidae*). The two recently recognized species are named the northwestern pond turtle (*Emys marmorata*) and the southwestern pond turtle (*Emys pallida*). The southwestern pond turtle ranges from south of the San Francisco Bay along the Coast Range into northern Baja California while the northwestern pond turtle ranges from the Central Valley and Sierra Nevada foothills and north of the San Francisco Bay to

Washington State (Thomson, Wright and Schaffer 2016). For the purpose of this report, the turtles within the Study Area shall be referred to as the western pond turtle (*Emys marmorata*) following the taxonomy used in the California Department of Fish and Wildlife, "Special Animals List" (CNDDB 2023).

WPT is highly aquatic and is California's only native freshwater turtle species. WPT typically basks near water or float or swim through ponds, streams, and rivers, though it may migrate over dry land to locate new habitat, and to lay eggs. This species is diurnal and active in warm weather. It may hibernate in the mud at the bottom of ponds in cold winters, or estivate in mud at the bottom of dry ponds during hot summers. Its diet consists of aquatic plants, invertebrates, worms, frog and salamander eggs and larvae, crayfish, carrion, and occasionally frogs and fish (Stebbins 2012). Female WPT migrate away from aquatic habitat to lay eggs. Preferred oviposition sites are small burrows in friable soils on warm south or west-facing slopes. Breeding occurs in April and May; it typically takes eight to ten years for a turtle to reach reproductive age (Stebbins 2012).

Potential Project Impacts

Suitable WPT habitat is present in the Study Area in and around creeks. Smaller unnamed drainages and their surrounding upland areas may also provide dispersal habitat. Project activities could harm individual turtles if any are present within the uplands or riparian habitats in the Study Area. However, treatment activities, including removal of invasive and nonnative vegetation and fuel load reduction, as well as revegetation with native species and loading of large wood into creek systems are likely to improve habitat for the species. Therefore, the inclusion of SPRs BIO-1, BIO-2, BIO-9, BIO-10, HYD-4, GEO-1, and MM BIO-2b will bring the potential impacts to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.4 Migratory and Nesting Birds

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 704) and the California Fish and Game Code (Section 3503) prohibit the take of migratory birds as well as disturbance to the active nests of most native birds. As stated previously, the trees in the Study Area could support nests of multiple migratory bird species, including raptors. Tree or vegetation removal could result in direct loss of birds protected by the MBTA. Additionally, construction-related noise could result in the abandonment of an active nest in trees adjacent to the Study Area, including potential nests of special-status bird species.

Potential Project Impacts

If project activities such as mechanical thinning and broadcast burning that occur within the nesting season have the potential to cause harm to nesting birds. SPRs applicable to this impact are BIO-1, BIO-2, and BIO-12. Incorporation of the above-listed SPRs would bring the potential

impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.5 Sensitive Vegetation Communities

As discussed previously in **Section 4.1**, the Study Area supports sensitive riparian and wetland habitats (**Figure 3**). The Study Area also has potential to support sensitive natural communities such as MCV ranked California brome- blue wildrye prairie (S3/G3), needle grass – melic grass grassland (S3S4/G3G4), bush monkeyflower (S3/G3), Douglas fir – incense cedar forest and woodland (S3/G3), and Douglas fir – tanoak forest and woodland (S3/G3), or various riparian corridors.

Potential Project Impacts

Vegetation treatments could result in direct or indirect adverse effects on sensitive habitats. The inclusion of SPRs BIO-1, BIO-2, BIO-3, BIO-4, and BIO-6 and MMs BIO3-a and BIO-3b would bring the potential impact to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

6.6 Special-status Plant Species

A list of special-status plant and wildlife species with potential to occur within the treatment areas was compiled by completing a review of the California Natural Diversity Database (CNDDB) and California Native Plant Society Inventory of Rare and Endangered Plants of California database records for the 12 U.S. Geological Survey (USGS) quadrangles containing and surrounding the treatment areas (CNDDB 2023; CNPS 2023).

One State listed plant species has potential to occur in the Study Area, leafy reed grass (*Calamagrostis foliosa*, California Rare [CR] and CRPR 4.2).

6.6.1 Leafy reed grass (*Calamagrostis foliosa*)

Leafy reed grass is a California-endemic species belonging to the grass (Poaceae) family. This perennial bunchgrass typically grows to between 30-60 cm tall and blooms between May to August with a dense, narrow inflorescence ranging from 5 to 12 cm in length (Jepson 2021). Lower branches of the inflorescence are less than 4 cm in length. Each spikelet is encased in symmetrical scabrous glumes 8 to 10 mm in length. The lemma is approximately 5 to 7 mm in length and awned at its base; the awn is 12-15mm in length and exserted 4 to 10 mm beyond the glume tips. The leaves are generally basal with a blade 1-2 mm wide, inrolled and scabrous on its upper surface (Jepson 2021).

Leafy reed grass occurs in coastal bluff scrub and coniferous forests in Northern California (Jepson 2021). It generally prefers rocky habitats (CNPS 2023a). The range of this species is concentrated

in the King Range in Humboldt County, California, with occurrences documented in nearby Mendocino, Siskyou and Del Norte counties.

Leafy reed grass is listed under the California Endangered Species Act (CESA) as Rare. It is classified by the CNPS Rare Plant inventory as California Rare Plant Rank (CRPR) 4.2, which applies to plant species which are of limited distribution or are infrequent throughout California (CNPS 2023a). This species is threatened by grazing, recreation, and development (CNPS 2023a). This species has been documented in the Study Area boundary, approximately 25 feet from the treatment area boundary (USDA 2023, C. Tuday pers. comm.).

