Initial Study-Mitigated Negative Declaration
for the proposed
South Siskiyou County Hazardous Fuel Reduction Project
Siskiyou County, California
Grant No. DR-4482-454-74R

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MITIGATED NEGATIVE DECLARATION

INTRODUCTION

This Initial Study-Mitigated Negative Declaration (IS-MND) describes the environmental impact analysis conducted for the South Siskiyou County Hazardous Fuel Reduction Project (Proposed Project). This document was prepared for Shasta Valley Resource Conservation District (SVRCD) utilizing information gathered from a number of sources including research, field review of the proposed project area, and consultation with environmental planners and other experts on staff at other public agencies. Pursuant to § 21082.1 of CEQA, the Lead Agency, SVRCD, has prepared, reviewed, and analyzed the IS-MND and declares that the statements made in this document reflect their independent judgment as lead agency pursuant to CEQA. SVRCD further finds that the proposed project, which includes revised activities and mitigation measures designed to minimize environmental impacts, will not result in a significant effect on the environment.

REGULATORY GUIDANCE

This IS-MND has been prepared for SVRCD to evaluate potential environmental effects that could result following approval and implementation of the proposed project. This document has been prepared in accordance with current CEQA Statutes (Public Resources Code §21000 *et seq*.) and current CEQA Guidelines (California Code of Regulations [CCR] §15000 *et seq*.)

An initial study is prepared by a lead agency to determine if a project may have a significant effect on the environment (14 CCR § 15063(a), and thus, to determine the appropriate environmental document. In accordance with CEQA Guidelines §15070, a "public agency shall prepare…a proposed negative declaration or mitigated negative declaration…when: (a) The initial study shows that there is no substantial evidence…that the project may have a significant impact upon the environment, or (b) The initial study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions will reduce potentially significant effects to a less than significant level." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the proposed project will not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report. This IS-MND conforms to these requirements and to the content requirements of CEQA Guidelines § 15071.

PURPOSE OF THE INITIAL STUDY

SVRCD is a party to the work to be performed under this project and as such has assumed authority for oversight of the proposed project as the lead agency under CEQA. The purpose of this IS-MND is to present to the public and reviewing agencies the environmental consequences of implementing the proposed project and to describe the adjustments made to the project to avoid significant effects or reduce them to a less than significant level. This disclosure document is being made available to the public and reviewing agencies for review and comment. The IS-MND is being circulated for public and state agency review and comment for a review period of 30 days as indicated on the ***Notice of Intent to Adopt a Mitigated Negative Declaration*** (NOI). The 30-day public review period for this project began on April 3, 2025, period ends on May 3, 2025.

The requirements for providing an NOI are found in CEQA Guidelines §15072. These guidelines require SVRCD to notify the general public by providing the NOI to the State Clearinghouse for posting, sending the NOI to those who have requested it, and utilizing at least one of the following three procedures:

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

SVRCD has posted the NOI on- and offsite at:

- Dunsmuir Post Office 5530 Dunsmuir Ave, Dunsmuir, CA 96025
- McCloud Post Office 324 Main Street, McCloud, CA 96057
- Mount Shasta Post Office 301 S. Mount Shasta Blvd, Mount Shasta, CA 96067
- Siskiyou County Clerk's Office 411 Fourth Street, Yreka, CA 96097

SVRCD has scheduled publication in the Mount Shasta Herald newspaper for April 9, 2025.

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

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Project Description and Environmental Setting

PROJECT LOCATION

The project includes hazardous fuel reduction on private property within Wildland-Urban Interface (WUI) areas in southern Siskiyou County. The project site consists of three Project Activity Areas (PAAs). The Mt. Shasta PAA includes areas north, east, and south of the City of Mt. Shasta. The Dunsmuir PAA includes areas surrounding and north of the City of Dunsmuir. The McCloud PAA includes areas surrounding the community of McCloud. The locations of the PAAs are included in Figure 1. The Mt. Shasta PAA is shown in Figure 2, the Dunsmuir PAA is shown in Figure 3, and the McCloud PAA is shown in Figure 4.

The acreage, number of parcels, and landowners within each PAA are included in Table 1. The final acreage and number of parcels that receive fuel reduction treatments will be determined based on landowner participation and the environmental, operational, or physical constraints of each parcel. Within the project site, the maximum potential acreage to be treated is 7,000 acres.

Table 1
PAA SUMMARY

Project Activity Area	Maximum Potential Acres	Maximum Potential Acres to be Treated	Maximum Number of Parcels	Maximum Number of Landowners
Mt. Shasta	2,045.7	TBD	248	156
Dunsmuir	5,109.6	TBD	128	55
McCloud	3,830.5	TBD	25	2
Total	**10,985.8**	**7,000**	**401**	**213**

The project will not include work in areas with slopes over 65 percent or in areas with highly erosive soils on slopes greater than 50 percent. In addition, the project will include a 75-foot setback from perennial streams and wetlands and a 50-foot setback from intermittent and ephemeral streams. Prior to project implementation, special treatment zones will be identified for known cultural resources within the project area. Archeological sites will be avoided and not receive treatment. Dredge tailings, public ownership, and areas treated previously by another party will not be included in the project. These constraint areas will be identified and a treatment prescription will be developed for each individual parcel to be treated prior to project implementation.

BACKGROUND AND NEED FOR THE PROJECT

The McConnell Foundation (TMF) has been awarded a wildfire mitigation grant by the California Governor's Office of Emergency Services (Cal OES) to manage hazardous vegetation under the Hazard Mitigation Grant Program (HMGP). The grant will be used to perform hazardous fuel treatments in select locations around the communities of Mt. Shasta, Dunsmuir, and McCloud. The goal of the project is to reduce the risk of wildfire within high-priority WUI areas by reducing hazardous fuels.

The geographic scope of the project was determined by prioritizing the areas where fire prevention activities would have the greatest impact on community safety. Treatment areas were developed with input from CAL FIRE Siskiyou Unit Foresters, The City of Mt. Shasta Fire Chief, the City of Dunsmuir Hazard Mitigation Planner, and U.S. Forest Service (USFS) Fire Personnel. Project selection criteria were based on operational needs, communities at risk, ingress and egress routes, fire history, and risk of ignition.

PROJECT OBJECTIVES

The objective of the project is to reduce hazardous fuel within high-priority WUI areas surrounding Mt. Shasta, Dunsmuir, and McCloud. Hazardous fuel reduction aims to reduce the continuity of fuels outside the defensible space zone in order to prevent surface fires from becoming high-intensity, high-severity crown fires. It involves reducing ladder and surface fuels as well as tree crown density by spacing trees and shrubs vertically and horizontally. The longevity of these measures is improved by increasing the height of overstory trees and allowing larger, mature trees to dominate a greater proportion of sites, thereby shading out and controlling understory fuels.

The fuel treatments will be targeted to reduce fire intensity around communities. Strategically placed fuel treatments not only protect structures and evacuation routes but also can protect the surrounding wildlands from human-caused fires initiated in urban areas. Ecological benefits include controlling undesirable vegetation such as invasive species, improvement of wildlife habitat and rangeland for grazing, and protection of wetlands and riparian corridors.

PROJECT START DATE

Spring 2026 to spring 2027.

PROJECT DESCRIPTION

The proposed treatments include removing ground and ladder fuels, thinning trees to reduce crown closure, removing dead and dying trees, and after-removal activities of applying herbicide to control the future regrowth of unwanted vegetation and maintain an understory canopy without fire-prone fuels. Treatment will focus on reducing vertical and horizontal continuity of fuels; removing competition from small, closely spaced, fire-vulnerable species; and promoting a smaller number of resilient larger trees. Generally, larger living trees will be spaced to a distance of greater than 30 feet.

Both mechanized and manual techniques will be deployed for the removal of fuels. Areas that would be heavily disturbed by equipment or stacked logs would be reseeded with sterile cover crops or mulched with certified weed-free rice straw or wheat straw. Fuel reduction, biomass disposal, herbicide treatment, and site restoration activities are described in greater detail below.

The treatment contractor will conduct the hazardous fuel reduction techniques and biomass disposal method appropriate for each individual parcel. A Preliminary Site Assessment (PSA) will be conducted on each eligible parcel to identify water courses, special-status species and habitat, cultural resources, or any other obstacles to be avoided. An individual treatment prescription will be specified in a Site-Specific Work Plan (SSWP) developed for each parcel based on the findings of the PSA.

HAZARDOUS FUEL REDUCTION

Fuel reduction treatments will be accomplished using mechanized and manual techniques. The mechanized technique will involve the use of heavy machinery and equipment such as track hoes, track chippers, track equipment with masticator heads, and logging equipment. The manual technique will involve the use of hand crews equipped with chainsaws and other field-deployable equipment. The mechanized technique may cover more acreage per day, but its use is limited by slope, access, seasonal consideration, and similar limitations that do not apply to the manual technique. The general contractor(s) or subcontractors will determine which technique or combination of techniques will be appropriate for each PAA following the PSA.

Mechanical Treatment

Mechanical treatment is effective for removing dense stands of vegetation and is typically used in shrub and tree fuel-removal operations. Mechanical treatments are generally the most cost-effective and are the preferred treatments under the project. Mechanical treatments that may be used during the project include:

- Mastication (track, rubber-tire, or skid-steer mounted)
- Logging and skidding (non-commercial)
- Bucket and boom
- Chipping and grinding
- Grubbing of root wads

Manual Treatment
Manual treatment would involve the use of hand tools and hand-operated power tools to cut, clear, or prune herbaceous and woody species. Activities could include the following:

- Removing trees and undesirable species with chainsaws, loppers, or pruners
- Pulling, grubbing, or digging out root systems of undesired plants to prevent sprouting and regrowth
- Hand-piling

Manual treatment typically generates less ground disturbance than mechanical treatment within an equivalent area. Manual treatment will be used in sensitive habitats such as on steeper slopes, within constrained areas (biological), and in areas that are inaccessible to vehicles.

BIOMASS REMOVAL AND DISPOSAL

On properties within the project site owned by commercial timber companies, merchantable timber removed during treatment activities will be decked at specified locations and the commercial timber landowners will presume ownership of the logs. On the remaining properties, licensed timber operators will be responsible for the removal of merchantable timber and transportation to the mill.

Woody biomass generated during treatment activities is anticipated to include:

- Woody debris up to 13 inches in diameter, or vegetation present at an undesired density as determined by a registered professional forester or supervised designee
- Green plant material from thinning and brush residuals
- Cut shrubs, branches, and saplings
- Branches and logs from dead or diseased trees
- Felled trees

Onsite Disposal
Some residual biomass from treatment activities may be left in place for habitat, erosion control, or other purposes. Biomass that is of a size and constitution suitable for chipping may be disposed of onsite to the extent that it is feasible to do so without compromising the objective of reducing fire risk and fuel load. Removed biomass may also be placed in piles and burned. Such biomass will be handled in the following manner:

- Logs and large branches will be cut into pieces (no longer than 6 feet) and used to create small, unobtrusive piles no larger than 3 feet high, 5 feet long, and 4 feet wide. Piles will be separated by different distances depending on slope. The piles will be created in such a manner so as to break down relatively quickly while also preserving habitat for wildlife.

- Logs and large branches will be lopped and scattered.
- Chipped waste will be blown onto the ground as mulch where appropriate in a manner that suppresses invasive plant and weed growth and helps stabilize soil in steep terrain. In no case will chipped material be spread greater than 4 inches deep.
- Biomass will be placed in piles by hand and burned (pile burning) during wet periods of the year. Pile burning will be implemented where other disposal options are not viable, such as steep areas receiving manual treatments or areas where equipment cannot be used. Pile burning would be subject to Siskiyou County Air Pollution Control District and/or CAL FIRE burn permit and Smoke Management Plan requirements.

Material disposed onsite will not be placed in Defensible Space Zones and piling around remaining trees will be avoided.

Offsite Disposal
If onsite disposal or pile burning cannot be used on a property, woody biomass generated by project activities may be chipped, piled, and transported to a biomass facility. The use of this material can provide renewable electricity and potentially biofuels, offsetting the consumption of fossil fuels. Biomass facilities are located in Siskiyou County in Weed and Shasta County in the Anderson and Burney areas. Biomass will be delivered to the nearest facility where economically and contractually feasible to reduce transportation-related emissions

HERBICIDE TREATMENT

Most, if not all, treatment areas will need some level of pre-treatment or post-treatment with herbicide prior to or post fuel removal. A secondary herbicide treatment prescription will be applied where fuel reduction work has been completed. The treatment prescription will be determined by a California Licensed Pest Control Advisor (PCA) and will target the control of fire-prone and invasive vegetation. Treatments will be prescribed by a PCA during periods of the year when species are most vulnerable. These treatments will promote the restoration of native or desired plant communities that reduce the potential for accumulating excessive fuel loads and increased wildfire hazards.

All herbicide applications for this project will be conducted using hand-backpack equipment. Only the following herbicides will be used onsite (unless otherwise specified by a PCA):

- Glyphosate (Rodeo/ Roundup)
- Triclopyr (Garlon 4/Vastlan)
- Imazapyr (Arsenal/Chopper)
- Aminopyralid (Milestone)

For work located between 50 and 200 feet of a wetland or waterbody, herbicides will be restricted to glyphosate-based herbicides that are approved by the EPA for use around water (e.g., Rodeo), per FEMA Best Management Practices.

The use of cut-stump treatment is allowed but is discouraged around residential properties where non-target vegetation may be affected through root-to-root contact.

All work will be conducted by Licensed Pest Applicators. Due to the nature of the project, licensed applicators must have either a *right-of-way* or *landscape certification* (i.e., forestry alone is insufficient).

Glyphosate
Glyphosate, known by the common name of Roundup or Rodeo, is the most commonly used broad-spectrum, non-selective systemic herbicide in the United States. It is categorized as a phosphonomethyl amino acid. Some varieties are also used to control aquatic plants. It kills both broadleaf plants and grasses and works by preventing plants from making certain proteins that they need for plant growth. It is absorbed through the leaves and is translocated throughout the plant. Glyphosate concentrates in the meristem tissue where it stunts growth, malforms and discolors leaves, and causes death. It has very low toxicity to birds and mammals. It is moderately toxic to fish. The typical half-life of glyphosate in soil is 47 days. It is relatively unaffected by light. Surfactants can help improve the efficacy of glyphosate. Colorants and dyes that are agriculturally approved may be added to this product.

Triclopyr
Triclopyr, known by the common names of Garlon 4 and Vastlan, is one of the most commonly used selective systemic herbicides. It is used to control woody and herbaceous broadleaf plants with little to no impact on grasses. It works by mimicking the plant growth hormone auxin, causing uncontrolled and disorganized plant growth and allowing the cell walls to separate leading to vascular tissue destruction and death. Triclopyr is slightly toxic to fish, birds, and mammals. The typical half-life of Triclopyr is 30 days. It degrades readily in the sunlight. The Garlon formulation can be highly volatile and must be applied in cool temperatures with no wind. The Vastlan formulation is more stable and may be used at higher temperatures. A surfactant should be added to increase efficacy.

Imazapyr
Imazapyr, known by the common names of Arsenal and Chopper, is a non-selective herbicide that can control grasses, broadleaves, vines, brambles, shrubs, trees, and riparian emergent species. It is categorized in the herbicide family as imidazolinone and works to inhibit plant growth by preventing the synthesis of branched-chain amino acids. It translocates in the xylem and phloem to meristematic tissues where it inhibits the enzyme required for plant growth. Imazapyr has low toxicity to mammals, birds, fish, or invertebrates but can cause damage if it comes in contact with the eye. The typical half-life of Imazapyr is one to five months. It rapidly degrades in sunlight. Imazapyr is not readily volatile; however, its potential for volatility increases with increased temperatures. A surfactant should be added to increase efficacy.

Aminopyralid
Aminopyralid, also known as Milestone, is a broad-spectrum herbicide used to control noxious, poisonous, and invasive broadleaf weeds – especially thistle and clovers. It is intended for rangeland pastures and non-cropland areas. It is categorized as a pyridine carboxylic acid and provides residual weed control. It works by affecting the growth process and causing uneven cell division when it mimics the plant growth hormone auxin. It disfigures and cracks stems and leaves, killing the plant. Aminopyralid is virtually non-toxic to birds, fish, mammals, and aquatic invertebrates but can cause eye damage if exposure occurs. There are no grazing restrictions with this herbicide. The average half-

life of Aminopyralid in soil is 40 days. It is highly water-soluble and the half-life in water is 15 hours. It is not significantly degraded by sunlight. A surfactant should be added to increase efficacy. Aminopyralid is non-volatile and is considered a *reduced-risk* herbicide by the EPA.

Surfactants
Surfactants are added to herbicides to improve performance and reduce application problems. Surfactants are surface-active agents that aid by increasing the spreading and wetting properties of herbicide liquids. They improve retention and penetration and generally work by reducing surface tensions and increasing the amount of herbicide that reaches the target site. Nonionic surfactants work well with glyphosate, while petroleum oil-based surfactants inhibit glyphosate performance. Oil-based surfactants are more effective for annual grasses or weeds with waxy cuticles. It is important to select the proper surfactant for the particular herbicide. All surfactants are good dispersing agents and have low toxicity to plants and animals.

SITE RESTORATION

Some degree of ground disturbance will be caused by the machinery and equipment that will be used with any mechanized techniques. Disturbance will be addressed to ensure that additional risks (erosion and slope destabilization) do not occur. Grass seeding, slash-packing, or other appropriate erosion-control or slope-stabilization techniques will be deployed on any site where a site inspection determines that disturbance would likely lead to an increased risk of erosion or slope instability. The technique to be used will be site-specific and will be implemented by hand crews in areas that are sensitive to soil stabilization issues. The determination of risk will be based on:

- Exposure of the disturbance
- Soil type disturbed
- The capability of the soil to support germination of grass seeding
- Timeframe (proximity to the rainy season)
- Proximity of the disturbance to a watercourse

PROJECT SCHEDULE

Project activities will be limited to the hours of 6:00 a.m. to 6:00 p.m. during weekdays and 7:00 a.m. to 5:00 p.m. on Saturday and Sunday.

BEST MANAGEMENT PRACTICES

Applicable Best Management Practices (BMPs) are included in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada* (December 2014). The BMPs included in the Environmental Assessment document that are applicable to the project are listed in the Checklist and Discussion section of this document under each resource area. The treatment contractor will be required to adhere to these BMPs as well as Forest Practice Rules where applicable during project implementation.

ENVIRONMENTAL SETTING OF THE PROJECT REGION

The project site includes areas identified as critical areas to control and manage fire in proximity to the communities of Mt. Shasta, Dunsmuir, and McCloud. The project area evaluated in this document includes 10,986 acres and is shown in Figure 1. Within the project site, up to 7,000 acres will receive fuel reduction treatment. Parcels that receive treatment will depend on landowner participation and environmental, operational, or physical constraints.

DESCRIPTION OF THE LOCAL ENVIRONMENT

The project site consists of three Project Activity Areas (PAAs); Mt. Shasta, Dunsmuir, and McCloud. The location of each PAA is shown in Figure 1. Descriptions of the local environment within each PAA are given in this section. Individual PAAs are shown in Figures 2 through 4.

MT. SHASTA PAA

The Mt. Shasta PAA includes parcels north, east, and south of the City of Mt. Shasta as shown in Figure 2. The PAA includes parcels both within the city limits and within unincorporated Siskiyou County. The PAA contains multiple land uses and zoning designations. Parcels within the City of Mt. Shasta within the PAA are zoned General Commercial, Employment Center, Low-Density Residential, and Unclassified. The parcels outside the city limits within unincorporated Siskiyou County are zoned Non-Prime Agriculture District, Town Center District, Highway Commercial District, Neighborhood Commercial, Heavy Industrial, Light Industrial, Planned Development (Light Industrial), Rural Residential Agricultural, Single-Family Residential, Mixed Multiple-Family Residential, Multiple-Family Residential, and Timberland Production District. Zoning Districts within the Mt. Shasta PAA are shown in Figure 5.

Slopes within the Mt. Shasta PAA are generally under 30 percent. Elevations within the PAA range from 3200 to 4600 feet above mean sea level (MSL), with topography sloping from east to west (USGS 2024). Topography within the PAA is shown on Figure 6.

This PAA is located within portions of the Big Canyon Creek-Sacramento River, Cascade Gulch-Mount Shasta, and Wagon Creek 12-digit HUC watersheds (HUCs 180200050102, 180200050201, 180200050102) (USGS 2024). The PAA does not contain any special flood hazard areas and is not within a groundwater basin. Hydrology and FEMA flood zones within and in the vicinity of the PAA are shown in Figure 7. Multiple unnamed streams as well as Cold Creek are located within the PAA boundary.

Mapped California Wildlife Habitat Relationships (CWHR) habitat types within the PAA include Eastside Pine, Montane Chapparal, Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Sierran Mixed Conifer, and small areas of Barren, Annual Grassland, and Urban habitat types. Mapped CWHR vegetation types are shown in Figure 8.

Dominant soil types within the Mt. Shasta PAA are Ponto-Neer complex, 2 to 15 percent slopes; Neer-Ponto stony sandy loams, 15 to 50 percent slopes; and Deetz gravelly loamy sand, 0 to 15 percent slopes (NRCS 2024). The NRCS soil reports for each PAA are included in the attached Biological Resources Assessment.

DUNSMUIR PAA

The Dunsmuir PAA includes areas surrounding the City of Dunsmuir. Most of this PAA consists of forested land used for timber production. The Dunsmuir PAA includes some parcels within the city limits as well as parcels within unincorporated Siskiyou County. Zoning designations within the PAA include Central Mixed Use, Light Industrial, Low-Density Residential, Multiple-Family Residential, Neighborhood Commercial, Non-Prime Agriculture, Planned Development, Rural Residential Agricultural, Single-Family Residential, Timberland Production, and Town Center. Zoning designations within the Dunsmuir PAA are shown in Figure 9.

Slopes onsite vary from flat to very steep. Multiple areas of the PAA will be excluded from treatment under the contract due to FEMA's slope limitations (greater than 65 percent slopes are excluded). The topography within the PAA slopes toward the Sacramento River which bisects the PAA. Elevations range from 2200 to 4900 feet above sea level (USGS 2024). Topography for the PAA is shown in Figure 10.

The PAA is within the Little Castle Creek Sacramento River, Big Canyon Creek-Sacramento River, and Soda Creek 12-digit HUC watersheds (HUC 180200050204, 180200050201, and 180200050202) (USGS, 2024). The PAA contains small portions of special flood hazard areas adjacent to Hedge Creek and the Sacramento River. Hydrology and FEMA flood zones within the Dunsmuir PAA are shown in Figure 11. Portions of multiple tributaries to the Sacramento River including Big Canyon Creek, Hedge Creek, Bear Creek, and Little Castle Creek are located within the PAA, as well as multiple ephemeral and intermittent streams. The Dunsmuir PAA is not within a groundwater basin.

CWHR habitat types mapped within the PAA include Annual Grassland, Barren, Eastside Pine, Mixed Chapparal, Montane Chaparral, Montane Hardwood-Conifer, Montane Hardwood, Ponderosa Pine, Sierran Mixed Conifer, and Urban habitat types. Mapped CWHR habitat types are shown in Figure 12.

Dominant soil types within the Dunsmuir PAA are Kettlebelly, dry-Neuns complex, 30 to 50 percent slopes; Neuns-Kindig complex, 50 to 75 percent slopes; Dunsmuir-Ishi Pishi, deep families complex, 20 to 40 percent slopes; and Dunsmuir family, 15 to 40 percent slopes (NRCS 2025a).

MCCLOUD PAA

The McCloud PAA includes properties surrounding the community of McCloud as shown in Figure 4. Most of the PAA is undeveloped forestland. The zoning designation for most of the PAA is Timberland Production followed by Rural Residential Agriculture. Small portions of the PAA are zoned Heavy Industrial and Limited Industrial. Zoning designations within the PAA are shown in Figure 13.

Elevations within the McCloud PAA range from 3100 to 4500 feet above sea level. Topography within the PAA slopes generally from the northwest to the southeast and is shown on Figure 14.

Most of the McCloud PAA is within the Upper Yét Atwam Creek HUC 12 watershed (HUC12 180200040301). Small portions of the PAA are within the Star City Creek-McCloud River (HUC12 180200040208), Lower Yét Atwam Creek (H12 180200040302), and Soda Creek (HU12 180200050202) subwatersheds. The McCloud PAA includes portions of Yét Atwam Creek, Panther Creek, and numerous tributaries to these creeks. Most of the PAA is within FEMA Zone

X (Areas of Minimal Flooding); however, some areas adjacent to Yét Atwam Creek and Panther Creek within the PAA are mapped as special flood hazard areas. FEMA flood zones and hydrology within the McCloud PAA are shown in Figure 15. The PAA is within the McCloud Area Groundwater Basin (DWR 2019).

CWHR habitat types mapped within the PAA are shown in Figure 16 and include Annual Grassland, Barren, Montane Chaparral, Montane Hardwood-Conifer, Montane Hardwood, Perennial Grassland, Ponderosa Pine, Sierran Mixed Conifer, Urban and Wet Meadow.

Dominant soil types within the McCloud PAA are Neer-Ponto complex, 2 to 30 percent slopes; Ponto sandy loam, 2 to 15 percent slopes; and Kindig-Neuns complex, 30 to 50 percent slopes (NRCS 2025b).

SPECIAL-STATUS WILDLIFE SPECIES

Special-status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the California Department of Fish and Wildlife (CDFW) as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature, consultation with the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (iPAC) database (Project Code 2025-0039946), and a five-mile radius query of the CNDDB.

The habitat and ecological requirements of each special-status wildlife species were evaluated in the Biological Resources Assessment prepared for the project (included as Attachment B) and compared to the CWHR habitat types in, or in the immediate vicinity, of the study area to assess their potential to occur. The BRA determined the following special-status wildlife species have the potential to occur within the project area:

- American goshawk (*Accipiter atricapillus*)
- Yellow rail (*Coturnicops noveboracensis)*
- Black swift (*Cypseloides niger)*
- Willow flycatcher (*Empidonax traillii)*
- American peregrine falcon (*Falco peregrinus anatum)*
- Bald eagle (*Haliaeetus leucocephalus)*
- Osprey (*Pandion haliaetus)*
- Bank swallow (*Riparia ripari)*
- Northern spotted owl (*Strix occidentalis caurina)*
- Sierra Nevada mountain beaver (*Aplodontia rufa californica)*
- Ringtail (*Bassariscus astutus)*
- Spotted bat (*Euderma maculatum)*
- Western mastiff bat (*Eumops perotis californicus)*
- North American wolverine (*Gulo gulo luscus)*
- Oregon snowshoe hare (*Lepus americanus klamathensis)*
- Fisher (*Pekania pennanti)*

- Gray wolf (*Canis lupis)*
- Southern long-toed salamander (*Ambystoma macrodactylum sigillatum)*
- Pacific tailed frog (*Ascaphus truei)*
- Western pond turtle (*Emys marmorata)*
- Foothill yellow-legged frog – north coast DPS (*Rana boylii pop. 1)*
- Cascades frog (*Rana Cascadae)*
- Franklin's bumble bee (*Bombus franklini)*
- Western bumble bee (*Bombus occidentalis)*
- Suckley's cuckoo bumble bee (*Bombus suckleyi)*
- Monarch butterfly (*Danaus plexippus)*

Potential project impacts to special-status wildlife species with the potential to occur within the project area are discussed in the Biological Resources section of the Environmental Checklist and Discussion.

SPECIAL-STATUS PLANT SPECIES

Special-status plant species include plants that are (1) designated as rare by the CDFW or USFWS or are listed as threatened or endangered under the California Endangered Species Act (CESA) or federal Endangered Species Act (ESA); (2) proposed for designation as rare or listed as threatened or endangered; (3) designated as state or federal candidate species for listing as threatened or endangered; and/or (4) ranked as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 or 4 (if tracked by CNDDB).

A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, a review of the USFWS species list query, a 5-mile radius search of the California Natural Diversity Database (CNDDB), and a nine-quad search of California Native Plant Society (CNPS) database records around each PAA.

The habitat and ecological requirements of each special-status plant species were evaluated and compared to the known CWHR habitat types in, or in the immediate vicinity, of the project area to assess the potential for occurrence. Special-status plant species that have the potential to occur within the project site include the following:

- Shasta ageratina (*Ageratina shastensis)*
- Woolly balsamroot (*Balsamorhiza lanata)*
- Rattlesnake fern *Botrypus virginianus*
- Indian Valley brodiaea (*Brodiaea rosea)*
- Castle Crags harebell (*Campanula shetleri)*
- Oregon sedge (*Carex halliana)*
- Shasta chaenactis (*Chaenactis suffrutescens)*
- Pallid bird's-beak (*Cordylanthus tenuis* ssp. *pallescens)*
- Jepson's dodder (*Cuscuta jepsonii)*
- Oregon fireweed (*Epilobium oreganum*
- Waldo daisy (*Erigeron bloomeri* var. *nudatus)*
- Shasta limestone monkeyflower (*Erythranthe taylorii)*
- Pink-margined monkeyflower (*Erythranthe trinitiensis)*

- Klamath fawn lily (*Erythronium klamathense)*
- Subalpine aster (*Eurybia merita)*
- Scott Mountain bedstraw (*Galium serpenticum* ssp. *scotticum)*
- Aleppo avens (*Geum aleppicum)*
- Scott Mountain howellanthus (*Howellanthus dalesianus)*
- Alkali hymenoxys (*Hymenoxys lemmonii)*
- Baker's globe mallow (*Iliamna bakeri)*
- Castle Crags ivesia (*Ivesia longibracteata)*
- Pickering's ivesia (*Ivesia pickeringii)*
- Holzinger's bristle moss (*Lewinskya holzingeri)*
- Howell's lewisia (*Lewisia cotyledon* var. *howellii)*
- Peck's lomatium (*Lomatium peckianum)*
- Broad-nerved hump moss (*Meesia uliginosa)*
- Woodnymph (*Moneses uniflora)*
- Northern adder's-tongue (*Ophioglossum pusillum)*
- Rosy orthocarpus (*Orthocarpus bracteosus)*
- Cascade grass-of-Parnassus (*Parnassia cirrata* var. *intermedia)*
- Thread-leaved beardtongue (*Penstemon filiformis)*
- Siskiyou phacelia (*Phacelia leonis)*
- Horned butterwort (*Pinguicula macroceras)*
- Pacific fuzzwort (*Ptilidium californicum)*
- Gasquet rose (*Rosa gymnocarpa* var. *serpentina)*
- Marsh skullcap (*Scutellaria galericulata)*
- Canyon Creek stonecrop (*Scutellaria galericulata)*
- Wilkin's harebell (*Smithiastrum wilkinsianum)*
- Cylindrical trichodon (*Trichodon cylindricus)*
- Siskiyou clover (*Trifolium siskiyouense)*

Project impacts to special-status plant species with the potential to occur within the project area are discussed in the Biological Resources section of the Environmental Checklist and Discussion.

ARCHEOLOGY

A records search at the California Historical Resources Information System will be completed prior to project implementation by ALTA Archaeological Consulting (ALTA) and provided to SVRCD. In addition, pedestrian archaeological surveys will be completed by ALTA prior to treatment activities as part of the PSA of each eligible parcel to identify cultural resources within the area of potential effect (APE). An Archaeological Survey Report including avoidance measures for identified cultural resources within the project area will be provided to SVRCD in summer 2025. Management recommendations included in the Archaeological Survey Report will be implemented for the project to avoid impacts to cultural resources.

CURRENT LAND USE AND PREVIOUS IMPACTS

The PAAs are located in high-priority WUI areas in Siskiyou County. Land use and zoning designations vary throughout the project site. Zoning districts are included in Figures 5, 9, and 13. Due to the geographic extent of the project, existing conditions vary throughout the project area.

In general, areas to receive treatment within the PAAs include those where dense vegetation is present that would result in crowning fires. There are currently other ongoing fuel treatment activities by private landowners and other entities within the project areas. The project will involve coordination of activities between entities to ensure effective project implementation and avoid duplication of effort.

Conclusion of the Mitigated Negative Declaration

ENVIRONMENTAL PERMITS

- Order R5-2017-0061 Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities for Non-Federal and Federal Lands-Central Valley Regional Water Quality Control Board
- Timber Harvest Plan or Exemptions for removal of commercial timber
- Burn Permit- Siskiyou County Air Pollution Control District/and or CAL-FIRE
- Smoke Management Plan-Siskiyou County Air Pollution Control District
- Encroachment Permit- City of Mt. Shasta, City of Dunsmuir, Siskiyou County
- Tree Removal Permit- City of Mt. Shasta

MITIGATION MEASURES

In addition to the BMPs implemented during the project, the following mitigation measures will be implemented to avoid or minimize environmental impacts. Implementation of these mitigation measures will reduce the environmental impacts of the proposed project to a less than significant level.

Mitigation Measure 1: Naturally Occurring Asbestos Dust Mitigation Plan (Dunsmuir PAA)
Prior to ground-disturbing treatment in areas identified as likely to contain naturally occurring asbestos (NOA) (see Figure 17), the Siskiyou County Air Pollution Control District (SCAPCD) shall be contacted to verify if an NOA Dust Mitigation Plan is required for project activities within this area. If required by the SCAPCD, an NOA Dust Mitigation Plan shall be prepared for their approval and SCAPCD requirements will be implemented during activities in these areas.

Mitigation Measure 2: Riparian and Wetland Identification and Exclusion (All PAAs)
During the PSA of each eligible parcel, eligible parcels will be surveyed for aquatic resources. The treatment prescription will exclude activities within 75 feet of perennial streams and wetlands (including vernal pools) as well as 50 feet from ephemeral and intermittent streams. The exclusion area will be marked with flagging. Biomass removal, herbicide application, equipment staging, operation of mechanical equipment, pile burning, and onsite disposal of removed biomass shall not occur within the marked buffers.

Mitigation Measure 3: Pre-Treatment Botanical Surveys (All PAAs)
During the PSA, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for special-status plants. If habitat types for special-status plants are identified, protocol-level surveys of the parcels shall be conducted by a qualified biologist. Surveys shall comply with survey protocols for plant species listed under the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). If no special-status plants are found, no further measures pertaining

to special-status plants are necessary. If special-status plant species are identified during the botanical surveys, treatment will exclude activities within 15 feet of the individual, and exclusionary fencing or high-visibility flagging will be placed around the plants prior to operations on the parcel to demarcate the avoidance area.

Mitigation Measure 4: Surveys for Western Pond Turtle (All PAAs)
During the PSA of each eligible parcel, work areas within 150 feet of flowing watercourses will be evaluated to determine if suitable nesting habitat for western pond turtle (WPT) is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland habitat is identified, no more than seven days prior to the start of ground-disturbing activities that occur during WPT nesting season (May 1 to August 1), focused surveys for turtle nests will be completed by a qualified biologist. If a WPT of their nest is found, CDFW will be notified. If an adult individual is observed within the survey area, then the animal shall be avoided until it is no longer in harm's way, or it may be relocated by a qualified biologist if an area offsite that has appropriate habitat for the species is available. If relocating, the animal should be moved to a nearby area with a habitat similar to the environment in which it was found.

If a nest, eggs, hatchlings, or an aestivating adult are observed within the survey area, then an avoidance buffer of 50 to 100 feet shall be applied to heavy equipment access, ground-disturbing activities, and herbicide application until the nest is no longer active. The qualified biologist shall consider the topography and vegetation onsite, as well as the treatments proposed onsite and the potential for disturbance when determining the buffer distance. Additionally, to avoid impacts to hatchlings' dispersal from the nest site, no woody debris or other barrier shall be placed between the nest site and the nearest body of water.

Mitigation Measure 5: Raptors, Migratory Birds, and Special-Status Birds (All PAAs)
Vegetation removal shall occur outside of avian nesting season (February 1 through August 31) to the greatest extent feasible to avoid impacts to nesting birds. If vegetation or other avian nesting habitat must be disturbed during the nesting season, then a qualified biologist shall conduct preconstruction surveys within the project area and surrounding 150 feet (wherever access is feasible) no more than seven days prior to the start of activities. If an active nest is found, a non-disturbance buffer shall be established around the nesting site, with the buffer distance to be determined by the biologist based on the bird species and the nest and site conditions. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume. If an active nest is found at any time during implementation, the Qualified Biologist or CDFW shall be notified, and an appropriate buffer shall be implemented. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If an active raptor, osprey, or bald eagle nest is observed onsite at any time, then the appropriate buffer (250 to 500 feet for raptors, 300 feet for osprey, and up to 0.5 miles for bald eagle) shall be established, with the buffer distance to be determined by the biologist or CDFW based on the bird species and the nest and site conditions. If a non-active osprey, bald eagle, or goshawk nest is observed (i.e., any large stick nest), the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by these species.

Mitigation Measure 6: Northern Spotted Owl Nesting, Roosting, Foraging Habitat Determination (All PAAs)
Areas with suitable NSO nesting, roosting, and foraging (NRF) habitat within each eligible parcel shall be classified to the appropriate functional habitat type according to the minimum structural parameters listed in Table 4 (see Page 44) (over a scale of 20 acres) using existing NSO habitat data sets or during PSAs.

Mitigation Measure 7: NSO Surveys and Limited Operating Periods (All PAAs)
If NSO surveys have not been completed or obtained and are planned, conduct the surveys according to the 2012 NSO Survey Protocol. Seasonal restrictions described below for 'Surveyed Landscape' shall be followed. If surveys are not planned or feasible, assume occupancy based on the presence of suitable NRF habitat; adhere to the guidance and seasonal restrictions described below for operating in an 'Un-Surveyed Landscape'.

- As an option to the full six-visit protocol surveys described in the 2012 NSO Survey Protocol, three surveys can be conducted in the year of action implementation. If no NSOs are detected within 0.25 miles of the proposed activities, activities may proceed that year without seasonal restrictions.

Surveyed Landscape. If surveys are completed or are current for the Action Area (based on surveys conducted by the applicant/project proponent, or other data provided by other landowners or agencies):

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile (or 1,320 feet) of a nest site between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 miles (or 1,320 feet) of a nest site between February l and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Un-Surveyed Landscape. If surveys have not been completed and cannot be done, assume occupancy in the Action Area/portion of it based on the presence of suitable NRF habitat.

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 miles (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90

decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.

- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 mile (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Mitigation Measure 8: NSO NRF Habitat Treatment (All PAAs)

- Within all suitable NRF habitat:
    - Avoid removing or damaging known nest trees and associated screen trees unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the Action Area.
    - Avoid removing or damaging trees or snags with potential nesting platforms and associated screen trees. These include trees with large, flattened tops, large broken-topped trees, trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics).
    - Avoid removing large (20 inches in diameter at breast height [DBH] or larger) snags, unless they are a confirmed safety hazard per the implementing agency's guidance documents.
    - Equipment must be in good working order with standard noise abatement devices attached if applicable.

- Within Nesting/Roosting Habitat:
    - Treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging); but the treatment/activity does not remove suitable habitat function entirely. Removal of habitat function occurs when treatment activities reduce habitat elements to the degree that the habitat no longer functions as suitable habitat. Project activities will not downgrade or remove the function of suitable nesting/roosting habitat as defined by the parameters in Table 4.
        - While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat.
        - If the proposed project will remove or downgrade nesting/roosting habitat function, ESA consultation is warranted.