Potential Project Impacts

Initial vegetation treatments and maintenance treatments could result in a direct or indirect adverse effects on this species, as well as other special-status plants with potential to occur (**Appendix B**). The inclusion of SPRs BIO-1, BIO-2, BIO-7, GEO-1, GEO-3, GEO-4, GEO-5, GEO-7, HYD-1 and HYD-4 and MMs BIO-1a and BIO-1b would bring impacts to special-status plant species to a less than significant level. This impact of the proposed project is consistent with the PEIR and would not constitute a substantially more severe significant impact than what was covered in the PEIR.

7.0 CONCLUSION

With the application of the above listed SPRs and Mitigation Measures, the Project is expected to have less-than-significant impact on all of the identified special-status species with the potential to occur on the site. These include:

- Five Federally or State listed wildlife species: Northern spotted owl (*Strix occidentalis caurina*), Chinook salmon – California coastal ESU (*Oncorhynchus tshawytscha pop.* 17), Coho salmon (*Oncorhychus kisutch pop.* 2), Steelhead (*Oncorhynchus mykiss irideus pop.* 48), and the Humboldt marten (*Martes caurina humboldtiensis*);
- Seventeen non-listed special-status wildlife species: Foothill yellow-legged frog (*Rana boylii*), Pacific tailed frog (*Ascaphus truei*), red-bellied newt (*Taricha rivularis*), southern torrent salamander (*Rhyacotriton variegatus*), American peregrine falcon (*Falco peregrinus*), Cooper's hawk (*Accipiter cooperii*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), golden eagle (*Aquila chrysaetos*), sharp-shinned hawk (*Accipiter striatus*), Pacific lamprey (*Entosphenus tridentatus*), western bumble bee (*Bombus occidentalis*), American badger (*Taxidea taxus*) Fisher (*Pekania pennanti*), north American porcupine (*Erethizon dorsatum*), Sonoma tree vole (*Arborimus pomo*), and western pond turtle (*Emys marmorata*)Active nests of bird species protected by the Migratory Bird Treaty Act and California Fish and Game Code;
- Ten special-status plant species, including one State Listed species and nine plant species with a California Rare Plant Rank (CRPR) of 1-2: leafy reed grass (*Calamagrostis foliosa*, California Rare [CR] and CRPR 4.2), coast fawn lily (*Erythronium revolutum*, CRPR 2B.2), Pacific gilia (*Gilia capitata* ssp. *pacifica*, CRPR 1B.2), Howell's montia (*Montia howellii*, CRPR 2B.2), seacoast ragwort (*Packera bolanderi* var. *bolanderi*, CRPR 2B.2), white-flowered rein orchid (*Piperia candida*, CRPR 1B.2), and Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*, CRPR 1B.2);
- Sensitive vegetation communities and aquatic resources.

8.0 REFERENCES

Ahlborn, G. 2005. American Badger (Taxidea taxus). California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group. Available online (as of 07/2014) at: http://www.dfg.ca.gov/whdab/cwhr/A043.html.

Almond Alliance of California v. California Fish and Game Commission, 2020. Retrieved online from: https://law.justia.com/cases/california/court-of-appeal/2022/c093542.html

Anderson, J. D. 1968. Rhyacotriton, and R. olympicus. Cat. Am. Amphibians and Reptiles 68.1-68.2.

Behler, J. L., and F. W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred Knopf, New York. 743pp.

CalFish. 2018. Steelhead (*Oncorhynchus mykiss*) Species Page. CalFish: A California Cooperative Anadromous Fish and Habitat Data Program. Available at: https://www.calfish.org/AboutCalFish/AboutCalFish.aspx

California Department of Fish and Wildlife (CDFW). 2021. California Endangered Species Act Status Review for Northern California Summer Steelhead (Oncorhynchus mykiss). A Report to the California Fish and Game Commission. California Department of Fish and Wildlife, 1416 Ninth Street, Sacramento CA 95814. 188 pp., with appendices

CDFW. 2019. Report to the Fish and Game Commission. Evaluation of the Petition from the Xerces Society, Defenders of Wildlife, and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act.

CDFW. 2022. California Natural Communities List. Revised 2022. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609.

CDFW. 2023. California Natural Diversity Database (CNDDB). [Downloaded March 2023].

California Herps (Calherps). Red-bellied newt. Available online as of 04/2023. Available at https://californiaherps.com/salamanders/pages/t.rivularis.html

Custer, T. W., and R. G. Osborn. 1978. Feeding habitat use by colonially-breeding herons, egrets, and ibises in North Carolina. Auk 95:733-743.

California Native Plant Society (CNPS) 1988. Inventory of Rare and Endangered Vascular Plants of California, 4th Edition. Edited by Smith, James Payne, Jr. and Berg, Ken. Sacramento, California.

CNPS 2023a. CNPS Inventory of Rare and Endangered Plants of California. Available online as of April 21, 2023 at https://rareplants.cnps.org/Home/Index/.

CNPS 2023b. Manual of California Vegetation (MCV). 2023. Online version [Accessed March 2023].

Comrack, L.A. and R.J. Logsdon. 2008. Status review of the American peregrine falcon (Falco peregrinus anatum) in California. California Department of Fish and Game, Wildlife Branch, Nongame Wildlife Program Report 2008-06. 36pp + appendices.