- Within suitable foraging habitat in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center):
    - Avoid downgrading or removing suitable foraging habitat function as defined by parameters in Table 4.
    - While habitat elements may be removed, such as individual trees, shrubs, down logs, and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction, and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres).
    - If the proposed project will remove or downgrade suitable foraging habitat function in a core and home range to below the recommended levels, ESA consultation is warranted. However, no changes to habitat are planned.

Mitigation Measure 9: Mammal Den Surveys (All PAAs)
During the PSA of each eligible parcel, the project area will be evaluated for suitable mammal den habitat. If potential den habitat for ringtail (*Bassariscus astutus*), fisher (*Pekania pennaniti*), gray wolf (*Canis lupis*), Oregon snowshoe hare (*Lepus americanus klamathensis*), or wolverine (*Gulo gulo luscus*) is identified, pretreatment surveys shall be completed within three days prior to ground-disturbing activities to determine if any terrestrial mammal den structures are present within the work area. If potential dens are located within the work area and cannot be avoided during project activities, a qualified biologist will determine if the dens are occupied. If occupied dens are present within the work area, their disturbance and destruction will be avoided by stopping operations until an appropriate buffer approved by CDFW or USFWS.

Mitigation Measure 10: Bat Roost Humane Exclusion (All PAAs)
During the PSA of eligible parcels, trees with maternity roost structures (i.e., cavities in the trunk or branches, woodpecker holes, loose bark, and cracks) will be identified. If no trees with maternity roost structures are identified, no further measures are necessary. If removal of trees identified to have bat roost structures occurs from September 1 to October 30, no measures for special-status bats are required.

If removal of trees identified to have bat-roost-structure potential will occur during the bat maternity season, when young are non-volant (March 1 to August 31), or during the bat hibernacula (November 1 to March 1), when bats have limited ability to safely relocate roosts, humane exclusions should be implemented which consist of a two-day removal process by which the non-habitat trees and brush are removed along with smaller tree limbs on the first day, and the remainder of the tree limbs and the tree trunk on the second day.

Mitigation Measure 11: Bat Roost Habitat Avoidance (All PAAs)
During the PSA of each eligible parcel, the presence of caves or bridges within the treatment area will be noted. If no caves or bridges are located within the project area, further measures are not necessary. If present within 50 feet of project activities, caves and bridges in the project area will

be assessed during the PSA for potential bat roost structures (crevice roosts tend to be approximately 3/4 to 1-1/2 inches across and at least 18 inches deep. In most cases, they run from one side of the bridge to the other, and between three and several hundred meters above ground). If found, a qualified biologist will assess the structure for signs of bat presence (i.e., guano, insect pieces, etc.). If no roost is present, then no buffer is needed. If a roost is present, then a 50-foot non-disturbance buffer shall be implemented around the roost structure to prevent changes to the thermal stability and protective cover surrounding the roost structure that could result from tree removal.

Mitigation Measure 12: Bumble Bee Avoidance (All PAAs)
If feasible, all ground-based mechanical equipment will be excluded from meadows or annual grasslands. If ground-based mechanical equipment must use annual grassland for access to a treatment area, a dedicated access route will be established to minimize disturbance. If suitable habitat for special-status bumble bees is identified, outside of the non-disturbance wetland buffers implemented for Mitigation Measure 2, during the site assessments (e.g., forest meadow or grassland habitat containing sufficient floral resources), then the following measures will be implemented, as feasible:

- Prescribed burning within suitable habitat for special-status bumble bees will occur from October 1 through March 1 to avoid the bumble bee flight season.
- 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).
- Removal or herbicide treatment of flowering native plants within occupied or suitable habitat will not occur during the flight season (March 1 through October 1), to the extent feasible.

Mitigation Measure 13: Monarch Avoidance (All PAAs)
During the PSA of each eligible parcel, the presence of native milkweed (*Asclepias* spp.) will be determined. If milkweed is identified onsite, and treatments occur between May 1 to October 31, then a qualified biologist will inspect the plant for monarchs and their eggs or caterpillars. If monarch eggs or caterpillars are present, the plant will be avoided by implementing a 25-foot buffer. If no monarch eggs or caterpillars are present, treatment may proceed. Herbicide treatment or removal of native milkweed will be avoided if feasible.

Mitigation Measure 14: Sensitive Natural Communities Surveys (All PAAs)
During the PSA, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for regionally occurring sensitive natural communities. If appropriate habitat types for sensitive natural communities are identified, measures found in the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) will be implemented by a qualified biologist or RPF during treatment. If no sensitive natural communities are found, no further measures pertaining to sensitive natural communities are necessary. If sensitive natural communities are identified during the surveys, treatment will exclude activities within the sensitive natural communities, and

exclusionary fencing or high-visibility flagging will be placed to demarcate the avoidance area. If avoidance is not feasible, the treatment prescription within upland sensitive natural communities will be modified such that the CNPS membership rules of the alliance or association are maintained at the appropriate spatial scale.

Mitigation Measure 15: Cultural Resource Avoidance
A records search at the California Historical Resources Information System for the areas to be treated will be completed and results provided to SVRCD prior to treatment activities. In addition, archaeological pedestrian surveys shall be conducted by a qualified archaeologist in areas of the project site with the potential to contain cultural resources prior to treatment activities. These surveys shall be conducted during the PSA for each eligible parcel. The results and management recommendations to avoid impacts to cultural resources for the project will be presented in an Archaeological Survey Report provided to SVRCD. Management recommendations could include avoidance of sites eligible for listing on the California Register of Historic Resources (CRHR) through implementation of a specified buffer around the site boundary or modification of treatment (use of hand tools and exclusion of equipment) for areas where vegetation removal may be beneficial to site preservation. The recommended buffers or modified treatment (Special Treatment Zone (STZ)) will be included in the treatment prescription for the parcel and buffers around known cultural resources will be marked with exclusionary flagging prior to project implementation. In addition, recommendations for the unanticipated discovery of cultural resources and human remains included in the Archaeological Survey Report shall be implemented for the project.

Mitigation Measure 16: Operational Hours in City of Mt. Shasta
Project activities within the City of Mt. Shasta will be conducted between the hours of 7:00 a.m. and 5:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturday and Sunday to comply with both the FEMA BMPs and the allowable hours of construction activity (Policy NZ-1.8c) included in the City of Mt. Shasta General Plan Noise Element.

SUMMARY OF FINDINGS

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

1. The proposed project will have no effect related to agriculture and forestry, land use and planning, mineral resources, population and housing, and public services.
2. The proposed project will have a less than significant impact on aesthetics, energy, geology and soils, greenhouse gases, hazards and hazardous materials, hydrology and water quality, recreation, transportation, utilities and service systems, and wildfire.
3. Mitigation is required to reduce potentially significant impacts related to air quality, biological resources, cultural resources, tribal cultural resources, noise, and mandatory findings of significance.

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

INITIAL STUDY-ENVIRONMENTAL CHECKLIST

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a potentially significant impact as indicated by the checklist on the following pages.

Environmental Factors Potentially Affected

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

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project COULD have a significant effect on the environment, there WOULD NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project COULD have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DocuSigned by:
Rod Dowse
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4/3/2025

Shasta Valley Resource Conservation District
Rod Dowse, Executive Director

Date

Environmental Checklist and Discussion

Project Title: South Siskiyou County Hazardous Fuel Reduction Project

Lead Agency Name and Address: Shasta Valley Resource Conservation District,
215 Executive Ct. Ste. A, Yreka CA 96097

Contact Person & Phone Number:
SVRCD: Dan Blessing (530) 572-3120

The McConnell Foundation, Grantee:
Director of Ecosystem Resilience Alex Carter (530) 226-6249

Document Preparer:
VESTRA Resources, Inc., Wendy Johnston, Kristine Cloward, Anna Prang (530) 223-2585

Project Location: Wildland-Urban Interface (WUI) around Mt. Shasta, Dunsmuir, and McCloud (see Figure 1).

Project Sponsor's Name and Address: The McConnell Foundation, 800 Shasta View Drive, Redding, CA 96003

General Plan Designation: Multiple Siskiyou County, City of Mt. Shasta, and City of Dunsmuir General Plan land use designations.

Zoning: Multiple Districts (see Figures 5, 9, and 13).

Description of Project: Hazardous Fuel Reduction

Surrounding Land Uses and Setting: Multiple land uses within the WUI surrounding the City of Mt. Shasta, City of Dunsmuir, and McCloud.

Other public agencies whose approval may be required:

- Order R5-2017-0061 Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities for Non-Federal and Federal Lands-Central Valley Regional Water Quality Control Board
- CAL FIRE Timber Exemptions
- Siskiyou County Air Pollution Control District/and or CAL FIRE Burn Permit and Smoke Management Plan
- City of Mt. Shasta Tree Removal Permit
- Siskiyou County encroachment permit
- City of Mt. Shasta encroachment permit
- City of Dunsmuir encroachment permit.

AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Except as provided in Public Resources Code § 21099, would the project have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

a) The project site includes forested hillsides and mountain slopes that are part of the scenic landscape. The project will result in short-term visual impacts during treatment activities including the presence of equipment and smoke from pile burning. Equipment would be present only in any one location within the project site for several days and equipment would generally be visible only from areas immediately adjacent to treatment activities. Pile burning of removed biomass will generate smoke that could be visible from a greater distance. Pile burning is a common practice in Siskiyou County and would occur for only one or two days at a single location. A Smoke Management Plan (SMP) will be required by the SCAPCD if pile burning is implemented in an area greater than 10 acres in size. The SMP will minimize smoke generated by pile-burning activities by limiting the number of piles burned each day, limiting the duration of burning, and requiring actions to be taken if smoke adversely impacts smoke-sensitive areas.

Following treatment activities, the project will result in reduced vegetation density within areas treated. Reduction of vegetation could be noticeable in close vicinity to each area treated; however, the change in vegetation will not be significant when viewed from a distance since large, healthy trees will be retained, preserving the forested character of the project site. The project will not result in a substantial adverse effect on a scenic vista. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Except as provided in Public Resources Code § 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

b) The project area does not contain officially designated State Scenic Highways. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Except as provided in PRC § 21099, <u>in non-urbanized areas</u>, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those experienced from a publicly accessible vantage point.) If <u>in an urbanized area</u>, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

c) The project site includes non-urbanized areas. Portions of the treatment areas are adjacent to or visible from public roadways and will be visible to the public. The existing visual character of the project site varies depending on location within each PAA, but generally consists of rural, forested areas with dense vegetation.

As discussed, in a) above, short-term visual impacts from equipment operation and smoke occurring during treatment will occur for only a few days in any single location within the treatment area. The project includes the removal of shrubs, small-diameter trees, and closely spaced trees from select parcels. Within the treatment area, trees spaced 30 feet apart will remain and grasses will be retained as feasible for erosion control. Vegetation will be retained in buffers adjacent to watercourses and wetlands within the treatment area.

The removal of vegetation could be noticeable from public areas close in distance to the treatment areas; however, the change will not be substantially different from existing conditions since large-diameter trees will be kept at a spacing of 30 feet, retaining the forested character of the areas treated. The project will not substantially degrade the existing visual character or quality of public views of the site and the surrounding area. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Except as provided in Public Resources Code § 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

d) The project does not include the installation or use of any new lighting sources or structures that would be a new source of glare. The project will not create substantial light or glare that would affect day or nighttime views in the area. **No impact.**

AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

a) The project area does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as mapped by the California Department of Conservation. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒

b) The project does not include land enrolled in a Williamson Act Contract as mapped by the California Department of Conservation California (DOC 2023). The project area does include areas zoned Non-Prime Agricultural District and Rural Residential Agricultural District. The project will not conflict with agricultural uses within these areas or result in the conversion of these areas to non-agricultural use. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒

c) The project site contains forest land as defined in Public Resources Code §12220(g)) and portions of the project area are zoned Timberland Production District (TPZ). None of the landholdings within the treatment areas will be rezoned and will remain as Timberland Production. The project would not result in rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g) or conflict with existing zoning. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

d) Forest land is defined by Section 12220(g) of the California Public Resources Code (PRC) as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions. The project will result in fuel reduction and thinning within the WUI and will aid in protecting forested lands from wildfire. The project will not reduce native tree cover to less than 10 percent throughout the project area and does not include conversion of land within the project area to non-forest use. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

e) The project does not involve other changes in the existing environment which could result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use. **No impact.**

AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

a) The project site is within the Northeast Plateau Air Basin which is comprised of the Siskiyou, Modoc, and Lassen Air Pollution Control Districts. Siskiyou County is in attainment or unclassified for California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for criteria pollutants and is not subject to an air quality plan. Therefore, the project would not conflict with or obstruct the implementation of an air quality plan. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

b) Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and lead. Siskiyou County is in attainment or unclassified for California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) and has not adopted mass emission thresholds for criteria air pollutants.

Project activities would result in short-term emissions of criteria pollutants. Off-road equipment, power tools, equipment transport, contractor commute trips, offsite transport of merchantable timber, and transport of chipped biomass to biomass facilities would result in exhaust emissions that contain ozone precursors (reactive organic gases (ROG) and nitrogen oxides (NOx)). Project activities would also generate particulate matter from equipment operation and travel on unpaved roads. Smoke emissions from pile burning would also result in emissions of criteria pollutants including $PM_{2.5}$, CO, NO_2, and ROG.

The following BMPs which include those contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* where applicable, will be implemented by the treatment contractor during project activities:

- All exposed unpaved surfaces shall be watered twice per day to limit dust generation.
- All haul trucks transporting soil, chips, or other loose material offsite shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using power wet-vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.
- Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- The idling time of diesel-powered construction equipment will be minimized to two minutes.
- All construction equipment, diesel trucks, and generators are required to be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.

BMPs listed above will be implemented for the project to control emissions generated by vehicles and equipment and dust emissions from travel on unpaved roads. Emissions could also be generated through the use of biomass from the project as fuel at bioenergy facilities. The project will not result in an increase in the permitted capacities or emissions of these facilities.

Pile burning will be implemented in portions of the project site where other biomass disposal options are not practicable, such as areas with steep slopes where mechanical equipment and vehicles would be excluded. The project will require a burn permit from the SCAPCD as well as an SMP if pile burning is required in an area greater than 10 acres or is estimated to produce more than one ton of particulate matter. SMPs regulate and coordinate regional land managers' large burn projects to prevent smoke impacts to sensitive receptors and prevent violations of state and federal ambient air quality standards. Pile burning will be conducted in accordance with the SMP, which will include wind and meteorological condition requirements for burning, identification of measures to reduce impacts to smoke-sensitive areas, contingencies to take if smoke adversely impacts smoke-sensitive areas, and public notification requirements and neighboring burn coordination.

With the implementation of the BMPs listed above and the implementation of SMP requirements, emissions of criteria pollutants are anticipated to be less than significant. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐

c)The California Air Resources Board defines sensitive receptors as children, the elderly, asthmatics, and others who are at a heightened risk of negative health outcomes due to exposure to air pollution. Locations where these sensitive receptors congregate are considered sensitive receptor locations. The PAAs are adjacent to and partially within the cities of Mt. Shasta and Dunsmuir and the community of McCloud. Sensitive receptors (residences and schools) are located within and adjacent to the project area.

BMPs listed in b) above will be implemented for the project to control emissions generated by vehicles and mechanical equipment used for the project as well as travel on unpaved roads. As discussed in b) above, a burn permit and approval of an SMP by the SCAPCD will be required to address smoke emissions from pile burning. The SMP includes actions to take if smoke adversely impacts smoke-sensitive receptors and requires notification of the public and known sensitive receptors that prescribed burning will be conducted in their vicinity so they may take actions to minimize their exposure if needed.

A small portion of the Dunsmuir PAA is mapped as containing ultramafic rocks which are areas more likely to contain NOA (naturally occurring asbestos) (Churchill and Hill 2000). This area is shown in Figure 17. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified by the Air Resources Board as a toxic air contaminant in 1986 (CalEPA). Ground-disturbing activities (mastication, grubbing, etc.) in areas that may contain naturally occurring asbestos could expose workers or surrounding receptors to dust and low levels of NOA. **Mitigation Measure 1** includes the preparation of a NOA Dust Mitigation Plan for approval by the SCAPCD prior to ground-disturbing activities in this area.

The project is not anticipated to expose sensitive receptors to substantial pollutant concentrations due to the short duration and transient nature of project activities. BMPs listed in b) above, implementation of an SMP for pile burning, and **Mitigation Measure 1** will minimize pollutants generated by the project. **Less than significant with mitigation incorporated.**

Mitigation Measure 1: Naturally Occurring Asbestos Dust Mitigation Plan (Dunsmuir PAA) Prior to ground-disturbing treatment in areas identified as likely to contain NOA (see Figure 17), the SCAPCD shall be contacted to verify if an NOA Dust Mitigation Plan is required for project activities within this area. If required by the SCAPCD, an NOA Dust Mitigation Plan shall be prepared for their approval and SCAPCD requirements will be implemented during activities in these areas.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

d) The project will require equipment that would generate diesel exhaust odors and will result in smoke during pile-burning activities. Diesel odor emissions are highly dispersive, and equipment will not be operated in any one location for an extended period of time. BMPs listed in b) above will be implemented by the treatment contractor for the project including limits on equipment idling times that will minimize equipment diesel exhaust emissions. Implementation of an SMP will minimize smoke and resulting odors to the extent feasible. Odors generated by project activities will be short-term and transient and will cease upon the completion of project activities. **Less than significant impact.**

BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐

a) A Biological Resources Assessment (BRA) was prepared for the project by VESTRA Resources Inc. (VESTRA) to describe the biological resources present in the project area as well as potential project impacts to sensitive resources. The BRA also includes mitigation measures to avoid the take of endangered, rare, or threatened plant or animal species during project activities and to minimize impacts to other special-status species and sensitive habitats with the potential to occur within the project area. The discussion below is based on information contained within the BRA which is included as Attachment B.

The following BMPs, including applicable BMPs contained within the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented prior to and during project implementation by the qualified biologist and treatment contractor to minimize impacts to special-status species, raptors, and migratory birds from project implementation. Where applicable, the BMP has been modified to meet CDFW regulations.

SPECIAL-STATUS SPECIES

- Construction will generally occur during the dry season (April 15 to October 15).
- No more than seven days prior to the start of ground-disturbing activities, focused preconstruction surveys for special-status species will be completed by a USFWS/CDFW-approved biologist in all suitable upland dispersal habitat areas if special-status species have been previously identified in the area.
- If special-status species are found during focused preconstruction surveys, the USFWS/CDFW will be contacted within one working day, and the area will be avoided or a suitable protocol shall be approved by USFWS/CDFW for relocation.
- Exclusion fencing such as Ertec E-fenceTM or an equivalent will be installed around special-status species habitat prior to any construction during the dry season (April 1 through October 15), when special-status species are not actively dispersing or foraging. The fencing will remain in place until all project activities in the vicinity of suitable upland dispersal habitat are completed.
- To prevent special-status species from becoming entangled or trapped in erosion control materials, plastic monofilament netting (erosion control matting) or similar material will not be used for erosion control. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

- Prior to any construction where special-status species have been detected a USFWS/CDFW-qualified biologist will conduct an education program for construction personnel. At a minimum, the training will include a description of special-status species and their habitats, the potential occurrence of these species in the project area, the measures to be implemented to conserve listed species and their habitats as they relate to the work site, and boundaries in which construction may occur. Upon completion of the program, personnel will sign a form stating that they attended the program and understand all of the avoidance and minimization measures for the special-status species.
- Implement measures to minimize the spread of disease and non-native species based on current Wildlife Agency protocols and other best-available science.

RAPTORS

Measures for the protection of raptors, other special-status birds, and appropriate nesting habitat are addressed under **Mitigation Measure 5** which meets the non-disturbance requirements of CDFW.

MIGRATORY BIRDS

Measures for the protection of migratory birds are addressed under **Mitigation Measure 5** which meets the non-disturbance requirements of CDFW.

POTENTIAL IMPACTS TO SPECIAL-STATUS PLANT SPECIES

Potentially occurring special-status plant species that occur only within or adjacent to aquatic habitats or watercourses, wetlands, wet meadows, or riparian areas will be avoided by exclusion buffers included in **Mitigation Measure 2**. Species likely to occur only within the non-disturbance buffers implemented by **Mitigation Measure 2** are unlikely to be impacted by project activities and therefore will not require additional surveys or mitigation measures. These species include: rattlesnake fern (*Botrypus virginianus*), Jepson's dodder (*Cuscuta jepsonii),* Oregon fireweed (*Epilobium oreganum*), Klamath fawn lily (*Erythronium klamathense*), Cascade grass-of-Parnassus (*Parnassia cirrata* var. *intermedia*), Aleppo avens (*Geum aleppicum*), Pickering's ivesia (*Ivesia pickeringii*), northern adder's-tongue (*Ophioglossum pusillum*), rosy orthocarpus (*Orthocarpus bracteosus*), Siskiyou phacelia (*Phacelia leonis*), horned butterwort (*Pinguicula macroceras*), marsh skullcap (*Scutellaria galericulata*), Wilkin's harebell (*Smithiastrum wilkinsianum*), Siskiyou clover (*Trifolium siskiyouense*), Oregon sedge (*Carex halliana*), Scott Mountain howellanthus (*Howellanthus dalesianus*), Holzinger's bristle moss (*Lewinskya holzingerior*), and broad-nerved hump moss (*Meesia uliginosa*).

Special-status plant species that have the potential to occur within treatment areas, as well as the PAA and the habitats they could potentially occur in, are shown in Table 2.

Table 2
HABITAT TYPES OF POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES BY PAA

Common Name	Scientific Name	Habitat Types
All PAAs		
Pacific fuzzwort	*Ptilidium californicum*	EP, PP, SMC, MH, MHC
Thread-leaved beardtongue	*Penstemon filiformis*	EP, PP, SMC, MH, MHC
Castle Crags harebell	*Campanula shetleri*	EP, PP, SMC, MHC
Shasta chaenactis	*Chaenactis suffrutescens*	EP, PP, SMC, MHC
Pallid bird's-beak	*Cordylanthus tenuis* ssp. *pallescens*	EP, PP, SMC, MHC
Waldo daisy	*Erigeron bloomeri* var. *nudatus*	EP, PP, SMC, MHC
Alkali hymenoxys	*Hymenoxys lemmonii*	MC, EP, PP, URB, BAR
Castle Crags ivesia	*Ivesia longibracteata*	EP, PP, SMC, MHC
Mt. Shasta PAA		
Baker's globe mallow	*Iliamna bakeri*	MC, EP, PP, SMC, MH, MHC
Pink-margined monkeyflower	*Erythranthe trinitiensis*	AG, EP, PP, SMC, MH, MHC
Subalpine aster	*Eurybia merita*	SMC
Woodnymph	*Moneses uniflora*	MH, MHC
Gasquet rose	*Rosa gymnocarpa* var. *serpentina*	MC, MH, EP, PP, BAR, URB
Woolly balsamroot	*Balsamorhiza lanata*	AG, MH
Scott Mountain bedstraw	*Galium serpenticum* ssp. *scotticum*	EP, PP, SMC, MHC
Peck's lomatium	*Lomatium peckianum*	MC, EP, PP, SMC, MH, MHC
Dunsmuir PAA		
Canyon Creek stonecrop	*Sedum paradisum* ssp. *paradisum*	MC, SMC, MH, MHC
Howell's lewisia	*Lewisia cotyledon* var. *howellii*	MC, SMC, MH, MHC
Indian Valley brodiaea	*Brodiaea rosea*	AG, MC, SMC, MH, MHC
Shasta ageratina	*Ageratina shastensis*	MC, SMC, MHC
Cylindrical trichodon	*Trichodon cylindricus*	AQ, MH, MHC, SMC, BAR
Woolly balsamroot	*Balsamorhiza lanata*	AG, MH
Scott Mountain bedstraw	*Galium serpenticum* ssp. *scotticum*	EP, PP, SMC, MHC
Peck's lomatium	*Lomatium peckianum*	MC, EP, PP, SMC, MH, MHC
McCloud PAA		
Baker's globe mallow	*Iliamna bakeri*	MC, EP, PP, SMC, MH, MHC
Canyon Creek stonecrop	*Sedum paradisum* ssp. *paradisum*	MC, SMC, MH, MHC
Howell's lewisia	*Lewisia cotyledon* var. *howellii*	MC, SMC, MH, MHC
Shasta limestone monkeyflower	*Erythranthe taylorii*	PP, SMC, MH, MHC
Subalpine aster	*Eurybia merita*	SMC
Shasta ageratina	*Ageratina shastensis*	MC, SMC, MHC
Cylindrical trichodon	*Trichodon cylindricus*	AQ, MH, MHC, SMC, BAR

Key to Habitats: AG = Annual Grassland, AQ = Aquatic, BAR = Barren, EP = Eastside Pine, MC = Montane Chaparral, MH = Montane Hardwood, MHC = Montane Hardwood-Conifer, PP = Ponderosa Pine, SMC = Sierran Mixed Conifer, MR = Montane Riparian, URB = Urban

The proposed treatments could impact special-status plants within the project area. The project will benefit certain plants following project completion. Many grasses and herbaceous plants may increase in abundance with greater sunlight availability following project treatments. During project implementation, ground disturbance can lead to direct plant mortality as well as indirect impacts from soil compaction and stratification, as it may in turn change the porosity of the soil

and decrease the availability of water and nutrients for plants. Ground disturbance can also lead to the exposure of roots of shallowly rooted plants and the direct mortality of plants.

Mitigation Measure 3 for special-status plants included in Table 2 requires the completion of protocol-level surveys for special-status plant species that are likely to occur in treatment areas. If special-status plants are identified, a non-disturbance buffer will be established around the plant(s) during all project activities. Therefore, impacts to Pacific fuzzwort (*Ptilidium californicum*), thread-leaved beardtongue (*Penstemon filiformis*), woolly balsamroot (*Balsamorhiza lanata*), Castle Crags harebell (*Campanula shetleri*), Shasta chaenactis (*Chaenactis suffrutescens*), pallid bird's-beak (*Cordylanthus tenuis* ssp. *pallescens*), Waldo daisy (*Erigeron bloomeri* var. *nudatus*), Scott Mountain bedstraw (*Galium serpenticum* ssp. *scotticum*), Alkali hymenoxys (*Hymenoxys lemmonii*), Castle Crags ivesia (*Ivesia longibracteata*), Peck's lomatium (*Lomatium peckianum*), Baker's globe mallow (*Iliamna bakeri*), pink-margined monkeyflower (*Erythranthe trinitiensis*), subalpine aster (*Eurybia merita*), woodnymph (*Moneses uniflora*), Gasquet rose (*Rosa gymnocarpa* var. *serpentina*), Canyon Creek stonecrop (*Sedum paradisum* ssp. *paradisum*), Howell's lewisia (*Lewisia cotyledon* var. *howellii*), Indian Valley brodiaea (*Brodiaea rosea*), Shasta ageratina (*Ageratina shastensis*), cylindrical trichodon (*Trichodon cylindricus*), and Shasta limestone monkeyflower (*Erythranthe taylorii)* will be **less than significant with mitigation with mitigation incorporated**.

SPECIAL-STATUS WILDLIFE

The project area contains habitat that could support special-status wildlife. Potentially occurring special-status wildlife species and the PAAs they could potentially occur within are included in Table 3. Potential project impacts to these species are discussed below.

Table 3
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES BY PAA

Common Name	Scientific Name
All PAAs	
Bald eagle	*Haliaeetus leucocephalus*
American goshawk	*Accipiter atricapillus*
Osprey	*Pandion haliaetus*
Northern spotted owl	*Strix occidentalis caurina*
Fisher	*Pekania pennanti*
Spotted bat	*Euderma maculatum*
Western mastiff bat	*Eumops perotis californicus*
Ringtail	*Bassariscus astutus*
Gray wolf	*Canis lupis*
North American wolverine	*Gulo gulo luscus*
Cascades frog	*Rana Cascadae*
Foothill yellow-legged frog	*Rana boylii pop. 1*
Western pond turtle	*Emys marmorata*
Suckley's Cuckoo bumble bee	*Bombus suckleyi*
Franklin's bumble bee	*Bombus franklini*
Western bumble bee	*Bombus occidentalis*
Monarch butterfly	*Danaus plexippus*

Table 3 **POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES BY PAA**	
Common Name	**Scientific Name**
Mt. Shasta PAA	
Bank swallow	*Riparia riparia*
Yellow rail	*Coturnicops noveboracensis*
Dunsmuir PAA	
American peregrine falcon	*Falco peregrinus anatum*
Black swift	*Cypseloides niger*
Willow flycatcher	*Empidonax traillii*
Oregon snowshoe hare	*Lepus americanus klamathensis*
Pacific tailed frog	*Ascaphus truei*
Southern long-toed salamander	*Ambystoma macrodactylum sigillatum*
McCloud PAA	
American peregrine falcon	*Falco peregrinus anatum*
Bank swallow	*Riparia riparia*
Willow flycatcher	*Empidonax traillii*
Oregon snowshoe hare	*Lepus americanus klamathensis*
Sierra Nevada mountain beaver	*Aplodontia rufa californica*
Pacific tailed frog	*Ascaphus truei*
Southern long-toed salamander	*Ambystoma macrodactylum sigillatum*

Cascades frog (*Rana cascadae)*

Cascades frogs are listed as a CDFW Species of Special Concern and a California Endangered Species Act (CESA)-Candidate Endangered Species. Historically, *R. cascadae* was found fragmented from the edge of the northern Sierra Nevada mountains to Mt. Lassen, Mt. Shasta, the Marble Mountains, and the Trinity Alps. It is now missing from an estimated 50 percent of its former range in California. *R. cascadae* inhabits wet mountain areas in open coniferous forests near timberline, including pools in high-elevation wet meadows, lakes, bogs, ponds, and marshy areas near streams at elevations over 2400 feet above mean sea level. Cascades frogs are sensitive to predation and generally occur where no predatory fish are present. This species is also sensitive to water quality and often requires clean, clear environments fed directly by snowmelt. Breeding occurs in slow-moving waters such as lakes, ponds, or ponded areas within wet meadows or riparian corridors at high elevations. Breeding begins soon after the snow melts, occurring between March and mid-August depending on the location. Breeding is explosive and lasts roughly a week. Adults return to the same location each year to breed. Eggs are laid in a mass the size of an orange or small grapefruit containing 300 to 800 eggs that are not attached to vegetation but partly submerged in shallow water.

Multiple observations of *R. cascadae* are recorded on CNDDB near Siskiyou Lake, Shasta River, and YétAtwam Creek. Aquatic or wet meadow habitats within the survey area may be adequate for egg deposition and breeding. Therefore, *R. cascadae* have the potential to occur in all PAAs. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to Cascades frogs or their habitat will occur. **Less than significant with mitigation incorporated**.

Foothill yellow-legged frog (*Rana boylii)*

The Foothill yellow-legged frog (FYLF) occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains and along the western side of the Sierra Nevada Mountains to the edge of the Tehachapi Mountains. Distinct populations of the species have been designated throughout its range; the treatment area occurs within the FYLF Pop. 1, which is the North Coast Population. *R. boylii population 1* are listed as a CDFW Species of Special Concern.

FYLF inhabit rocky streams with fast-flowing water over rocky substrates. Outside of the breeding season, adult frogs are found basking on rocks within high flows and use deep pools for refugia to escape potential predators. Adult frogs migrate to breeding habitat in the spring, often following a tributary to its confluence with a larger stream or river. In areas where tributaries dry up, juveniles also make this downstream movement (Haggarty 2006), and they may disperse across uplands to nearby watercourses. Gravel bars and rocks in shallow, slow-moving water provide breeding habitat and egg deposition sites for the species between April and July. Egg masses occur underneath rocks at the edges of streams or rivers, near their breeding grounds. Tadpoles develop in slow-moving backwaters and isolated pools.

Multiple observations of *R. boylii* are recorded in CNDDB within perennial and intermittent streams near both the Mt. Shasta and Dunsmuir PAAs. They also have the potential to occur within the McCloud PAA. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer that will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to FYLF or their habitat are anticipated to occur. **Less than significant with mitigation incorporated**.

Pacific tailed frog (*Ascaphus truei)*

A. truei are listed as a Species of Special Concern by the CDFW. The range of *A. truei* in California is from near Anchor Bay, Mendocino County, north along the coast to the Oregon Border, and as far east as near Big Bend, Shasta County. This species inhabits cold, clear, permanent rocky streams in wet forests. They do not inhabit ponds or lakes. After heavy rains, adults may be found in moist riparian forests. A rocky streambed is necessary for protective cover for adults, eggs, and larvae. Adults do not travel to a breeding location; they breed in the cold, swift streams they inhabit. The female lays her eggs in spring and summer after the spring runoff, generally July to September in California populations.

Observations of *A. truei* are recorded in CNDDB approximately three miles west of the Dunsmuir PAA in Little Castle Creek and three miles east in Soda Creek. The occurrence with Soda Creek is also within three miles of the McCloud PAA. Likely egg deposition and breeding habitat may be found in any of the forested perennial streams within the project area such as Little Castle Creek. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer that will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to *A. truei* are anticipated to occur. **Less than significant with mitigation incorporated.**

Western pond turtle (*Emys marmorata)*

The western pond turtle (WPT) is listed as a CDFW Species of Special Concern and a CESA-Proposed Threatened species. Western pond turtles are habitat generalists and can occupy a wide range of aquatic habitats, thus the most limiting factor of habitat suitability is the presence of water. In addition to the presence of deep pools and slow-moving water, the following general characteristics are associated with pond turtle habitat: 1) basking sites, 2) aquatic refugia, 3) streamside/bank refugia, and 4) upland nesting habitat.

WPT egg deposition typically occurs on sandy banks near water. Upland migration has been documented during nesting season at certain sites (between May and August) when individuals seek out sites for egg deposition. This can occur up to several hundred feet from water, but it is most likely between water courses and adjacent nesting habitats (i.e., grasslands or riparian forests).

Observations of *E. marmorata* are recorded in CNDDB approximately 10 miles north of the Mt. Shasta PAA, near Lake Shastina. Although there are no recorded observations of *E. marmorata* within any PAA on CNDDB, suitable basking sites, aquatic or streamside refugia, and upland nesting sites may be present within wet meadows, aquatic, or riparian habitats.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer. Because project activities will avoid in-water work, western pond turtles have the potential to be impacted only in their upland dispersal or nesting sites during the nesting season (May to August). Pond turtles often nest along sandy banks of rivers, but they have also been known to move a considerable distance (up to 200 feet) away from streams to find a suitable nest site. Migrating adults could potentially encounter project vehicles, equipment, or falling trees that could lead to injury or mortality. **Mitigation Measure 4** for WPT is included to identify and protect WPT and their nests if project work occurs during nesting season. Therefore, project-related impacts to WPT will be **less than significant with mitigation incorporated.**

Southern long-toed salamander (*Ambystoma macrodactylum sigillatum)*

The southern long-toed salamander is listed as a CDFW Species of Special Concern. Their range extends from Tuolumne County, in the vicinity of the Stanislaus River, to north and east of the Cascades in Modoc and Lassen counties. Their preferred habitats include ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir, and wet meadows.

Adults of this species are subterranean during most of the year, utilizing mammal burrows, rock fissures, and occasionally human-made structures. During breeding migrations in spring and fall, they may be found under surface objects such as rocks or logs near a breeding pond. Terrestrial juveniles may spend the entire first summer of life in mammal burrows or under surface objects in the immediate vicinity of their breeding pond. Aquatic larvae prefer shallow water, less than 12 inches in depth, and utilize clumps of vegetation or other bottom debris as cover.

Observations of the southern long-toed salamander are recorded on CNDDB approximately 5 miles east of the Dunsmuir PAA, within the McCloud PAA. Another population is recorded at the headwaters of the South Fork Sacramento River approximately 8 miles west of the Dunsmuir PAA.

Suitable breeding ponds may be present within the Sierran mixed conifer, montane hardwood-conifer, and montane riparian habitats in the Dunsmuir PAA and McCloud PAA.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer that will exclude activities from any breeding ponds and adult dispersal grounds in the vicinity of a pond. Therefore, no impacts to the southern long-toed salamander are anticipated to occur. **Less than significant with mitigation incorporated.**

American peregrine falcon (*Falco peregrinus anatum)*
The American peregrine falcon is state and federally delisted and has been removed as a Fully Protected species by the CDFW in July 2023. In California, peregrine falcons can be found nesting on coastal, island, and mountainous cliffs or bridges and skyscrapers with ready access to hunting grounds. During winter months or while in migration, they can be found near lakeshores, seacoasts, estuaries, or marshlands containing abundant avian prey. They typically hunt by entering a high-speed dive, striking smaller birds in mid-air.

Available data on CNDDB show that the nearest occurrence is within the Dunsmuir PAA, with likely nesting habitat outside of the PAA near Castle Crags. Nesting habitat may be present in cliffs, canyons, or ledges within the Dunsmuir and McCloud PAAs. Individuals may also be present within grassland and shrubland habitats while migrating or hunting.

No cliffs will be treated due to the slope exclusion integrated into the project design, and it is unlikely that the treatments would be near a peregrine falcon nest. **Mitigation Measure 5** for raptors, migratory, and special-status birds will avoid direct impacts to all nesting birds by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. **Mitigation Measure 5** will prevent activities within the vicinity of a peregrine falcon nest.

Removal of shrubs as needed to achieve the shaded fuel break treatment may occur in potential foraging habitats for falcons. Treatments within potential foraging habitats would occur on private or commercial timber properties. Due to the existing timberland managed in the area, the limited extent of the vegetation treatments, and the small project footprint relative to the large foraging range of the peregrine falcon, the project is not likely to cause a significant loss of foraging habitat. Project treatments will allow for continued inhabitance of the PAAs by smaller birds that are prey for peregrine falcons. Greater spacing of trees may improve falcons' ability to forage on these birds, which could therefore expand the foraging area for falcons. Therefore, project-related impacts to the peregrine falcon would be less **than significant with mitigation incorporated.**

Bald eagle (*Haliaeetus leucocephalus)*
Bald eagles are large birds of prey that winter in California along rivers, lakes, or reservoirs that provide adequate foraging opportunities. This species forages on fish, waterfowl, other small animals, and carrion. They prefer tall, mature trees that provide a wide view of the surrounding open water. Bald eagles typically nest in forested areas adjacent to large bodies of water, staying away from heavily developed areas when possible.

Although the bald eagle was federally delisted in 2007, the Bald and Golden Eagle Protection Act (16 USC 668-668c) continues prohibitions on take including disturbance, such as injury, decreasing productivity, or substantially interfering with normal breeding, feeding, or sheltering, or nest abandonment. Under the California Endangered Species Act, the bald eagle is listed as endangered and is designated as Fully Protected by CDFW. Additionally, the Bald and Golden Eagle Protection Act upholds prohibitions of take including disturbance, injury, decreasing productivity, or substantially interfering with normal breeding, feeding, sheltering, or nesting.

Available data on CNDDB show that the nearest known bald eagle occurrences are along the South Fork Sacramento River near Siskiyou Lake. Bald eagles may nest in tall, mature trees or forage along perennial streams within all PAAs.

Bald eagles exhibit nest site fidelity and therefore have the potential to be impacted through removal or modification of their nest sites. **Mitigation Measure 5** for raptors, migratory, and special-status birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. In addition, **Mitigation Measure 2** will avoid the removal of riparian trees where potential nest sites are most likely to occur. Protection measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact a bald eagle. The impact to bald eagles would be **less than significant with mitigation incorporated**.

Black swift (*Cypseloides niger*)

The black swift is listed as a Species of Special Concern by the CDFW. The black swift populations have been declining drastically since the 1970s, although not much is known about the cause. In Northern California, small, isolated, semi-colonial groups of black swifts exclusively nest on steep, vertical walls behind inland waterfalls and sea cliffs.