Caltrout, 2023. California Coast Chinook Salmon. Available online as of April 21, 2023 at https://caltrout.org/sos/species-accounts/salmon/chinook-salmon/california-coast-chinook-salmon#:~:text=The%20CC%20Chinook%20ESU%20includes,times%20(fall%20through%20spring).

Dodge, W. E. 1982. Porcupine. Pages 355-366 in J. A. Chapman and G. A. Feldamer, eds. Wild mammals of North America. Johns Hopkins Univ. Press, Baltimore, MD. 1147pp.

Eder, Tamara. *Mammals of California.* Lone Pine Publishing International Inc., 2005.

Goodman, D.H. and S.B. Reid. 2012. Pacific Lamprey (Entosphenus tridentatus) Assessment and Template for Conservation Measures in California.

Granholm, S. "Life History Account for Great Blue Heron." California's Wildlife I-III (1988). California Wildlife Habitat Relationships. California Department of Fish and Wildlife. 5 Nov. 2019.

Grinnell, J., J. S. Dixon, and J. M. Linsdale. 1937. Fur-bearing mammals of California. 2 Vols. Univ. California Press, Berkeley. 777pp

Grindrod, P. and Walton, B.J. Bureu of Land Management (BLM). Cooper's hawk. Available at https://www.blm.gov/ca/pdfs/cdd_pdfs/coha.pdf.

Haley, D. 1975. Sleek and savage: North America's weasel family. Pacific Search Books, Seattle, WA. 128pp.

Hammond, R. J., 1979. Larval Biology of the Pacific Lamprey, Entosphenus tridentatus (Gairdner), of the Potlatch River, Idaho. University of Idaho Graduate School.

Hedgecock, D. 1978. Population subdivision and genetic divergence in the red-bellied newt, Taricha rivularis. Evolution 32:271-286.

Ives, J. H. 1972. Common egret and great blue heron nest study, Indian Island, Humboldt County, California. Calif. Dep. Fish and Game, Sacramento. Wildl. Manage. Branch adm. Rep. No. 72-9. 41pp.

Jepson Flora Project (2021). Jepson eFlora. Available online as of October 22, 2021 at https://ucjeps.berkeley.edu/eflora/.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. State of California, The Resources Agency, Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA. 255 pp.

Kushlan, J. A. 1976. Feeding behavior of North American herons. Auk 93:86-94

MacFarlane, R. P., Patten, K. D., Royce, L. A., Wyatt, B. K. W., Mayer, D. F. 1994. Management Potential of 16 North American Bumble Bee Species. Melanderia Vol. 50 pp.1-12

Maser, C. 1965. Life histories and ecology of Phenacomys albipes, Phenacomys longicaudus, and Phenacomys silvicola. M.S. Thesis. Oregon State Univ., Corvallis. 221pp.

Maser, C., B. R. Mate, J. F. Franklin, and C. T. Dyrness. 1981. Natural history of Oregon coast mammals. Pac. Northwest For. And Range Exp. Sta., USDA, For. Serv., Gen. Tech. Rep., PNW-133. 496pp.

Mayer, K., W. Laudenslayer, 1988. A Guide to Wildlife Habitats of California. California Department of Fish and Game.

Metter D. E. 1964. A morphological and ecological comparison of two populations of the tailed frog, Ascaphus truei Stejneger. Copeia 1964:181-195.

Mitchell, W.A., D.E. Evens, and R.A. Fischer. 2000. Riparian raptors on USACE projects: Peregrine falcon (Falco peregrinues), EMRRP Thichnical Notes Collection (ERDC TN-EMRRP-SI-14), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

National Marine Fisheries Service (NMFS). 2016. Final Coastal Multispecies Recovery Plan. National Marine Fisheries Service, West Coast Region, Santa Rosa, California.

Nussbaum, R. A., and C. K. Tait. 1977. Aspects of the life history and ecology of the Olympic salamander, Rhyacotriton olympicus (Gaige). Am. Midl. Nat. 98:176-199.

Nussbaum, R. A., E. D. Brodie, Jr., and R. M. Storm. 1983. Amphibians and reptiles of the Pacific Northwest. Univ. Press of Idaho. 332 pp.

Nicholson EG, Manzo S, Devereux Z, Morgan TP, Fisher RN, Brown C, Dagit R, Scott PA, Shaffer HB. 2020. Historical museum collections and contemporary population studies implicate roads and introduced predatory bullfrogs in the decline of western pond turtles. PeerJ 8:e9248 https://doi.org/10.7717/peerj.9248

Polite, C. "Life History Account for Cooper's Hawk." California's Wildlife I-III (1988).

California Wildlife Habitat Relationships. California Department of Fish and Wildlife. 5 Nov. 2019. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1667

Quinn, J.H. 2008. The ecology of the American badger (Taxidea taxus) in California: assessing conservation status on multiple scales. Ph.D. Dissertation. University of California, Davis, Davis, California. 200 pp.

Schempf, P. F., and M. White. 1977. Status of six furbearer populations in the mountains of northern California. U.S. Dep. Agric., For. Serv., San Francisco, Calif. 51pp.

Stebbins, R. C. 1951. Amphibians of western North America. Univ. California Press, Berkeley. 538 pp.

Stebbins, R. C., and S.M. McGinnis. 2012. Field Guide to Amphibians and Reptiles of California, University of California Press.

Stephenson, J. R. and Calcarone, G. M. 1999. Southern California mountains and foothills assessment: habitat and species conservation issues. General Technical Report GTR-PSW-175. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 402 p.