Observations of *C. niger* are recorded in CNDDB inside or adjacent to the project area, likely nesting behind Mossbrae Falls or possibly Hedge Creek Falls. Nesting habitat exists and mid-air foraging individuals may be present within the Dunsmuir PAA.

Like most birds, black swifts have the potential to be impacted through noise disturbance or vegetation removal near their nest sites. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer which will exclude project treatments from habitat types that support nesting black swifts. Additionally, **Mitigation Measure 5** for raptors, migratory, and special-status birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. **Mitigation Measure 5** will prevent direct mortality and limit the chance of habitat modification that could indirectly impact a black swift. Therefore, the impact to black swifts would be **less than significant with mitigation incorporated.**

Bank swallow (*Riparia riparia)*
Bank swallows are listed as threatened species by the State of California. Bank swallows require vertical earthen banks and cliffs with fine-textured sandy soils near water to dig nesting cavities up to five feet long. The nest exists at the end of the cavity and is made of grass and plant roots, lined with feathers. This species nests in colonies that consist of 10 to up to 2,000 nests. Bank swallows are typically present between March and late August. Bank swallows feed in groups, almost entirely in flight. They typically fly low over open water to capture flying insects.

Observations of *R. riparia* are recorded in CNDDB approximately 0.9 miles west of the Mt. Shasta PAA near Siskiyou Lake and 5 miles south of the McCloud PAA near Lake McCloud. *R. riparia* may be present nesting or foraging adjacent to suitable earthen banks or cliffs and waterways within the Mt. Shasta and McCloud PAAs.

Vertical earthen banks and cliffs typically lack vegetation that qualifies for treatment under this project. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer that will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Additionally, **Mitigation Measure 5** for raptors, migratory, and special-status birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact *R. riparia*. Therefore, the impact to *R. riparia* would be **less than significant with mitigation incorporated**.

Northern spotted owl (*Strix occidentalis caruina)*
The NSO is recognized as threatened under CESA and the federal ESA. In California, NSO can be found from Marin County, up the Coastal Ranges into Oregon, and across to the Cascade Ranges. The Pit River in Shasta County is generally considered the southeast border of the species' range, where it overlaps with the range of California spotted owls. Three large studies suggest that the population within California declined 31 to 55 percent since the 1990s (CDFW Memorandum). The primary threats to the NSO are competition with the barred owl (*Strix varia*), wildfires, and timber harvest that results in habitat modification.

USFWS Final Critical Habitat exists in multiple areas of southern Siskiyou County but would not be impacted by project activities. USFWS Final Critical Habitat approaches the survey area 2 miles west and 5 miles east of the Mt. Shasta PAA (west of Lake Siskiyou and south of Mt. Shasta); 0.5 miles east of the Dunsmuir PAA around Soda Creek Road; and within 0.5 miles of the McCloud PAA, northeast of McCloud, California. According to the CNDDB, the nearest known NSO Activity Centers are 2 miles east of the Dunsmuir PAA near Soda Creek Road, 0.6 miles north of the McCloud PAA, and 0.5 miles northeast of the McCloud PAA. Additional NSO Activity Centers are located more than four miles west of the Mt. Shasta PAA.

Spotted owls inhabit mature forests with a mixed canopy comprised of conifer and oak species. Nesting habitat requires important stand elements including high canopy closure, a multi-layered, multispecies canopy with large overstory trees, and the presence of broken-topped trees or other nesting platforms. Foraging habitat provides habitat for owls' prey but lacks the structure to

support nesting and roosting. Owls use a broader range of forest types for foraging than they do for nesting. Proximity to other habitats is important in determining suitable habitats. Patches less than 100 acres in size with large trees and dense canopy are not likely to function as habitat if they are less than 100 yards wide or separated by more than about 0.5 miles from other NSO habitats (USDI-FWS 2009). Table 4 (USDI 2019) describes the minimum values for selected structural parameters to classify NSO habitat in cores and home ranges for evaluation of take on private lands.

In general, treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment, but the treatment/activity does not remove suitable habitat function entirely, are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging). Removal of habitat function occurs when treatment activities reduce habitat elements to the degree that the habitat no longer functions as a suitable habitat. Defined NRF habitats are shown in Table 4.

Table 4
NSO NRF FUNCTIONAL HABITAT TYPES

Parameter	Functional Habitat Type			
	High-Quality Nesting/Roosting	**Nesting/Roosting**	**Foraging**	**Low-Quality Foraging**
Basal area[1]	≥210 ft^2 /acre	Mix ranging from 150 to ≥180 ft^2/acre	Mix ranging from 120 to ≥180 ft^2 /acre	Mix ranging from 80 to ≥120 ft^2 /acre
QMD[2]	≥15 inches	≥15 inches	≥13 inches	≥11 inches
Large trees[3] per acre	≥8	≥8	≥5	NA
Canopy closure[4]	≥60%	≥60%	≥ Mix ranging from 40 to 100%	≥40%
Other Notes	Multi-layered, multi-species forest structure with fairly open understory through which owls can fly		Foraging habitat must generally have some higher-quality habitat nearby (within 1/2 mile)	NA

Notes:
1 Square feet per acre
2 QMD = quadratic mean diameter of trees >5 inches dbh
3 Trees >26 inches dbh
4 Canopy closure = percent cover of overstory trees

NSO forage over a wide area and subsequently return to a nest or roost location that is often centrally located within the home range and core use area, called an Activity Center. Outside of Activity Centers, owls utilize more general habitat for dispersal. For example, juvenile owls often must disperse through a range of forest types before finding a habitat on which to establish a territory. In the absence of site-specific data, USFWS defines the core use area as the 502 acres in a 0.5-mile radius circle surrounding the activity center, while the home range is a 1.3-mile radius circle centered on the activity center (USDI 2019).

Within the PAAs, Sierran Mixed Conifer, Montane Hardwood-Conifer, Eastside Pine, Ponderosa Pine, and Montane Hardwood habitats could contain NRF habitats (Table 4). These habitat types contain the appropriate tree species for NSO habitat composition; portions of these habitat types meet the parameters for NRF habitat. The presence of NRF habitats will be determined through PSAs and GIS analysis on each property, plus a review of the best available data from resource agencies and landowners showing known Activity Centers. **Mitigation Measure 6** ensures that during the PSA of each eligible parcel, areas with suitable NRF habitat shall be classified to the appropriate functional habitat type over a scale of 20 acres according to the minimum structural parameters listed in Table 4.

Fuels reduction within all suitable NRF habitats would be amended per **Mitigation Measure 8** to reduce the habitat alteration such that impacts would be less than significant. Known nest trees, snags with potential nesting platforms, all large snags (20 inches DBH or larger), and associated screen trees will be avoided unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the parcel. These include trees with large, flattened tops, large broken-topped trees, trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics (USDI 2018).

While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat (USDI 2018). All nesting and roosting habitat will be preserved.

Within suitable foraging habitat, as defined by Table 4, in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center), project activities will avoid downgrading or removing suitable foraging habitat function. While habitat elements may be removed, such as individual trees, shrubs, down logs, and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction, and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres) (USDI 2018).

Direct impacts that could occur to NSO include disturbance of individuals or their nest structures from tree removal. Additionally, noise or smoke disturbance from equipment operations and pile burning near an active nest may cause an NSO to abandon the nest. To prevent direct impacts, **Mitigation Measure 7** includes protocol-level surveys of all suitable NRF habitats to determine the presence of NSO and/or a limited operating period which will apply to all project activities within 0.25 miles of all suitable NRF habitats. If surveys have not been completed and cannot be done, occupancy of NSO is assumed based on the presence of suitable NRF habitat.

With the implementation of these measures, direct and indirect impacts to NSO or their habitat will be **less than significant with mitigation incorporated**.

American goshawk *(Accipiter atricapillus)*
The American goshawk is listed as a Species of Special Concern by the CDFW. This species is found nesting deep into mature coastal or montane coniferous forests. Outside of the breeding season, they can be found in riparian and woodland habitats, as well as in canyons or forest edges. They tend to feed on ground-dwelling birds, rabbits, and squirrels. Since they require extensive forested areas for hunting and nesting, timber harvest in Northern California is the main cause of their decline.

The nearest observations of *A. atricapillus* recorded in CNDDB are east of the Mt. Shasta PAA near Ski Park Highway, west of the Dunsmuir PAA near Mt. Bradley Road, and north and east of the McCloud PAA. Sierran Mixed Conifer, Mixed Hardwood-Conifer, and Montane Hardwood habitats with adequate tree size and density in all PAAs could provide foraging or nesting habitat for goshawks.

Project treatments near an active nest may cause an American goshawk to abandon the nest. **Mitigation Measure 5** for raptors, migratory, and special-status birds includes scheduling project activities outside of the nesting season, or if activities occur within the nesting season, locating active nests, and installing a species-appropriate buffer around an active nest. Goshawks demonstrate site fidelity to multiple nests and tend to maintain inactive nests as alternate sites. **Mitigation Measure 5** includes the avoidance of all inactive large stick nests observed during the PSA, where feasible. This mitigation measure will prevent direct mortality.

American goshawks have the potential to be impacted through the removal or habitat modification of their nest sites. **Mitigation Measure 6** is designed to ensure NSO NRF habitat is identified and that higher-quality functional habitat types (Table 4) are maintained. American goshawks and NSO inhabit similar habitat types. Generally, the functional habitat type requirements that will be maintained for the NSO exceed the minimum required to sustain American goshawks and their prey. Therefore, **Mitigation Measure 6** will help ensure that direct indirect impacts through habitat modification will be less than significant.

Project mitigation measures will prevent direct mortality, limit the chance of habitat modification, and limit changes in prey availability that could lead to population-level declines of American goshawks. Therefore, project-related impacts to American goshawks would be **less than significant with mitigation incorporated**.

Osprey (*Pandion haliaetus)*
Osprey are designated as a watch list species by the CDFW. In North America, osprey nest along the coasts, large inland lakes, and rivers. This species preys mostly on fish but also birds, reptiles, amphibians, and invertebrates. Osprey nest usually within close proximity to fish-producing water, on platforms of sticks at the top of large snags, dead-topped trees, on cliffs, or human-made structures. Osprey individuals need tall trees nearby for landing before approaching the nest and for use by young during flight practice. This species is highly adaptable and has become increasingly abundant in urban landscapes (Shuford and Gardali 2008).

Potential nesting habitat for osprey includes telephone poles, transmission towers, and large trees located within or adjacent to all PAAs. Multiple active nest structures are known to occur along the Interstate 5 corridor and the Sacramento River. Because osprey exhibit site fidelity, retention of existing nest structures is important for their reproductive success.

Osprey generally have the potential to be impacted through removal or habitat modification of their nest sites. Although osprey are typically tolerant of establishing nests near ongoing human disturbances, any new significant noise or disturbance near an active nest may cause an osprey to abandon the nest. **Mitigation Measure 5** for raptors, migratory, and special-status birds will prevent direct mortality and limit the chance of noise disturbance that could directly impact nesting osprey. The project will not result in significant impacts to habitat for this species or population-level effects. Therefore, impacts to osprey would be **less than significant with mitigation incorporated.**

Willow flycatcher (*Empidonax traillii)*

E. traillii is recognized as Endangered under CESA. They inhabit wet meadow and montane riparian habitats at 600 to 2500 meters elevation in the Sierra Nevada and Cascade Ranges. They most often occur in broad, open river valleys or large mountain meadows with lush growth of shrubby willows. They migrate to lower elevations, primarily in riparian habitats throughout the state, from mid-May to the end of August. They require dense willow thickets for nesting and roosting.

The nearest observations of *E. traillii* recorded in CNDDB are approximately five miles east of the Dunsmuir PAA, within the McCloud PAA. Potential nesting and foraging habitats exist within the emergent wetland and montane riparian habitats in the Dunsmuir and McCloud PAAs.

Direct impacts that could occur to *E. traillii* include disturbance of individuals or their nest structures from ground disturbance or vegetation removal. Nest abandonment can occur because of continued exposure to increased noise or vibrations that can result from project activities. **Mitigation Measure 2** incorporates a non-disturbance wetland buffer that will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. **Mitigation Measure 5** for raptors, migratory, and special-status birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Mitigation measures will prevent direct mortality and limit the chance of habitat modification or noise disturbance that could indirectly impact *E. traillii*. Utilizing these project mitigation measures will ensure that impacts to *E. traillii* and their habitat would be **less than significant**.

Yellow rail (*Coturnicops noveboracensis)*

The yellow rail is listed as a Species of Special Concern by the CDFW. They occur in shallow marshes with fairly short vegetation such as sedges, rushes, bulrushes, and grasses. They tend to build a small cup nest of fine sedges in a dense, unflooded part of the marsh. They mostly feed on wetland invertebrates and seeds. The range of yellow rail is limited in California to the Suisun Marsh and portions of Northern California.

Yellow rails were detected 1.2 miles west of the Mt. Shasta PAA during surveys completed in 2002-2005. Potential breeding and foraging habitats exist within emergent wetlands and wet meadow habitats.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer that will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Additionally, **Mitigation Measure 5** for raptors, migratory, and special-status birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Protection measures will prevent direct mortality and limit the chance of habitat modification or noise disturbance that could indirectly impact the yellow rail. The project would not result in significant impacts to habitat for this species that would lead to population-level decline. No habitat would be affected. Therefore, impacts to the yellow rail would be **less than significant with mitigation incorporated**.

Fisher (*Pekania pennanti)*
The fisher species in California and Oregon is called the West Coast Distinct Population Segment (DPS). This includes isolated populations in the Southern Sierra Nevada and Northern California-Southern Oregon. In Northern California, the fisher is listed as a Species of Special Concern by CDFW. Due to their extremely valuable fur, fishers have been trapped by humans since the 1800s, and by the 1930s they were nearly extinct. California banned the trapping of fishers in the 1940s, but their numbers have continued to decline because of habitat loss from logging, development, and severe forest fires.

As expert tree climbers, fishers prefer to live in coniferous forests consisting of old-growth pine, Douglas fir, and true fir. They require moderately large trees for dens and prefer to travel on the forest floor with lots of woody debris and over 80 percent continuous overhead coverage. They are known to feed on squirrels, mice, rabbits, porcupines, carrion, and false truffles. Mating occurs in spring to early summer, followed by a gestation period of 10 to 12 months.

Fishers most commonly den in hardwood tree crevices during maternity season (May 1 to June 30) but may be found near large trees and downed logs year-round. Female fishers are selective about dens. They select tree cavities with an entrance hole that is 5 to 10 centimeters wide by 7 to 15 centimeters tall and 1.5 meters to 17 meters from the ground (Weir 2017). Den trees are at least 14 inches in diameter as they must be large enough to fit the female and her kits.

There are recent fisher observations recorded in CNDDB within the Mt. Shasta and McCloud PAAs and adjacent to the Dunsmuir PAA. Fishers may occur in riparian and heavily forested habitats within all PAAs.

Removal of hardwood trees could potentially include fisher den habitat if they are a) at least 14 inches DBH and b) exhibit crevice entrance holes that are 5 to 10 centimeters wide by 7 to 15 centimeters tall and 1.5 meters to 17 meters from the ground. Impacts to these potential den structures would be avoided by the inclusion of **Mitigation Measure 9** for mammal dens. Any

potential den structures would be identified before completing project work and would be avoided during the denning season for fishers, or otherwise would be surveyed to determine the presence of fishers before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible, if they do not contribute to fuel loads or wildfire hazards. Because any active burrows would be avoided with an appropriate temporal or spatial buffer to avoid mortality of fishers, and loss of habitat would be minimized, the project would not result in population-level effects. Therefore, impacts to fishers would be **less than significant**.

Ringtail (*Bassariscus astutus)*
The ringtail is recognized as a fully protected species by the CDFW. In California, the ringtail is widely distributed throughout riparian forests, brush stands, and shrub habitats in the lower to middle elevations. They can be found nesting and living in natural cavities, snags, and attics, usually within 1 km of a permanent water source. They feed primarily on rodents and rabbits. CNDDB data has determined that ringtail habitat exists within the riparian forest and emergent wetland habitat inside all PAAs.

Ringtails utilize tree hollows with entrance holes greater than two inches in diameter in standing trees or downed logs. Similar to the fisher, the removal of dead, dying, or diseased hardwood trees could potentially target ringtail den habitat. Impacts to these potential den structures would be avoided by the inclusion of protection measures for ringtails and fisher dens. **Mitigation Measure 9** ensures any potential den structures would be identified before completing project work and would be avoided during the denning season for ringtails, or otherwise would be surveyed to determine the presence of a ringtail den before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible, if they do not contribute to fuel loads or wildfire hazards. Because any active dens would be avoided with an appropriate temporal or spatial buffer to avoid mortality and loss of den habitat would be minimized, impacts to ringtails would be **less than significant**.

Gray wolf (*Canis lupis)*
The gray wolf is recognized as endangered by the State of California and the federal ESA. In 2016, CDFW prepared a Conservation Plan for gray wolves in California, intending to manage wolf packs, their habitat, and their prey populations. Gray wolves are habitat generalists and can inhabit temperate forests, mountains, and grasslands wherever there is suitable prey. Prey species primarily include ungulates such as deer, and elk, but they will also take small mammals and will readily scavenge.

This species is highly territorial and defends territories in packs. Territory size is a function of prey density and can range from 25 to 1,500 square miles. Gray wolves began the natural recolonization of California in late 2011 following the dispersal of Oregon Wolf OR-7. Since then, several satellite-collared and unknown wolves from Oregon have dispersed into the state. The first known pack in California in modern times was the Shasta Pack, though the pack was last observed in late 2015. Today, California has seven confirmed wolf packs: Whaleback Pack, Lassen Pack, Beckwourth Pack, and an unnamed pack in Lassen, Plumas, Tehama, and Tulare counties. Historically, wolves dispersing in Northern California have utilized the open terrain that occurs

east of Interstate 5 and dispersal has been most abundant in the spring and autumn months (Kovacs 2018).

The nearest recorded observations of gray wolves in the project vicinity are from the Whaleback Pack approximately 10 to 20 miles from the project area. CDFW is currently monitoring the male OR-85 and the female WHA01F. The pair produced seven pups in 2021 and eight pups in 2022. OR-85 was re-collared in February 2023. The CDFW State Gray Wolf Coordinator was contacted in January 2025 to verify if any wolves are known within the project area or immediate surrounding area. CDFW confirmed that there are no known den or rendezvous sites or areas of wolf activity within the survey area.

Due to the proximity to the Whaleback Pack's known boundary and the likelihood of wolf dispersal due to offspring success in recent years, all PAAs could be within the dispersal range of a gray wolf. CDFW will be contacted immediately prior to the implementation of the project to verify if any known wolves, wolf dens, or wolf pack territory is known within the project area. If any wolves are verified within the project area, then an appropriate buffer will be coordinated with CDFW before implementation begins.

Current threats to this pack, and all gray wolf packs as they establish territories, include continued conflict with humans, primarily resulting from livestock depredation, and habitat loss, degradation, and fragmentation due to land development. In recent cases, wolves have been hit by cars while trying to disperse across busy roadways.

Due to the proximity to the Whaleback Pack's known boundary and the likelihood of wolf dispersal due to offspring success in recent years, all PAAs could be within the dispersal range of a gray wolf.

Because of the small project footprint relative to the large home-range size of the gray wolf and the fact that gray wolves are highly mobile and capable of avoiding project-related disturbance, it is possible that this species will disperse through or around the project area but highly unlikely that the project would impact wolves. Due to the existing urban development in the area and the limited extent of the vegetation treatments, the project would not cause further fragmentation of dispersal corridors for wolves. Therefore, impacts to gray wolves will be **less than significant**.