Taylor, W. P. 1935. Ecology and life history of the porcupine (Erethizon dorsatum) as related to the forests of Arizona and the southwestern U.S. Univ. Ariz. Biol. Bull. 3:1-177.

Thomas, J. W., ed. 1979. Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. USDA, For. Serv., Agric. Handb. No. 553. 512pp.Thomson RC, Wright AN, Shaffer HB. 2016. California Amphibian and Reptile Species of Special Concern. Sacramento: California Department of Fish and Wildlife.

Tuday, C. 2021. Personal Communication

USDA NRCS. 2023 Web Soil Survey website: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx [Accessed April 2023]

United States Fish and Wildlife Service (USFWS). 2011. Revised Recovery Plan for the Northern Spotted Owl (Strix occidentalis caurina). U.S. Fish and Wildlife Service, Portland, Oregon. xvi + 258 pp.

United States Fish and Wildlife Service (USFWS). 2023. Environmental Conservation Online System - Information for Planning and Consultation (IPaC). Website https://ecos.fws.gov/ipac/ [Report Generated March 2023].

United States Forest Service [USFS]. 2018. Existing Vegetation - CALVEG, [ESRI geodatabase]. McClellan, CA: USDA-Forest Service, Pacific Southwest Region. EVMid_R05_NorCoastWest.

Woods, C. A. 1973. Erethizon dorsatum. Mammal. Species No. 29. 6pp.

Williams, D.F. 1986. Mammalian Species of Concern in California. California Department of Fish and Game Report 86-1. Sacramento, CA: California Department of Fish and Game.

Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. (2014). Guide to the bumble bees of North America. Princeton University Press. 208 pp.

Xerces Society. 2012. Database of records from Bumble Bee Citizen Monitoring Project (2008-2012). Maintained by Rich Hatfield, Xerces Society. Unpublished.

Xerces Society, Wildlife Preservation Canada, York University, The Montreal Insectarium, The London Natural History Museum, BeeSpotter. 2017. Data accessed from Bumble Bee Watch, a collaborative website to track and conserve North America's bumble bees; [cited 2017 Feb 22]. Available online at: http://www.bumblebeewatch.org/app/#/bees/lists

Xerces Society, Monarch Joint Venture, USFWS. 2021. The Western Monarch Count. Website https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/)

Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

APPENDIX A:

REPRESENTATIVE PHOTOGRAPHS

OF THE STUDY AREA

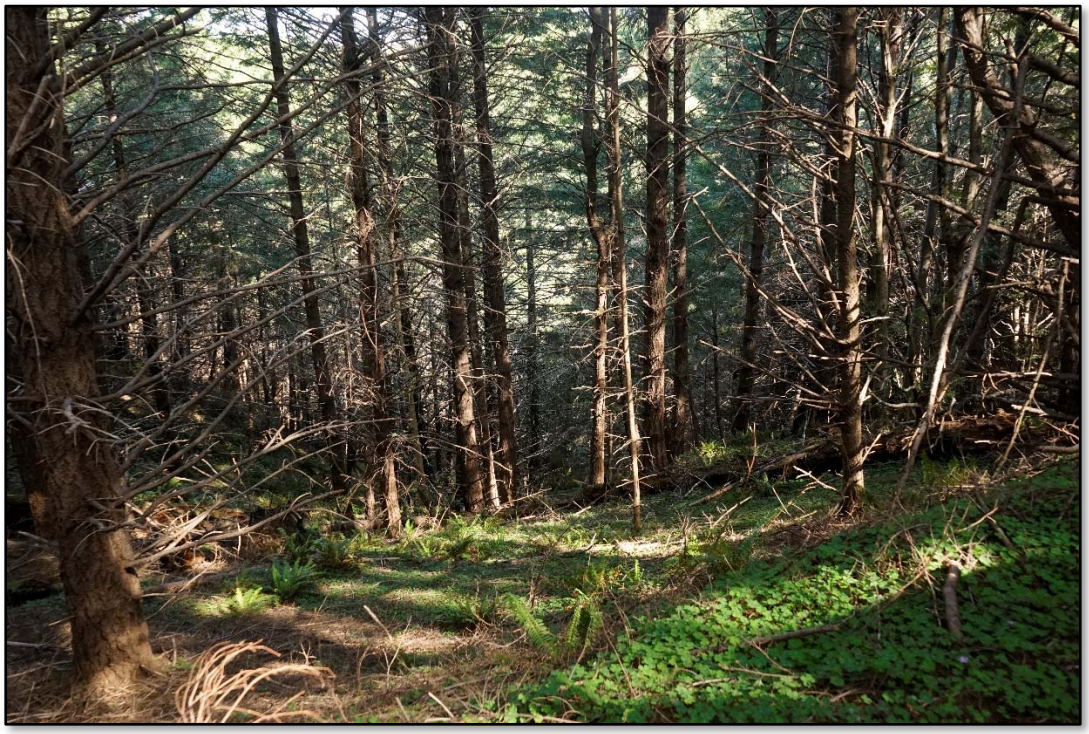
(Recorded April 26, 2023)

Representative Photographs of the Study Area

Woody debris in McGinnis Creek.

Open grassland habitat along hilltop.

Representative Photographs of the Study Area



Coniferous forest in need of thinning.

Valley of the Mattole River.