Spotted bat *(Euderma maculatum)*

The spotted bat is recognized by CDFW as a Species of Special Concern. The spotted bat is distributed throughout the western United States as far north as southern British Columbia and as far south as Durango, Mexico. Spotted bat presence is most dependent on the availability of high, sheer cliffs in arid land. Although it has been found hibernating in the colder portions of its range, they have also been found periodically active throughout the winter in the upper Sacramento River drainage. The spotted bat is found in habitats ranging from desert scrub to montane coniferous forest wherever rock cliffs are present. It has been collected most often in the southeast in dry, rough desert terrain with substantial rock cliffs and water nearby. The spotted bat is considered one of North America's rarest mammals.

Known observations on CNDDB exist within the Mt. Shasta PAA and west of the Dunsmuir PAA near Little Castle Creek and North Fork Castle Creek. They have the potential to occur within all PAAs. Typically, hibernation and maternity roosts are found within permanent structures such as rock crevices, caves, bridges, mines, or abandoned buildings. Feeding perches and day roosts are more temporary and trees may be utilized. Most bat species use trees generally in the largest diameter classes available in the habitat as day roosts. Preferred roost trees are most likely to be found in late-successional, old-growth, or multiage stands, particularly those with an abundance of snags.

In general, bats are most sensitive during maternity roosting and winter hibernation. Bats tend to congregate during these periods, so any disturbance could impact a number of bats. Disruption of a maternity roost, which includes mothers and their non-volant young, could cause loss of offspring as non-volant young cannot survive outside of the roost. In the winter months, bats undergo a delicate energy balance as they enter a type of hibernation called *torpor*. Disturbance to bat winter hibernacula can disrupt torpor and, since no food is available, this can often lead to bat mortality. **Mitigation Measure 11** ensures project activities would not disturb tall rock crevices or tunnels that spotted bats might use for maternity and hibernacula roosts. **Mitigation Measure 10** for the humane exclusion of bats from trees will be implemented to avoid impacts to bats during the removal of dead or dying trees. Project mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact vulnerable groups of bats.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats, which are the most likely to be selected for bat day roost and foraging habitats. Therefore, impacts to spotted bats will be **less than significant with mitigation incorporated**.

Western mastiff bat (*Eumops perotis)*

The western mastiff bat is recognized by CDFW as a Species of Special Concern. In California, the distribution of western mastiff bats is limited to areas with suitable roosting habitats. Roosts are typically in cliff faces, large boulders, or crevices on tall buildings (Howell 1924). When roosting in rock crevices, mastiff bats need vertical faces tall enough to drop off to take flight. The western mastiff bat roosts in small colonies, though they have been observed also roosting with other bat species. Available data shows that they mate in spring and give birth to single young in early summer.

Western mastiff bats are terrestrial foragers, and they capture insects in flight and sometimes glean non-flying insects from rocks or canyon walls. They forage for up to seven hours per night, and their foraging range can reach up to 15 miles away from their roost site. While they undergo torpor during winter daytime hours, they wake up to feed nocturnally almost year-round. In cold climates, they may hibernate when temperatures reach below 35 degrees Fahrenheit. Individual bat day roosts are variable, and each bat may switch between different day roost sites.

According to the CNDDB, several individuals were documented within the Dunsmuir PAA near Bush Street Bridge above the Sacramento River during surveys completed in 1993. It is unknown if these individuals were roosting or dispersing between roost and foraging sites. This species was

observed the same year approximately 3.5 miles west of the Mt. Shasta and Dunsmuir PAAs in a heavily forested area. They have the potential to occur within all PAAs.

In general, bats are most sensitive to population-wide effects during maternity roosting and winter hibernation. Bats tend to congregate during these periods, so any disturbance could impact numerous bats. Disruption of a maternity roost, which includes mothers and their non-volant young, could cause loss of offspring as non-volant young cannot survive outside of the roost. In winter months, bats undergo a delicate energy balance as they enter a type of hibernation called torpor. Disturbance to bat winter hibernacula can disrupt torpor and since no food is available this often leads to bat mortality.

Mitigation Measure 11 ensures project activities would not disturb tall rock crevices or tunnels that western mastiff bats might use for maternity and hibernacula roosts. **Mitigation Measure 10** for the humane exclusion of bats from these trees will be implemented to avoid impacts to bats during the removal of dead or dying trees. Mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats, which are the most likely to be selected for bat day roost habitat. Therefore, impacts to western mastiff bats will **be less than significant**.

North American wolverine (*Gulo gulo luscus)*
The North American wolverine is recognized as Threatened by the State of California and the federal ESA as well as by CDFW as a fully protected species. They are a scarce resident of the North Coast mountains and Sierra Nevada. Habitat distribution in California is poorly known for the North Coast and northern Sierra Nevada. In northern coastal areas, they have been observed in Douglas-fir and mixed conifer habitats, and probably use red fir, lodgepole, wet meadow, and montane riparian habitats. Most sightings in this region range from 1600 to 4800 feet in elevation. In the northern Sierra Nevada, they have been found in mixed conifer, red fir, and lodgepole habitats and probably use subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Elevation ranges for this species in the northern Sierra Nevada mostly fall at 4300 to 7300 feet. They den in existing caves, cliffs, hollow logs, cavities in the ground, under rocks, old beaver lodges, or may dig dens in snow. They prefer areas with extremely low human disturbance.

This species is highly intolerant to other individuals. Although there is much overlap between home ranges, spacing is maintained in time, but not space, thus territorial defense is infrequent. Several females may have home ranges within the range of a single male. Year-round territory size may be as much as 150 square miles, while some hunting ranges may be as much as 800 square miles. Topographic features such as mountains, rivers, and highways do not appear to affect the size and shape of their home range.

Wolverines have extremely low population densities, even in pristine habitats. They may have never been common in California. The most recent sightings near Northern California occurred in the Sierra Nevada range in 2018 and the Oregon Cascade Range in 2023. There have been no recent sightings in Siskiyou County.

Current threats to dispersing wolverines as they establish territories, include continued conflict with humans, primarily resulting from habitat loss, degradation, and fragmentation due to land development.

Although unlikely, all PAAs could be within the dispersal range of a wolverine. Because of the small project footprint relative to the large home range size of the wolverine and the fact that wolverines are highly mobile and capable of avoiding project-related disturbance, it is unlikely that project activities would impact a wolverine. Impacts to potential den structures would be avoided by the inclusion of **Mitigation Measure 9** for mammal dens. Any potential den structures would be identified before completing project work and would be avoided during the denning season for wolverines, or otherwise would be surveyed to determine the presence of wolverines before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible if they do not contribute to fuel loads or wildfire hazards. Due to the existing urban developments within all PAAs and the limited extent of the vegetation treatments, the project would not cause further fragmentation of dispersal corridors for wolverines. Therefore, impacts to wolverines will be **less than significant**.

Oregon snowshoe hare (*Lepus americanus klamathensis)*

The Oregon snowshoe hare is recognized by CDFW as a Species of Special Concern. *L. a. klamathensis* is found in the vicinity of Mt. Shasta, the Trinity Mountains, and possibly the Warner Mountains. In California, they are primarily found in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges, and especially near meadows. Dense cover is preferred, either in understory thickets of montane riparian habitats or in shrubby understories of young conifer habitats. A shallow bowl-like depression (form) is made in dense understory or brush piles. They are rarely found in open spaces or mature closed-canopy forests (Conroy et al. 1979).

The nearest known observation of the snowshoe hare recorded in CNDDB is east of the Dunsmuir PAA and within the McCloud PAA. There is potential for the snowshoe hare to occur within the montane riparian habitat and forest edges with dense understory near meadows inside the Dunsmuir and McCloud PAAs.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats and the edge habitat surrounding meadows, which are the most likely habitats to be utilized by this species for cover or nesting. Therefore, it is unlikely that any individuals will be present within specific treatment areas and loss of habitat would be minimized. The project would not result in mortality or population-level effects, therefore, impacts to the Oregon snowshoe hare would be **less than significant**.

Sierra Nevada mountain beaver (*Aplodontia rufa californica)*
The Sierra Nevada mountain beaver is recognized by CDFW as a Species of Special Concern. They are found throughout the Cascade, Klamath, and Sierra Nevada Ranges. Mountain beavers occur in dense riparian-deciduous and open, brushy stages of most forest types. Their typical habitat is montane riparian. They frequent open and intermediate-canopy coverage with a dense understory directly adjacent to water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate. Mountain beavers feed on vegetative parts of plants, mostly thimbleberry, salmonberry, blackberry, dogwood, salal, ferns, lupines, willows, and grasses. Burrows are located in deep soils in dense thickets, preferably near a stream or spring. Nests are often lined with dry vegetation. Nest chambers are situated 0.3 to 1.5 m below the ground surface. Mountain beavers do not concentrate urine and require a large daily intake of water, so most burrows contain water.

Mitigation Measure 2 incorporates a non-disturbance wetland buffer which will prevent disturbance to montane riparian habitats and other habitats with proximity to surface water which are the most likely habitats to be utilized by this species for foraging or burrowing. Therefore, it is unlikely that any individuals will be present within specific treatment areas and loss of habitat would be minimized. The project would not result in mortality or population-level effects, therefore, impacts to the Sierra Nevada mountain beaver would be **less than significant with mitigation incorporated**.

Franklin's bumble bee (*Bombus franklini)*
The Franklin's bumble bee is recognized as a Candidate Endangered Species by the State of California and is listed as endangered by the federal ESA. This species inhabits undisturbed grassland where it nests underground as well as in structures and grass hummocks (Xerces 2023). Example food plants include lupine (*Lupinus*), California poppy (*Eschscholzia*), horsemint (*Agastache*), mountain penny royal (*Monardella*), and vetch (*Vicia*).

Like all other bumble bees, this species lives in colonies consisting of a queen and her offspring: sterile female workers and males. Queens are responsible for initiating colonies and laying eggs; workers are responsible for most food collection, colony defense, nest construction, and feeding of the young, and males' sole function is to mate with new queens produced at the end of the colony season. Bumble bee colonies depend on floral resources for their nutritional needs; nectar provides carbohydrates for adult flight fuel and basic colony energy needs and pollen provides protein primarily for offspring growth (Xerces 2023). Colonies are annual and only the new, mated queens overwinter.

Queens emerge from hibernation in the early spring and immediately start foraging for pollen and nectar and begin to search for a nest site. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Initially, the queen does all the foraging and care for the colony until the first workers emerge and assist with these duties. Bumble bees collect both nectar and pollen from the plants that they pollinate (Xerces 2023).

The nearest known historical observation on CNDDB is approximately 3.3 miles east of the Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

The project treatments would result in an increase in sunlight availability to the forest floor in areas where shaded fuel breaks and riparian treatments are completed. This could result in greater forb diversity throughout the treated areas which could provide additional foraging habitat for bumblebees.

Mechanical or manual treatment activities could impact special-status bumble bees via direct mortality as larvae may be present and could be killed during treatment activities like the removal of dead or dying trees or the use of heavy machinery in grasslands. Grasslands are unlikely to be treated since the baseline fuel loads in these areas already meet the intended spacing for the project treatments. **Mitigation Measure 12** ensures the minimization of disturbance in grasslands and meadows. If a bumble bee colony or indication of nesting bumble bees (such as bees returning to the same location repeatedly) is observed on a tree to be removed, then removal of the tree will follow a Limited Operating Period between May 15 to September 30 (i.e., the flight, colony, and nesting season for the species). Impacts to Franklin's bumble bees and other species of bumble bees will be **less than significant**.

Western bumble bee (*Bombus occidentalis)*
The western bumble bee is recognized as a Candidate Endangered Species by the federal ESA. Their populations west of the Sierra Nevadas and the Cascades, especially at lower elevations, have disappeared or declined since the 1990s. The lead cause of the decline is likely pests and diseases spread by the commercial bumble bee industry. This species inhabits undisturbed grassland and meadow habitats where it nests underground as well as in structures and grass hummocks (Xerces 2023). They are distributed broadly in Northern California and as generalist foragers, are incredibly important pollinators for wild plants and crops.

The nearest known historical observation on CNDDB occurs within the Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

The life history and discussion of possible impacts to western bumble bees will be the same as stated above for Franklin's bumble bees. The impacts to western bumble bees and all other special-status bumble bees will be **less than significant**.

Suckley's cuckoo bumble bee (*Bombus suckleyi)*
The Suckley's cuckoo bumble bee is recognized as a Candidate Endangered Species by the federal ESA. The Suckley's cuckoo bumble bee is an obligate parasite of other Bombus species, such as the western bumble bee (*Bombus occidentalis).* Female cuckoo bumble bees can reproduce but

cannot produce a wax-cast nest or initially feed worker bumble bees. Instead, they must enter an established nest of another species, kill or subdue the queen, lay her eggs, and control the worker bees to feed her offspring. The female offspring, once mated, will overwinter, and start the cycle over again.

The nearest known historical observation on CNDDB occurs within Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

Suckley's cuckoo bumble bees will likely be associated with colonies of other bumble bee species. Their habitat is limited by the population of host bumble bee species and are affected by their declines, as well as their own declines due to pesticides and commercial bumble bee infectious diseases. Therefore, less than significant impacts to the western bumblebee and Franklin's bumblebee equates to less than significant impacts to Suckley's cuckoo bumble bee.

Monarch butterfly (*Danaus plexippus)*

The monarch butterfly is a candidate species for listing by the federal ESA. In western North America, the monarch butterfly can be found anywhere during migration but requires flowering plants for feeding and breeding as well as milkweed (*Asclepias* spp.) for nesting. They overwinter in colonies in coastal California and Mexico in pines or eucalyptus and migrate to the interior valley and mountains during spring through fall. The population is largely declining due to the loss of overwintering habitat and the loss of milkweed due to development, deforestation, and herbicide.

Monarch butterfly larvae are dependent on native milkweed to complete the early development portion of their lifecycles. Monarch caterpillars can only feed on milkweed, so they are essential for reproduction.

Monarch butterflies do not overwinter in interior California. Monarchs may occur in all PAAs during migration, especially where flowering plants are found. Additionally, their caterpillars or cocoons may occur on milkweed plants (*Asclepias* spp.). Removal of these plants may result in direct harm or mortality to eggs or caterpillars. According to the Xerces Society, monarch butterflies are least likely to be reproducing in Siskiyou County between October 31 and April 1. Treatments within proximity to milkweed plants during this time would avoid any potential for harming monarch butterflies, eggs, or caterpillars.

Removal of milkweed from the project area would reduce habitat that is essential to the monarch's life cycle. **Mitigation Measure 13** includes avoidance of milkweed plants. Surveys would be completed for milkweed concurrently with the rare plant surveys. If milkweed is found, then avoidance buffers will be implemented. Milkweed is a plant that enjoys full sun exposure and tolerates roadside areas; therefore, treatments would likely increase the potential habitat for milkweed plants. Impacts to monarch butterflies would be **less than significant**.

Mitigation Measure 2: Riparian and Wetland Identification and Exclusion (All PAAs)
During the PSA of each eligible parcel, eligible parcels will be surveyed for aquatic resources. The treatment prescription will exclude activities within 75 feet of perennial streams and wetlands (including vernal pools) as well as 50 feet from ephemeral and intermittent streams. The exclusion area will be marked with flagging. Biomass removal, herbicide application, equipment staging, operation of mechanical equipment, pile burning, and onsite disposal of removed biomass shall not occur within the marked buffers.

Mitigation Measure 3: Pre-Treatment Botanical Surveys (All PAAs)
During the PSA, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for special-status plants. If habitat types for special-status plants are identified, protocol-level surveys of the parcels shall be conducted by a qualified biologist. Surveys shall comply with survey protocols for plant species listed under the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). If no special-status plants are found, no further measures pertaining to special-status plants are necessary. If special-status plant species are identified during the botanical surveys, treatment will exclude activities within 15 feet of the individual, and exclusionary fencing or high-visibility flagging will be placed around the plants prior to operations on the parcel to demarcate the avoidance area.

Mitigation Measure 4: Surveys for Western Pond Turtle (All PAAs)
During the PSA of each eligible parcel, work areas within 150 feet of flowing watercourses will be evaluated to determine if suitable nesting habitat for WPT is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland habitat is identified, no more than seven days prior to the start of ground-disturbing activities that occur during WPT nesting season (May 1 to August 1), focused surveys for turtle nests will be completed by a qualified biologist. If a WPT of their nest is found, CDFW will be notified. If an adult individual is observed within the survey area, then the animal shall be avoided until it is no longer in harm's way, or it may be relocated by a qualified biologist if an area offsite that has appropriate habitat for the species is available. If relocating, the animal should be moved to a nearby area with habitat similar to the environment in which it was found.

If a nest, eggs, hatchlings, or an aestivating adult are observed within the survey area, then an avoidance buffer of 50 to 100 feet shall be applied to heavy equipment access, ground-disturbing activities, and herbicide application until the nest is no longer active. The qualified biologist shall consider the topography and vegetation onsite as well as the treatments proposed onsite and the potential for disturbance when determining the buffer distance. Additionally, to avoid impacts to hatchlings' dispersal from the nest site, no woody debris or other barrier shall be placed between the nest site and the nearest body of water.

Mitigation Measure 5: Raptors, Migratory Birds, and Special-Status Birds (All PAAs)
Vegetation removal shall occur outside of avian nesting season (February 1 through August 31) to the greatest extent feasible to avoid impacts to nesting birds. If vegetation or other avian nesting habitat must be disturbed during the nesting season, then a qualified biologist shall conduct preconstruction surveys within the project area and surrounding 150 feet (wherever access is

feasible) no more than seven days prior to the start of activities. If an active nest is found, a non-disturbance buffer shall be established around the nesting site, with the buffer distance to be determined by the biologist based on the bird species and the nest and site conditions. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume. If an active nest is found at any time during implementation, the Qualified Biologist or CDFW shall be notified, and an appropriate buffer shall be implemented. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If an active raptor, osprey, or bald eagle nest is observed onsite at any time, then the appropriate buffer (250 to 500 feet for raptors, 300 feet for osprey, and up to 0.5 miles for bald eagle) shall be established, with the buffer distance to be determined by the biologist or CDFW based on the bird species and the nest and site conditions. If a non-active osprey, bald eagle, or goshawk nest is observed (i.e., any large stick nest), the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by these species.

Mitigation Measure 6: NSO NRF Habitat Determination (All PAAs)
Areas with suitable NRF habitat, within each eligible parcel, shall be classified to the appropriate functional habitat type according to the minimum structural parameters listed in Table 4 (over a scale of 20 acres) using existing NSO habitat data sets or during PSAs.

Mitigation Measure 7: NSO Surveys and Limited Operating Periods (All PAAs)
If NSO surveys have not been completed or obtained, and surveys are planned, conduct them according to the 2012 NSO Survey Protocol. Seasonal restrictions described below for 'Surveyed Landscape' shall be followed. If surveys are not planned or feasible, assume occupancy based on the presence of suitable NRF habitat; adhere *to* the guidance and seasonal restrictions described below for operating in an 'Un-Surveyed Landscape'.

- As an option to the full six-visit protocol surveys described in the 2012 NSO Survey Protocol, three surveys can be conducted in the year of action implementation. If no NSOs are detected within 0.25 miles of the proposed activities, activities may proceed that year without seasonal restrictions.

Surveyed Landscape. If surveys are completed or are current for the Action Area (based on surveys conducted by the applicant/project proponent, or other data provided by other landowners or agencies):

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile (or 1,320 feet) of a nest site between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 miles (or 1,320 feet) of a nest site between February l and September 15.

- Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Un-Surveyed Landscape. If surveys have not been completed and cannot be done, assume occupancy in the Action Area/portion of it based on the presence of suitable NRF habitat.