APPENDIX B:

SPECIAL-STATUS SPECIES TABLES

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Amphibians			
Foothill yellow-legged frog *Rana boylii*	SSC	Prefer partly shaded, shallow streams and riffles with a rocky substrate. They occur in streams within woodlands, chaparral, and forest habitats. Mating and egg laying occurs exclusively in rivers and streams, not in ponds or lakes.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The closest CNDDB occurrence is 100 feet from the Study Area. Conklin Creek is known to provide suitable breeding grounds. Lower reaches of McGinnis Creek provides suitable habitat.
Pacific tailed frog *Ascaphus truei*	SSC	Prefer rocky streams in wet forests with continual flow and cold, clear water. Streambanks with logs, gravelly seeps, and small boulders are required for egg laying. Sediment free cobble substrate is required for tadpoles.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The smaller order streams with closed canopies are likely to provide the best habitat for this species.
Red-bellied newt *Taricha rivularis*	SSC	They are found within coastal woodlands and the redwood forests of northern California. They dwell among slow moving streams and rivers. Reproduction is aquatic and requires clean cobbly streams and rocky rivers.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. Most likely to occur within the lower reaches of McGinnis Creek.
Southern torrent salamander *Rhyacotriton variegatus*	SSC	Prefers waterfalls and seepages, as well as shallow, cold, clear, well shaded streams within old-growth forests. Usually found in contact with the water but occasionally among riparian vegetation.	**Potential to Occur (high).** Multiple small streams with suitable habitat are present within the Study Area. The smaller order streams with closed canopies are likely to provide the best habitat for this species.
Birds			
American peregrine falcon *Falco peregrinus*	FP	Prefer to breed near water with vertical nesting sites such as cliffs, steep banks, and ledges.	**Potential to Occur (high).** Suitable habitat of steep banks are found within the Study Area.
Cooper's hawk *Accipiter cooperii*	WL	Birds of the forest and woodlands. They prefer to nest in trees on flat ground and within dense woods. Nests are usually found two-thirds of the way up a tree.	**Potential to Occur (high).** Suitable forest habitat present within Study Area. Closest documented CNDDB occurrence is 1.89 from Study Area.
Great blue heron *Ardea herodias*	S	Live in freshwater and saltwater wetlands and estuaries. They forage in wetlands, grasslands, and agricultural fields where they will stalk small mammals and frogs. They nest in colonies and will nest mainly in trees and shrubs but occasionally on the ground.	**Potential to Occur.** McGinnis and Conklin creek could provide wetland habitat used for foraging.
Great egret *Ardea alba*	S	Live in and around freshwater, brackish, or marine wetlands. They nest in colonies found in trees or shrubs found on lakes, ponds, marshes, or estuaries.	**Potential to Occur.** McGinnis and Conklin creek could provide wetland habitat used for foraging.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Golden eagle *Aquila chrysaetos*	WL, FP, USFWS: BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff- walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Potential to Occur.** Tall forests of Douglas-fir may provide suitable nesting habitat. Open fields surrounding Study Area provide potential foraging habitat. Closest documented CNDDB occurrence is 0.78 miles from Study Area.
Northern spotted owl *Strix occidentalis caurina*	FT, ST	Dense blocks of mature, multi-layered forests of mixed conifer, redwood, and Douglas-fir habitat.	**Documented.** Multiple occurrences of Northern spotted owls have been documented within the Study Area.
Marbled Murrelet *Brachyramohus marmoratus*	FT, SE	Nests in old-growth conifer forests near the ocean. Forages near shorelines but also far offshore.	**Not expected.** The Study Area does not contain any old growth trees that could be used as nesting habitat, and is outside critical habitat.
Sharp-shinned hawk *Accipiter striatus*	WL	Require dense forest with a closed canopy for breeding. Prefer to use conifers for nesting sites. Nest is placed within dense forest cover, usually towards the top of the tree.	**Potential to Occur (high).** Forest habitat within the Study Area could provide suitable nesting grounds.
Western snowy plover *Charadrius nivosus nivosus*	FT	Coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creed and river mouths, and salt pans at lagoons and estuaries.	**Not expected.** The Study Area does not provide coastal dune habitat.
Yellow-billed cuckoo *Coccyzus americanus*	FT, SE	Nests in riparian habitat, often nests are placed in willows, at least 3 feet from the ground, with nearby cottonwoods for foraging.	**Not expected.** Study Area is outside of the known range for this species.
Fish			
Chinook salmon – California coastal ESU *Oncorhynchus tshawytscha pop. 17*	FT	Migrate between ocean and freshwater environments, hatch and rear in freshwater environments, migrate to ocean for maturation, return to natal freshwater streams for spawning.	**Potential to Occur (high).** The Mattole River, Conklin, and McGinnis Creek are all designated critical habitat for this species.
Coho salmon – Southern Oregon / Northern California ESU *Oncorhynchus kisutch pop.2*	FT, ST	Migrate between ocean and freshwater environments, hatch and rear in freshwater environments, migrate to ocean for maturation, return to natal freshwater streams for spawning.	**Potential to Occur (high).** Further downstream in the Mattole River there are CNDDB records of Coho salmon presence. Conklin and McGinnis Creek are Designated Critical Habitat for this species.
Pacific lamprey *Entosphenus tridentatus*	SSC	Spend about 1 – 3 years in the ocean and then migrate to freshwater to spawn. Spawn in gravel bottom streams.	**Potential to Occur (high).** Conklin Creek has documented CNDDB records of being used as a spawning ground for Pacific lamprey. McGinnis Creek could provide suitable habitat.
Steelhead -Northern California DPS summer-run *Oncorhynchus mykiss irideus pop. 48*	FT	Migrate between ocean and freshwater environments, with hatching and rearing in freshwater environments, migration to ocean for maturation, then return to natal freshwater streams for spring.	**Documented.** The Mattole River has documented CNDDB records of steelhead presence. Conklin and McGinnis Creek are Designated Critical Habitat for this species.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Tidewater goby *Eucyclogobius newberryi*	FE	Lagoons with cool brackish water and freshwater input from coastal streams. Shallow open water with emergent vegetation.	**Not expected.** There are no brackish water systems this far upstream the Mattole River.
Insects			
Monarch butterfly *Danaus plexippus*	FC	Roosts in wind-protected tree groves with nectar and water nearby. Overwinters in tall trees in large groups during migration. Preferred trees include blue gum eucalyptus (*Eucalyptus globulus),* Monterey pine *(Pinus radiata),* and Monterey cypress *(Cupressus macrocarpa*). Forages on showy nectar source flowers. Breeds on milkweed *(Asclepias sp.)* plants.	**Not expected.** No suitable habitat present within or around the Study Area.
Western bumble bee *Bombus occidentalis*	SCE	Nest in underground cavities or animal burrows. Forage and overwinter in meadows and grasslands with abundant flowers.	**Potential to Occur.** Meadow and grassland habitat is adjacent to the Study Area.
Mammals			
American badger *Taxidea taxus*	SSC	Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.	**Potential to Occur (high).** Open areas in the form of meadows and grasslands are adjacent to the Study Area.
Fisher *Pekania pennanti*	SSC	Solitary creatures that prefer dense coniferous forests. They use abandoned animal dens of squirrels and foxes to rest, sleep and raise their young.	**Documented.** There are multiple CNDDB occurrences within a 5-mile radius of the Study Area. CNDDB records list that fished occur along McGinnis Creek. The Study Area provides suitable habitat in the form of dense coniferous forests.
Long-eared myotis *Myotis evotis*	BLM-S	Coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	**Not expected.** Nearest documented occurrence over 16 miles.
North American porcupine *Erethizon dorsatum*	LC	They will den in caves, rock crevices, hollow logs, and burrows of other animals. Occasionally will den in dense foliage in trees if other sites are not available. Prefers open stands of conifers. During spring and summer they use meadows and riparian habitats for feeding.	**Potential to Occur (low).** The Study Area provides suitable habitat to provide dens. Feeding habitat is directly adjacent to the Study Area.
Townsend's big-eared bat *Corynorhinus townsendii*	SSC	Mesic sites, roosts in open, hanging from walls and ceilings.	**Not expected.** Nearest documented occurrence over 12 miles.
Western red bat *Lasiurus blossevillii*	SSC	Cismontane woodland, roosts primarily in trees that are protected from above and below with open areas for foraging.	**Not expected.** Nearest documented occurrence over 12 miles.

Species	Status	Description of Habitat Requirements	Potential to Occur in Study Area
Humboldt marten *Martes caurina humboldtensis*	FT, SE	Prefer habitats of mixed evergreen forest with more than 40% crown closure. Dens are found in cavities of trees, snags, logs, caves, or abandoned animal burrows.	**Potential to Occur (high).** The Study Area provides habitat of dense mixed evergreen forests that could support dens.
Sonoma tree vole *Arborimus pomo*	SSC	Found within forests but prefers old-growth Douglas-fir or redwood. Nests are constructed in preferably tall trees composed of Douglas-fir needles. They are often situated on a whorl of limbs against the trunk or at the outer limits of the branches.	**Potential to Occur (low).** Suitable habitat in the form of Douglas-fir forests is present within the Study Area. However, large/old-growth trees will be avoided.
Stellar sea lion *Eumetopias jubatus*	SSC	Prefers offshore breeding sites on shale rock, outcroppings, and sometimes on cobblestone or sandy beaches on coastal islands. Requires unrestricted access to water.	**Not expected.** The Study Area does not provide habitat of coastal outcroppings or beaches with ocean access.
Reptiles			
Western pond turtle *Emys marmorata*	SSC	Permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, and reservoirs. Logs, rocks, cattail mats, and exposed banks are required for basking.	**Potential to Occur (low).** Study Area provides suitable habitat of small creeks.

Note: Taxa with potential to occur in the Study Area, based on presence of habitat, are shaded in gray.

[1] Status definitions:

FT – Federal Threatened;
FE – Federal Endangered;
FCE – Federal Candidate Endangered;
ST – State Threatened;
SE – State Endangered;
SCE – State Candidate Endangered;
USFWS: BCC – USFWS Bird of Conservation Concern;
SSC – CDFW Species Special Concern;
FP – CDFW Fully Protected;
WL – CDFW Watch List
S – CDF Sensitive
BLM-S Sensitive
IUCN – LC Least Concern

TABLE B2. Special-status Plant Taxa Documented within the Vicinity of the Study Area

Species highlighted in gray have high potential to occur or have been documented within the Study Area.