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and July 9.
  - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 mile (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and September 15.
  - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Mitigation Measure 8: NSO NRF Habitat Treatment (All PAAs)

- Within all suitable NRF habitat:
  - Avoid removing or damaging known nest trees and associated screen trees unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the Action Area.
  - Avoid removing or damaging trees or snags with potential nesting platforms and associated screen trees. These include trees with large, flattened tops, large broken-topped trees, trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics).
  - Avoid removing large (20 inches DBH or larger) snags, unless they are a confirmed safety hazard per the implementing agency's guidance documents.
  - Equipment must be in good working order with standard noise abatement devices attached if applicable.
- Within Nesting/Roosting Habitat:
  - Treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging); but the treatment/activity does not remove suitable habitat function entirely. Removal of

habitat function occurs when treatment activities reduce habitat elements to the degree that the habitat no longer functions as suitable habitat. Project activities will not downgrade or remove the function of suitable nesting/roosting habitat as defined by the parameters in Table 4.

- While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat.
- If the proposed project will remove or downgrade nesting/roosting habitat function, ESA consultation is warranted.

- Within suitable foraging habitat in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center):
  - Avoid downgrading or removing suitable foraging habitat functions as defined by parameters in Table 4.
  - While habitat elements may be removed, such as individual trees, shrubs, down logs, and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction, and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres).
  - If the proposed project will remove or downgrade suitable foraging habitat function in a core and home range to below the recommended levels, ESA consultation is warranted.

Mitigation Measure 9: Mammal Den Surveys (All PAAs)
During the PSA of each eligible parcel, the project area will be evaluated for suitable mammal den habitat. If potential den habitat for ringtail (*Bassariscus astutus*), fisher (*Pekania pennaniti*), gray wolf (*Canis lupis*), Oregon snowshoe hare (*Lepus americanus klamathensis*), or wolverine (*Gulo gulo luscus*) is identified, pretreatment surveys shall be completed within three days prior to ground-disturbing activities to determine if any terrestrial mammal den structures are present within the work area. If potential dens are located within the work area and cannot be avoided during project activities, a qualified biologist will determine if the dens are occupied. CDFW will be contacted immediately prior to implementation to determine if any known wolf sightings, wolf den locations, or wolf pack activity are present in the project area. If occupied dens are present within the work area, their disturbance and den destruction will be avoided by stopping operations until an appropriate buffer is approved by CDFW or USFWS.

Mitigation Measure 10: Bat Roost Humane Exclusion (All PAAs)
During the PSA of eligible parcels, trees with maternity roost structures (i.e., cavities in the trunk or branches, woodpecker holes, loose bark, and cracks) will be identified. If no trees with maternity roost structures are identified, no further measures are necessary. If removal of trees identified to have bat roost structures occurs from September 1 to October 30, no measures for special-status bats are required.

If removal of trees identified to have bat roost structure potential will occur during the bat maternity season, when young are non-volant (March 1 to August 31), or during the bat hibernacula (November 1 to March 1), when bats have limited ability to safely relocate roosts, humane exclusions should be implemented which consist of a two-day removal process by which the non-habitat trees and brush are removed along with smaller tree limbs on the first day, and the remainder of the tree limbs and the tree trunk on the second day.

Mitigation Measure 11: Bat Roost Habitat Avoidance (All PAAs)
During the PSA of each eligible parcel, the presence of caves or bridges within the treatment area will be noted. If no caves or bridges are located within the project area, no further measures are necessary. If present within 50 feet of project activities, caves and bridges in the project area will be assessed during the PSA for potential bat roost structures (crevice roosts tend to be approximately 3/4 to 1-1/2 inches across and at least 18 inches deep. In most cases, they run from one side of the bridge to the other, and between three and several hundred meters above ground). If found, a qualified biologist will assess the structure for signs of bat presence (i.e., guano, insect pieces, etc.). If no roost is present, then no buffer is needed. If a roost is present, then a 50-foot non-disturbance buffer shall be implemented around the roost structure to prevent changes to the thermal stability and protective cover surrounding the roost structure that could result from tree removal.

Mitigation Measure 12: Bumble Bee Avoidance (All PAAs)
If feasible, all ground-based mechanical equipment will be excluded from meadows or annual grasslands. If ground-based mechanical equipment must use annual grassland for access to a treatment area, a dedicated access route will be established to minimize disturbance. If suitable habitat for special-status bumble bees is identified, outside of the non-disturbance wetland buffers implemented for **Mitigation Measure 2** during the PSAs (e.g., forest meadow or grassland habitat containing sufficient floral resources), then the following measures will be implemented, as feasible:

- Prescribed burning within suitable habitat for special-status bumble bees will occur from October 1 through March 1 to avoid the bumble bee flight season.
- 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).
- Removal or herbicide treatment of flowering native plants within occupied or suitable habitat will not occur during the flight season (March 1 through October 1), to the extent feasible.

Mitigation Measure 13: Monarch Avoidance (All PAAs)
During the PSA of each eligible parcel, the presence of native milkweed (*Asclepias* spp.) will be determined. If milkweed is identified onsite, and treatments occur between May 1 and October 31, then a qualified biologist will inspect the plant for monarchs and their eggs or caterpillars. If

monarch eggs or caterpillars are present, the plant will be avoided by implementing a 25-foot buffer. If no monarch eggs or caterpillars are present, treatment may proceed. Herbicide treatment or removal of native milkweed will be avoided if feasible.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	Potentially Significant Impact ☐	Less Than Significant with Mitigation Incorporated ☒	Less Than Significant Impact ☐	No Impact ☐

b) The project does not include activities within 75 feet of perennial streams and wetlands or within 50 feet of ephemeral and intermittent streams. **Mitigation Measure 2** ensures exclusion areas are marked prior to activities so they can be avoided. With the implementation of **Mitigation Measure 2**, the project would not have a substantial adverse effect on riparian habitat.

Natural communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes. Natural communities are defined as Alliances that meet the percent cover and composition of certain species. Within Alliances, there are Associations that further define specific plant communities. These Associations and their sensitivity ranking are listed on the California Sensitive Communities List. Many sensitive natural communities occur within the Klamath Mountains and the Southern Cascades (VESTRA 2025).

The BRA determined several sensitive natural communities could occur within the project area. These include the Green Leaf Manzanita-Pinemat Manzanita Chaparral Alliance *Arctostaphylos patula – Ceanothus velutinus – Ceanothus prostratus* Association, Black Cotttonwood Forest and Woodland Black Cottonwood Association, Aspen Groves, and Fen/Darlintonia Seep.

Mitigation Measure 14 is included to ensure avoidance of or to prevent type change for any sensitive natural communities. Additionally, **Mitigation Measure 2** ensures that no work will be conducted within watercourses, wetlands, wet meadows, or riparian areas. This mitigation measure ensures that sensitive natural communities such as fens, darlingtonia seeps, and the black cottonwood forest and woodland alliance will be avoided by at least a 50-foot buffer.

Project treatments would not result in the conversion or loss of a sensitive natural community and impacts to sensitive natural communities and riparian habitat would be **less than significant with mitigation incorporated.**

Mitigation Measure 14: Sensitive Natural Communities Surveys (All PAAs)
During the PSA, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for regionally occurring sensitive natural communities. If appropriate habitat types for sensitive natural communities are identified, measures found in the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) will be implemented by a qualified biologist or RPF during treatment. If no sensitive natural communities are found, no further measures pertaining to

sensitive natural communities are necessary. If sensitive natural communities are identified during the surveys, treatment will exclude activities within the sensitive natural communities and exclusionary fencing, or high-visibility flagging will be placed to demarcate the avoidance area. If avoidance is not feasible, the treatment prescription within upland sensitive natural communities will be modified such that the CNPS membership rules of the alliance or association are maintained at the appropriate spatial scale.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

c) With the implementation of **Mitigation Measure 2** above, the project will not affect any state or federally protected wetlands. **Less than significant with mitigation incorporated.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

d) Potential impacts of the project to special-status species denning habitat as well as impacts to nesting birds are addressed in a) above. In addition to denning and nesting habitat for special-status wildlife, the project area contains critical mule deer winter range and mule deer fawning grounds as well as bat maternity roosts.

Critical Winter Range for mule deer occurs within the Dunsmuir PAA. Critical Winter Range can include corridors essential for movement, staging areas where deer temporarily congregate, habitats containing high-quality winter forage, or other elements important to the survival of deer in winter. Impacts to migration would be less than significant due to the short-term duration of the proposed treatment within each parcel. The proposed treatment of dense shrubs and trees within the Critical Winter Range would increase sunlight availability which will increase production of forage such as understory grasses and herbaceous growth that create sources of forage for mule deer. Impacts to Critical Winter Range would be less than significant.

Additionally, portions of both the Mt. Shasta and Dunsmuir PAAs overlap with known fawning grounds. Fawning areas are often linked to meadow complexes or riparian communities where adequate cover can hide newborn fawns and herbaceous forage can replenish the nutritional demands of lactation (CNDDB 2006). In general, heavy equipment use could significantly disturb mule deer fawns. **Mitigation Measure 2** ensures no work will occur within meadow complexes or riparian communities which are most commonly used for cover and foraging for newborns and

their mothers (CNDDB 2006). Project activities are not likely to significantly impede or reduce fawning opportunities.

In general, bats may utilize crevices inside of trees for maternity roosts (generally, from March 1 to August 31) and/or winter hibernacula (from November 1 to March 1). Ecological requirements for bat roosts, including maternity roosts, require an appropriate thermal gradient, shelter from predators, and proximity to foraging sites. Trees can provide this habitat inside of large crevices caused by natural limb damage or created by other wildlife. **Mitigation Measure 10** and **Mitigation Measure 11** ensure trees that exhibit features that are likely to provide bat maternity roost habitat will be avoided if treatments occur during the bat maternity season so that direct impacts to bats and their non-volant young would be avoided.

Project impacts to wildlife migratory corridors and native wildlife nursery sites would be **less than significant with mitigation incorporated**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

e) Siskiyou County and the City of Dunsmuir do not have a tree preservation policy or ordinance. The City of Mt. Shasta City Tree Ordinance requires an encroachment permit from the Mt. Shasta Public Works Department prior to pruning, treating, or removing city trees (all trees, shrubs, bushes, and other woody vegetation located within public rights-of-way). A tree removal permit is also required to top, severely prune, or alter any street tree within the commercial and industrial zones of the City of Mt. Shasta. The Mt. Shasta PAA includes areas zoned general commercial and a tree removal permit will be obtained prior to removal of street trees within this zoning district. In addition, encroachment permits will be obtained as applicable from each local jurisdiction prior to project activities within the public right-of-way. **Less than significant impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) The project would not conflict with local policies or ordinances protecting biological resources. **Less than significant impact**. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

f) No Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists within the project area. **No impact.**

CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☒	☐	☐

a) The following BMPs included in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented for the project.

- In the event that any prehistoric or historic subsurface cultural resources, as defined by the responsible agency, are discovered during ground-disturbing activities all work within 50 feet of the resources shall be halted and the project applicant should consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the proponent and qualified archaeologist would meet to determine the appropriate course of action. All significant cultural materials recovered shall be subjected to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

Project activities could result in a substantial adverse change in the significance of a historical resource. In addition to the FEMA BMP included above, **Mitigation Measure 15** will be implemented to ensure the project does not result in substantial adverse effects to cultural resources within the project area. Impacts to cultural resources will be **less than significant with mitigation incorporated.**

Mitigation Measure 15: Cultural Resource Avoidance
A records search at the California Historical Resources Information System for the areas to be treated will be completed and results provided to SVRCD prior to treatment activities. In addition, archaeological pedestrian surveys shall be conducted by a qualified archaeologist in areas of the project site with the potential to contain cultural resources prior to treatment activities. These surveys shall be conducted during the PSA for each eligible parcel. The results and management recommendations to avoid impacts to cultural resources for the project will be presented in an Archaeological Survey Report provided to SVRCD. Management recommendations could include avoidance of sites eligible for listing on the CRHR through implementation of a specified buffer around the site boundary or modification of treatment (use of hand tools and exclusion of equipment) for areas where vegetation removal may be beneficial to site preservation. The recommended buffers or modified treatment (STZ) will be included in the treatment prescription for the parcel and buffers around known cultural resources will be marked with exclusionary flagging prior to project implementation. In addition, recommendations for unanticipated discovery of cultural resources and human remains included in the Archaeological Survey Report shall be implemented for the project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐

b) See discussion to a) above. BMPs during project implementation and implementation of **Mitigation Measure 15** will ensure the project will not cause a substantial adverse change to the significance of an archaeological resource. **Less than significant impact with mitigation incorporated.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

The project does not include excavation activities and is not anticipated to disturb human remains. In the unlikely event of the discovery of human remains during project activities, the following BMPs contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented for the project:

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
    - The Coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
- If the coroner determines the remains to be Native American:
    - The coroner shall contact the responsible agency within 24 hours.
    - The responsible shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
- The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods.

In addition to the BMPs listed above, measures included in the Archeological Survey Report prepared by the qualified archeologist for the unanticipated discovery of human remains will be implemented. Impacts related to the disturbance of human remains will be less than significant with the implementation of the BMPs above as well as **Mitigation Measure 15**. **Less than significant with mitigation incorporated**.

ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

a) The project will not result in wasteful or inefficient consumption of energy. The project will require temporary consumption of energy resources (diesel fuel and gasoline) for equipment used during treatment activities, transportation of workers and equipment, and offsite transport of merchantable timber and biomass. Compliance with state, federal, and local regulations (limiting engine idling times, etc.) will reduce and/or minimize short-term energy demand during the project to the extent feasible and would not result in wasteful or inefficient use of energy. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

b) The Energy Element of the Siskiyou County General Plan contains goals, policies, and implementation measures pertaining to, energy needs, efficient land use and transportation, efficient buildings, efficient commerce and agriculture, efficient community services renewable resource use, and energy facilities. The project does not include land development, buildings, or long-term use of energy, therefore implementation measures included in the Energy Element are not applicable to the project. California Building Energy Efficiency Standards are also not applicable to the project. The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **No impact.**

GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☐	☒

a) No Alquist-Priolo earthquake fault zones are mapped in the vicinity of the project area. The closest mapped earthquake fault zones include the Cedar Mountain Fault Zone approximately 25 miles northeast of the project site and the Mayfield Fault Zone approximately 30 miles east of the project site. The project does not include permanent development or additional permanent occupancy within the project area. The project will not increase the risk of loss, injury or death involving rupture of a known earthquake fault. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	☐	☐	☐	☒

b) Frequent, strong seismic ground shaking is unlikely at the project site. The project site not in close vicinity to a known, active fault and would experience lower levels of shaking less frequently compared to other areas of California near major, active faults (CGS 2016). The project does not include construction of structures or increased permanent occupancy within the project area. The project will not result in the risk of loss, injury or death involving strong seismic ground shaking. **No impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	☐	☐	☐	☒

c) The project site is not within a mapped Liquefaction Zone (CGS 2022). The project does not include activities in areas where liquefaction is likely to occur during a strong earthquake and does not include permanent occupancy or construction of structures within the project area, therefore it will not result in the risk of loss, injury or death from seismic-related ground failure including liquefaction. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	☐	☐	☒	☐

d) Steep slopes within the project area could be susceptible to landslides. The project does not include work in areas with slopes greater than 65 percent or on slopes greater than 50 percent with high or extreme erosion hazard rating, therefore the project is not anticipated to increase the risk of landslides or expose the treatment contractor to landslide risks. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

e) The project could result in erosion within the treatment areas resulting from disturbance from mechanical equipment and removal of vegetation. As discussed in the project description, no work will be conducted in areas on slopes greater than 65 percent or on slopes greater than 50 percent with high or extreme erosion hazard rating. BMPs including applicable measures contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented for the project by the treatment contractor to reduce the potential for erosion impacts. BMPs include:

- Highly erosive soils will be identified in the field by the contractor and applicable controls applied per RWQCB guidance (Order R5-2017-0061).
- Delineate clearing limits, easements, setbacks, sensitive or critical areas, trees, and buffer zones to prevent excessive or unnecessary disturbances and exposure.
- Use standard erosion control features such as hydro-seeding, wood chips, jute or straw matting; fiber rolls other mulch material to stabilize disturbed soils.
- Cover stockpiled soil and landscaping materials with secured plastic sheeting and divert runoff around them, if used.
- Protect drainage courses, creeks, or catch basins with fiber rolls, silt fences, sand/gravel bags, and/or temporary drainage swales.
- Conduct routine inspections of erosion control measures especially before and immediately after rainstorms, and repair if necessary.

As part of site restoration, grass seeding, slash packing, or other appropriate erosion control or slope stabilization techniques will be deployed on any site where site inspection determines that disturbance would likely lead to an increased risk of erosion or slope instability. Site restoration and implementation of the BMPs listed above will result in a **Less than significant impact** related to soil erosion or loss of topsoil from project activities.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒

f) As discussed in the project description, no work will be conducted in areas on slopes greater than 65 percent or on slopes greater than 50 percent with high or extreme erosion hazard rating. In addition, BMPs listed in e) above will be implemented for the project. The project is not anticipated to result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

g) The project does not include construction of buildings or structures. The project will not create substantial direct or indirect risks to life or property from expansive soils. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

h) The project will not require installation of a septic tank or alternative wastewater disposal system. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

i) There are no known paleontological resources or unique geologic features within the project area. In addition, the project does not include excavation or substantial deep-ground disturbance. The following BMP contained in *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented in the event that unanticipated paleontological resources are uncovered during the course of the project.

- The project proponent shall notify a qualified paleontologist of unanticipated discoveries, made by either the cultural resources monitor or construction personnel and subsequently

document the discovery as needed. In the event of an unanticipated discovery of a breas, true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before activities are allowed to resume at the location of the find.

Project impacts to unique geologic features and paleontological resources will be **less than significant.**

GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

a) The project will result in greenhouse gas (GHG) emissions from operation of mechanical equipment and vehicle trips to transport workers, equipment, and biomass for offsite disposal. GHGs will also be generated by pile burning. BMPs described in the Air Quality Section of this document will minimize emissions of GHGs generated by the operation of vehicles and equipment. The project could include the use of some project-generated biomass as fuel for nearby bioenergy facilities. The project will not result in an increase in permitted production or capacity of these facilities. GHG emissions directly associated with each treatment/fuel type and estimated project emissions are included in Table 5.

Table 5
ESTIMATED GREENHOUSE GAS EMISSIONS DIRECTLY ASSOCIATED WITH TREATMENT ACTIVITY

	Direct GHG Emissions Per Acre Treated (MT CO_2e/acre)[1]	Estimated Project Acres	Estimated Project Emissions (MT CO_2e)
Prescribed Burning			
Tree Fuel Type	63.15	315	19,892
Shrub Fuel Type	16.15	35	565
Grass Fuel Type	7.9	0	0
Mechanical Treatment			
Tree Fuel Type	0.92	5,670	5,216
Shrub Fuel Type	0.29	630	183
Grass Fuel Type	0.07	0	0
Manual Treatment			
Tree Fuel Type	0.69	630	435
Shrub Fuel Type	0.40	70	28
Grass Fuel Type	<0.01	0	0
Herbicide Application			
Tree Fuel Type	0.02	5,040	101
Shrub Fuel Type	0.01	560	6
Grass Fuel Type	<0.01	0	0
Estimate Total GHG Emissions			**26,426 MT CO_2e**

[1] Emission rates were obtained from the CalVTP PEIR which analyzes manual, mechanical, herbicide, and prescribed burning that are treatment types that would be implemented for the project. Emissions estimates do not include emissions generated by trucks hauling equipment to and from the project or emissions associated with the removal of vegetative biomass from the project site and any processing that may occur thereafter, including potential use as feedstock for biomass power facility or chipping and mulching activities.

Estimates are based on the following conservative assumptions: 90 percent tree fuel type (6,300 acres) and 10 percent shrub fuel type (700 acres). Mechanical treatment on 90 percent of the project area, manual treatment on 10 percent of the project area. Herbicide application on 80 percent of the project area (2,800 acres) and prescribed burning (pile burning) on 5 percent of the project area (350 acres)

Treatment activities would occur over two years. Emission rates for each treatment activity and fuel type were estimated using emission rates included in the California Vegetation Treatment Program Environmental Impact Report (Ascent 2019), which analyzed the same treatments that would be implemented for the proposed project. As shown in Table 5, pile-burning activities generate the highest GHG emissions per acre treated.