Scientific Name **Common Name (Family)**	**FESA/ CESA/ CRPR[1]**	**Habitat, Microhabitat; Elevation (feet); Blooming Period**	**Potential to Occur Within Study Area**
Astragalus pycnostachyus var. *pycnostachyus* coastal marsh milk-vetch (Fabaceae)	--/--/1B.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides); 0-180 feet; (April) June-October	**Not Expected.** The Study Area does not provide suitable habitat for species. The nearest documented CNDDB occurrence is approximately 5.2 miles from the Treatment Area (4.0 miles from the Study Area) and occurs along the coast.
Calamagrostis foliosa leafy reed grass (Poaceae)	--/CR/4.2	Coastal bluff scrub, North Coast coniferous forest, Rocky; 0-4,005 feet; May-September	**Documented.** The Study Area contains North Coast coniferous forest. This species has been documented within the Study Area, approximately 25 feet from the Treatment Area boundary.
Castilleja litoralis Oregon coast paintbrush (Orobanchaceae)	--/--/2B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Sandy; 50-330 feet; June	**Not Expected.** The Study Area does not provide suitable habitat for species. The nearest documented CNDDB occurrence is approximately 3.7 miles from the Study Area (4.6 miles from the Treatment Area) and occurs along the coast.
Erysimum concinnum bluff wallflower (Brassicaceae)	--/--/1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie; 0-605 feet; February-July	**Not Expected.** The Study Area does not provide suitable habitat for species. The nearest documented CNDDB occurrence is approximately 5.9 miles from the Study Area (6.2 miles from the Treatment Area).
Erythronium oregonum giant fawn lily (Liliaceae)	--/--/2B.2	Cismontane woodland, Meadows and seeps, Openings, Rocky, Serpentinite (sometimes); 330-3,775 feet; March-June (July)	**Potential to Occur (low).** Cismontane woodland occurs within the Study Area, though rocky areas are limited. The nearest documented CNDDB occurrence is approximately 3.3 miles from the Study Area (3.5 miles from the Treatment Area).
Erythronium revolutum coast fawn lily (Liliaceae)	--/--/2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest, Mesic, Streambanks; 0-5,250 feet; March-July (August)	**Potential to Occur (high).** Broadleafed upland forest, North Coast coniferous forest, mesic areas, and streambanks occur within the Study Area. The nearest documented CNDDB occurrence is approximately 3.3 miles from the Study Area (3.5 miles from the Treatment Area).

Scientific Name Common Name (Family)	FESA/ CESA/ CRPR[1]	Habitat, Microhabitat; Elevation (feet); Blooming Period	Potential to Occur Within Study Area
Gilia capitata ssp. *pacifica* Pacific gilia (Polemoniaceae)	--/--/1B.2	Chaparral (openings), Coastal bluff scrub, Coastal prairie, Valley and foothill grassland; 15-5,465 feet; April-August	**Potential to Occur (high).** Chaparral and valley and foothill grassland habitats occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.3 miles from the Study Area (2.5 miles from the Treatment Area).
Gilia millefoliata dark-eyed gilia (Polemoniaceae)	--/--/1B.2	Coastal dunes; 5-100 feet; April-July	**Not Expected.** The Study Area does not provide suitable habitat for species. There are no documented CNDDB occurrences within 5 miles of the Study Area.
Hesperevax sparsiflora var. *brevifolia* short-leaved evax (Asteraceae)	--/--/1B.2	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie; 0-705 feet; March-June	**Not Expected.** The Study Area does not provide suitable habitat for species. There are no documented CNDDB occurrences within 5 miles of the Study Area.
Layia carnosa beach layia (Asteraceae)	FT/CE/1B.1	Coastal dunes, Coastal scrub (sandy); 0-195 feet; March-July	**Not Expected.** Coastal scrub occurs within the Study Area, although coastal dunes and sandy soils are not present. The nearest documented CNDDB occurrence of this species is approximately 5.4 miles from the Study Area (3.8 miles from the Treatment Area) and along the coast.
Montia howellii Howell's montia (Montiaceae)	--/--/2B.2	Meadows and seeps, North Coast coniferous forest, Vernal pools, Roadsides (sometimes), Vernally Mesic; 0-2,740 feet; (February) March-May	**Documented.** North Coast coniferous forest occurs within the Study Area. The nearest documented CNDDB occurrence is within the Study Area and is only 223 feet outside the Treatment Area. The HRC documented this species within the Study Area boundary in 2003.
Oenothera wolfii Wolf's evening-primrose (Onagraceae)	--/--/1B.1	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest, Mesic (usually), Sandy; 10-2,625 feet; May-October	**Not Expected.** Lower montane coniferous forest and mesic areas occur within the Study Area, although no sandy soils are present. The nearest documented CNDDB occurrence is approximately 4.8 miles outside the Study Area and Treatment Area, and occurs along the coast.
Packera bolanderi var. *bolanderi* seacoast ragwort (Asteraceae)	--/--/2B.2	Coastal scrub, North Coast coniferous forest, Roadsides (sometimes); 100-2,135 feet; (January-April) May-July (August)	**Potential to Occur (high).** Coastal scrub and North Coast coniferous forest occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.3 miles from the Study Area (2.6 miles outside the Treatment Area).

Scientific Name **Common Name (Family)**	**FESA/ CESA/ CRPR[1]**	**Habitat, Microhabitat; Elevation (feet); Blooming Period**	**Potential to Occur Within Study Area**
Piperia candida white-flowered rein orchid (Orchidaceae)	--/--/1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Serpentinite (sometimes); 100-4,300 feet; (March-April) May-September	**Potential to Occur (high).** Broadleafed upland forest, Lower montane coniferous forest, and North Coast coniferous forest occur within the Study Area. The nearest documented CNDDB occurrence is approximately 2.7 miles from the Study Area (2.6 miles from the Treatment Area). The HRC documented this species within the Study Area boundary (approximately 700 feet from the Treatment Area boundary) in 2020.
Polemonium carneum Oregon polemonium (Polemoniaceae)	--/--/2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest; 0-6,005 feet; April-September	**Potential to Occur (low).** Coastal scrub and lower montane coniferous forest occur within the Study Area; however, there are no documented CNDDB occurrences within 5 miles of the Study Area.
Rhynchospora globularis round-headed beaked-rush (Cyperaceae)	--/--/2B.1	Marshes and swamps (freshwater); 150-195 feet; July-August	**Not Expected.** The Study Area does not provide suitable habitat for species. There are no documented CNDDB occurrences within 5 miles of the Study Area.
Romanzoffia tracyi Tracy's romanzoffia (Hydrophyllaceae)	--/--/2B.3	Coastal bluff scrub, Coastal scrub, Rocky; 50-100 feet; March-May	**Not Expected.** Study Area does not provide suitable habitat for species and there are no documented CNDDB occurrences within 5 miles of the Study Area.
Sidalcea malviflora ssp. *patula* Siskiyou checkerbloom (Malvaceae)	--/--/1B.2	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest, Roadsides (often); 50-4,035 feet; (March) May-August	**Documented.** North Coast coniferous forest occurs within the Study Area. A documented CNDDB occurrence of this species occurs within the Study Area, and the HRC documented this species within the Treatment Area in 2020.
Sisyrinchium hitchcockii Hitchcock's blue-eyed grass (Iridaceae)	--/--/1B.1	Cismontane woodland (openings), Valley and foothill grassland; 656-1,000 feet; June	**Potential to Occur (low).** Cismontane woodland and valley and foothill grassland occurs within the Study Area; however, there are no documented CNDDB occurrences within 5 miles of the Study Area.

Notes:
Compiled from a CNPS 10-Quad search of the Petrolia and Buckeye Mountain quadrangles and surrounding quadrangles: Cape Mendocino, Capetown, Taylor Peak, Scotia, Bull Creek, Honeydew, Shubrick Peak, and Cooskie Creek. Bloom Periods in Parentheses indicate that the species *occasionally* blooms during that period.

[1]**Rarity Status Codes**:
E = Federally or State listed as Endangered
T = Federally or State listed as Threatened
R = State listed as Rare

CRPR Codes:
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere; CRPR List 1B = Plants rare, threatened or endangered in CA and elsewhere; CRPR 2B = Plants rare, threatened or endangered in California but more common elsewhere; CRPR 3 = More information is needed about plant; CRPR 4 = Plants of limited distribution, a watch list
CRPR: '0.1' = Seriously threatened in CA; '0.2' = Fairly threatened in CA; '0.3' = Not very threatened in CA

Note: Special-status plant taxa designated CRPR 1-2 are included in Table B2; plant taxa designated CRPR 3-4 are excluded from Table B2.

APPENDIX C:

USFWS IPAC SEARCH RESULTS

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Humboldt County, California

Local office

Arcata Fish And Wildlife Office

(707) 822-7201
(707) 822-8411

1655 Heindon Road

1033 Heindon Road
Arcata, CA 95521-4573

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment Martes caurina Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9081	Threatened

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl Strix occidentalis caurina Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

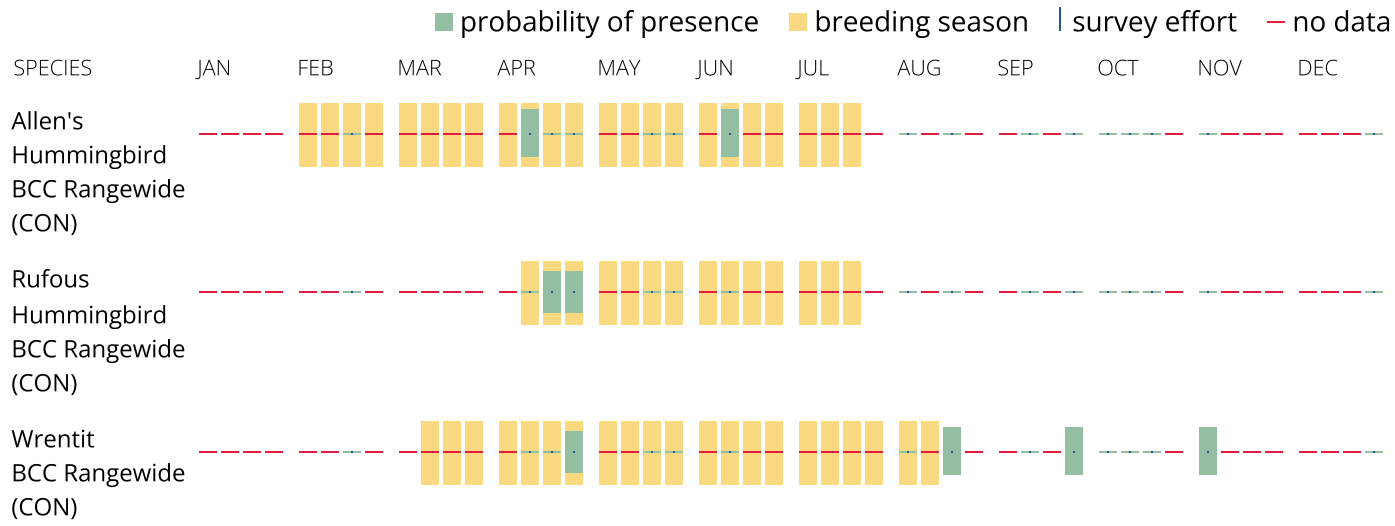
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory

(NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1A

RIVERINE

- R3UBH
- R4SBC
- R4SBA
- R3USA

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.