In addition to emissions estimated in Table 5, the project would also generate minimal GHGs from the transport of equipment to and from the project site, chipping of biomass, and offsite transport of biomass. Emissions from transport of equipment would be minimal since treatment activities would be conducted by local contractors and equipment would be staged within the treatment area to the extent feasible. Offsite transport of biomass to bioenergy facilities will be minimal since onsite disposal is the preferred biomass disposal method for the project.

The SCAPCD does not have thresholds of significance for GHG emissions. Other air districts in the state have adopted GHG thresholds applicable to construction and land use development; however, these thresholds are not applicable to fuel reduction or pile-burning activities. Due to the temporary nature of the project, the project is not likely to produce significant GHG emissions that could result in adverse impacts to the environment. The project would also reduce wildfire risk and severity within the project area which could reduce GHG emissions over the long term. No significant impacts from GHGs are expected as a result of the project. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

b) Onsite equipment and vehicles as well as pile burning would generate GHG emissions during project activities. Emissions would be short-term and cease upon completion of the project. The project would not result in substantial GHG emissions or conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. **Less than significant impact.**

HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

a) The project will require the use of hazardous materials including gasoline, diesel, oil, and lubricants required for vehicle and equipment operation. In addition, herbicides may be used for pre-treatment of the project site and following biomass removal. Herbicide application will be conducted by a Licensed Pest Applicator with right-of-way or landscape certification. The Licensed Pest Applicator will obtain all applicable permits and perform the work in accordance with applicable federal, state, and local rules and regulations including but not limited to holding a current Qualified Applicator License issued by the California Department of Pesticide Regulation.

In addition, the following BMPs contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented by the treatment contractor for the handling and use of hazardous materials for the project:

- Vehicles and equipment will be inspected and approved before use to ensure that they will not leak hazardous materials such as oil, hydraulic fluid, or fuel. All equipment will be equipped with spark arrestors and fire extinguishers.
- Fueling will take place in designated staging areas, outside native vegetation or wetlands.
- The contractor will prepare a Spill Prevention and Response Plan and have emergency cleanup gear for spills (spill containment and absorption materials) and fire-suppression equipment available onsite at all times.
- Leaks, drips, and other spills will be cleaned up immediately to avoid soil or groundwater contamination. Cleanup of a spill on soil will include removing the contaminated soil using the emergency spill cleanup gear. Contaminated soil and disposable gear used to clean a hazardous materials spill will be properly disposed of following state and federal hazardous material disposal regulations.
- Major vehicle maintenance and washing will be done offsite.
- Spent fluids including motor oil, radiator coolant, and used vehicle batteries will be collected, stored, and recycled as hazardous waste offsite.
- Spilled dry materials will be swept up immediately.
- No smoking will be allowed in work areas.

The implementation of these practices will ensure the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous material. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

b) The project will require the use of hazardous materials (fuel and oil) within equipment and vehicles during biomass removal as well as the application of herbicides. Significant quantities of these materials will not be stored within the project area. The following BMPs contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented during project implementation:

- If hazardous materials are encountered or accidentally released as a result of the project, the following procedures will be implemented:
  - Work shall stop in the vicinity of any discovered contamination or release.
  - The scope and immediacy of the problem shall be identified.
  - Coordination with the responsible agencies shall take place.
  - The necessary investigation and remediation activities shall be conducted to resolve the situation before continuing construction work.

The project will not **c**reate a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials with the implementation of the BMPs listed above as well as those listed under a) above. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

c) The project site is within one-quarter mile of multiple schools including Dunsmuir High School, Dunsmuir Elementary School, and Mt. Shasta High School. As discussed in the Air Quality section of this document, a Smoke Management Plan (SMP) will be required to minimize impacts of smoke to sensitive receptors. The project will require the handling of herbicides. Herbicide application will be conducted by a Licensed Pest Applicator with right-of-way or landscape certification. The Licensed Pest Applicator will obtain all applicable permits and perform the work in accordance with applicable federal, state, and local rules and regulations including but not limited to holding a current Qualified Applicator License issued by the California Department of Pesticide Regulation. The project will not require the handling of acutely hazardous materials, substances, or waste. **Less than significant impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

d) Cortese List Data Resources were reviewed including the *List of Hazardous Waste and Substances Sites* from Department of Toxic Substances Control (DTSC) EnviroStor database, *List of Leaking Underground Storage Tank Sites* from the State Water Board's GeoTracker database, *List of Solid Waste Disposal Sites Identified By Water Board With Waste Constituents Above Hazardous Waste Levels Outside The Waste Management Unit*, *List of Active CDO and CAO* from the Water Board, and *List of Hazardous Waste Facilitates Subject to Corrective Action Pursuant to Section 25187.5 of the Health and Safety Code* identified by DTSC. No sites were identified within the project area. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐

e) Portions of the project site are within two miles of the Dunsmuir Municipal-Mott Airport. Treatment contractors will only work in close vicinity to the airport for several days and would not be exposed to excessive noise levels or safety hazards from the airport. **Less than significant impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

f) As Siskiyou County has small pockets of population centers, no countywide evacuation plan has been developed for the region. The major highways that traverse Siskiyou County act as the primary routes for Siskiyou County communities (GreenDot 2021). The project would occur on private property and would not affect transportation on major highways. The project would not interfere with the evacuation or implementation of an adopted emergency response plan. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

g) Equipment and vehicle operation, pile burning, and increased human presence in the project area could result in a temporary increased risk of fire during project activities. As described in a) above, BMPs will be implemented during project implementation including storage of fire suppression equipment onsite at all times by contractors. Upon completion, the project will result in reduced fire intensity around the communities of Dunsmuir, McCloud, and Mt. Shasta through reducing ladder and surface fuels as well as tree crown density. **Less than significant impact.**

HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

a) Perennial, intermittent, and ephemeral streams are located within the project area. Hydrology within each PAA is shown in Figures 7, 11, and 15.

The project does not include activities within 75 feet of perennial streams or wetlands or within 50 feet of ephemeral or intermittent streams. The following applicable BMP included in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented for the project by the treatment contractor when working near waters of the U.S. or wetlands to protect surface water quality during project implementation and minimize potential water quality impacts from ground disturbance, spills or leaks, and herbicide application:

- For work between 50 and 200 feet of a wetland or waterbody:
  - Herbicides will be restricted to glyphosate-based herbicides that are approved by the EPA for use around water (e.g., Rodeo).
  - No equipment fueling will occur.
- Never wash down pavement or surfaces where materials have spilled. Use dry cleanup methods whenever possible.
- Protect all storm drain inlets using filter fabric cloth or other BMPs to prevent sediments from entering the storm drainage system during construction activities.
- Keep materials out of the rain — prevent runoff pollution at the source. Schedule clearing or heavy earth-moving activities for periods of dry weather. Cover exposed piles of soil, construction materials and wastes with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
- Prior to construction, wetlands located in the project area will be flagged for exclusion.
- Appropriate erosion control measures will be used to reduce siltation and runoff of contaminants into wetlands and adjacent, ponds, streams, or riparian woodland/scrub. The contractor will not be allowed to stockpile brush, loose soils, or other debris material on stream banks.
- Native plant species should be used in erosion control or revegetation seed mix. Any hydroseed mulch used for revegetation must also be certified weed-free. Dry farmed straw will not be used, and certified weed-free straw will be required where erosion control straw is to be used. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion-control measures will be placed between water or wetland and the outer edge of the project site.

- All of-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be considered fee of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment compartments or specialized inspection tools is not required.
- Vehicles and equipment will be parked on pavement, existing roads, or specified staging areas.
- Trash generated by covered activities should be promptly removed and properly removed from the site.
- Equipment storage, fueling, and staging areas will be sited on disturbed areas or on non-sensitive nonnative grassland land cove types, when these sites are available, to minimize risk of direct discharge into riparian area or other sensitive land cover types.
- All temporarily disturbed areas, such as staging areas, will be returned to pre-project or ecologically improved conditions as required by responsible agencies.
- Dispose of all wastes properly. Materials that cannot be reused or recycled must be taken to an appropriate landfill or may require disposal as hazardous waste. Never throw debris into channels, creeks, or into wetland areas. Never store or leave debris in the street or near a creek where it may contact runoff.

BMPs included above, as well as soil erosion BMPs described in the Geology and Soils section of this document, will minimize project impacts to surface water quality. In addition, the project is required to comply with Order R5-2017-0061 (*Waste Discharge Requirements General Order for Discharges Related to Timberland Management Activities for Non-Federal and Federal Lands*) and will be required to comply with the terms and conditions of the Order including implementation of BMPs and/or water quality protection measures and monitoring and reporting. The project does not include activities that would result in impacts to groundwater quality. The project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

b) The project will require minimal use of water for dust suppression during biomass removal activities. The source of water will depend on the location of the treatment area as well as the treatment contractor. Water use will be short-term and cease upon completion of fuel reduction activities. The project will not substantially decrease groundwater supplies or interfere with groundwater recharge. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project substantially alter the existing drainage pattern of the site or area, including alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial on- or offsite erosion or siltation?	☐	☐	☒	☐

c) The project will not alter the course of any streams or rivers. The project will include a 75-foot buffer from perennial streams and wetlands and a 50-foot buffer from ephemeral and intermittent streams. The project does not include changes to project site topography or the addition of impervious surfaces. The project includes site restoration for areas where ground disturbance will be caused by machinery and equipment in areas sensitive to soil stabilization issues. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or offsite flooding?	☐	☐	☐	☒

d) The project does not include substantial alteration of the existing drainage pattern of the project area or an increase in impervious surfaces. See a) and c) above. The project will not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, or substantially increase the rate or amount of surface runoff in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

e) The project will not result in a substantial increase in the rate or amount of surface runoff from the project site. As discussed under a), BMPs for erosion control and water quality will be implemented for the project that will minimize pollutants in runoff from the project site. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, or substantially increase the rate or amount of surface runoff in a manner which would impede or redirect flows?	☐	☐	☐	☒

f) As discussed in a) through e) above, the project will not substantially alter the existing drainage pattern of the site or substantially increase the rate or amount of surface runoff. The project will not impede or redirect flows. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	☐	☐	☒	☐

g) Flood Hazard Zones within and adjacent to the project area as mapped by FEMA National Flood Hazard Layer are shown in Figures 7, 11, and 15. As shown in Figure 7, there are no flood hazard zones mapped within the boundaries of the Mt. Shasta PAA Most of the Mt. Shasta PAA is mapped as Zone X: Area of Minimal Flooding. The Dunsmuir PAA includes Portions of Flood Hazard Zone A: Areas Subject to Inundation of Hedge Creek as well as small portions of flood hazard areas adjacent to the Sacramento River. The McCloud PAA includes small portions of special flood hazard areas adjacent to Panther Creek and Yét Atwam Creek.

The project includes site restoration to stabilize treatment areas where needed following feud reduction activities. Grass seeding, slash packing, or other appropriate erosion control or slope stabilization techniques will be deployed in areas disturbed by mechanical equipment operation following biomass removal. Site restoration will minimize the risk of release of sediment if the project were to become inundated. In addition, the project does not include work within 75 feet of perennial streams or wetlands or within 50 feet of ephemeral and intermittent streams. **Less than significant impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

h) The BMPs listed under a) above will be implemented by the treatment contractor to minimize impacts to surface water quality. As discussed under b) above, the project will not use significant volumes of groundwater or result in impacts to groundwater quality. The project will not conflict with or obstruct any water quality control plan or sustainable groundwater management plan. **No impact.**

LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project physically divide an established community?	☐	☐	☐	☒

a) The project will not divide an established community. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

b) BMPs and mitigation measures included in this document will be implemented to avoid and reduce the environmental effects of the project. The project will not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **No impact.**

MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

a) The project does not include development activities, change in land use, or mineral extraction activities. The project will not result in the loss of availability of a mineral resource. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

b) Project activities will not result in the loss of availability of a locally important mineral resource recovery site. **No impact.**

NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☒	☐

a) The project will not result in any permanent sources of noise. The project will generate short-term increases in ambient noise levels in the project vicinity from the operation of mechanical equipment (masticators, chippers, and chainsaws) and minor increased vehicle traffic. The project impacts on individual sites will be short as hazard vegetation is removed from the parcel and the operations move on to the next parcel. Short-term noise generated by the project will be transitory.

The following BMPs contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* will be implemented for the project:

- Provide advance notification to surrounding land uses disclosing the treatment schedule, including the various types of activities that would be occurring throughout the duration of the treatment period.
- Noise-generating treatment activities, including truck traffic coming to and from the site for any purpose, shall be limited to the hours of 7:00 a.m. to 7:00 p.m. during weekdays and 8:00 a.m. to 5:00 p.m. on Saturday and Sunday.
- All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Contractor is responsible for maintaining equipment in best possible working condition.
- Mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receivers.
- Locate equipment as far as possible from nearby noise-sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only. No project-related public address or music system shall be audible at the location of any adjacent noise-sensitive receptor.
- Contractor shall notify adjacent property owners, property managers, and business owners of adjacent parcels of the schedule in writing and in advance of the work. The notification shall include the name and phone number of a project representative or site supervisor.
- The onsite supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeals process to the Owner shall be established prior to the commencement of treatment that shall allow for the resolution of noise problems that cannot be immediately solved by the site supervisor.

Siskiyou County does not have noise standards for construction or temporary activities. Noise associated with construction activity between the hours of 7:00 a.m. and 5:00 p.m. are exempt from the standards contained in the City of Mt. Shasta General Plan Noise Element (Policy NC-1.8c of the Noise Element). City of Dunsmuir does not have a Noise Ordinance and the Dunsmuir General Plan does not contain noise limits for temporary construction or maintenance activities.

The project will not result in permanent noise increases. Short-term noise will occur during project activities which will be conducted between 7:00 a.m. and 7:00 p.m. during the weekdays and 8:00 a.m. to 5:00 p.m. on Saturday and Sunday. Due to the short-term and transitory nature of project activities and implementation of the BMPs listed above, short-term increases in noise levels generated by the project are anticipated to be less than significant. However, **Mitigation Measure 16** is included to ensure project activities also comply with the allowable construction hours included in the City of Mt. Shasta General Plan Noise Element. Temporary noise generated by project activities would be **less than significant with migration incorporated**.

Mitigation Measure 16: Operational Hours in City of Mt. Shasta.
Project activities within the City of Mt. Shasta will be conducted between the hours of 7:00 a.m. and 5:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturday and Sunday to comply with both the FEMA BMPs and the allowable hours of construction activity (Policy NZ-1.8c) included in the City of Mt. Shasta General Plan Noise Element.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

b) The project does not include equipment or processes that would result in significant levels of vibration or groundborne noise such as pile driving or blasting. Mechanical equipment such as grinders and masticators will result in low levels of ground vibration perceptible in the immediate vicinity of the equipment. Equipment will not operate in a single location for an extended period of time and will not be operated near structures. The project will not generate excessive levels of vibration that could result in structural damage. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

c) Portions of the project site are within two miles of the Dunsmuir Municipal-Mott Airport. Treatment contractors will only work in close vicinity to the airport for several days and would not be exposed to excessive noise levels. **Less than significant impact**.

POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

a) The project will not induce substantial population growth. The project does not include expansion of any roads or infrastructure. The project does not include construction of new homes or businesses that would result in unplanned population growth. **No impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

b) The project would not displace people or housing requiring the construction of replacement housing elsewhere. **No impact**.

PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection?	☐	☐	☐	☒

a) The project does not include construction of new structures or involve activities that would adversely affect fire protection service ratios, response times, or other objectives. The project will not include or require new or physically altered governmental facilities for fire protection. **No impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection?	☐	☐	☐	☒

b) The project will not require the construction of new or altered facilities to maintain acceptable police service ratios, response times, or other performance objectives for police response. **No impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?	☐	☐	☐	☒

c) The project will not result in the need for new or physically altered schools. **No impact**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks?	☐	☐	☐	☒

d) The project will not increase the use of local parks or require construction of new or altered parks to maintain acceptable service rations or other performance objectives. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities?	☐	☐	☐	☒

e) The project will not result in the need for new or physically altered other public facilities. **No impact.**

RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

a) Although the project area includes only private land, there are public trails and other areas used for recreation within the PAAs including the Spring Hill Trail and the former McCloud River Railroad alignment within the Mt. Shasta PAA. Portions of the PAAS are also adjacent to public land used for recreation. Preparation of an SMP will minimize impacts to adjacent public recreational areas from smoke. Closures and short-term smoke emissions during pile burning may temporarily increase the use of alternate recreational areas in the region. Impacts would be temporary and would not result in substantial deterioration of recreational facilities. **Less than significant impact.**

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

b) The project does not include construction of recreational facilities and would not requires construction or expansion of recreational facilities elsewhere that might have an adverse physical effect on the environment. **No impact.**

TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

a) The project will not conflict with any program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities. The project may result in minor temporary increases in traffic in the specific location of project activities; however, project activities will be transitory and will not occur in a single area for an extended time period. The following BMPs including applicable BMPs contained in the *FEMA Final Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada,* related to transportation will be implemented for the project:

- When possible, crews will travel outside of peak hour traffic times, thereby minimizing peak traffic time impacts.
- All vehicles related to the project, including contractor vehicles and trucks, will use designated Truck Routes where those are available.
- Detour signs shall be used when necessary for vehicles, bicycles, and pedestrianways.
- All detour signs during the project would be designed to meet the responsible agency standards.
- A Traffic Control Plan shall be implemented in the project is expected to require road closures.

In addition to the BMPs above, encroachment permits from each local jurisdiction will be obtained if activities are required in the public right-of-way. With these practices in place, a **less than significant impact** is anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3(b)?	☐	☐	☒	☐

b) Siskiyou County, The City of Mt. Shasta, and the City of Dunsmuir have not adopted VMT-based transportation significance thresholds. The project will result in a short-term increase in vehicle miles traveled generated by treatment crews that will cease upon project completion. The project will not result in a long-term increase in VMT and will not conflict or be inconsistent with CEQA guidelines 15064.3(b). **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

c) The project does not include a change in road design or construction. As discussed in a) above, a Traffic Control Plan will be developed for the project if a road closure is required and encroachment permits will be obtained from each local jurisdiction for activities within the public right-of-way. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in inadequate emergency access?	☐	☐	☐	☒

d) The project does not include changes to property access or development of the project site. Emergency access will not be impaired by the project. **No impact.**

TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)?	☐	☒	☐	☐

a) AB 52 was enacted on July 1, 2015, and establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource when feasible (PRC Section 21084.3).

Public Resources Code Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California cities, counties, and tribes regarding tribal cultural resources. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Tribal notification letters for the project were sent on February 24, 2025, and March 4, 2025. The Native American Heritage Commission letter was received on January 27, 2025. The Sacred Lands File search did not identify a positive result within the project area. As of this date, no other tribal responses have been received.

Mitigation Measure 15 included in the Cultural Resources section of this document will be implemented to avoid impacts to all known cultural resources within the project area, including those eligible for listing in the California Register of Historical Resources (CRHR). In addition, BMPs and recommendations included in the Archaeological Survey Report will be implemented during the project for unanticipated discovery of cultural resources and human remains. Impacts to tribal cultural resources will be **less than significant with mitigation incorporated.**

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☐	☒	☐	☐

b) The Native American Heritage Commission was contacted to conduct a Sacred Lands File Search and provided a list of tribal contacts to be notified. Per AB52, notification letters were sent to the Tribal Heritage Preservation Officers of each tribe on the list on February 24, 2025, and March 4, 2025. The list included: Karuk Tribe, Pit River Tribe, Redding Rancheria, Round Valley Reservation/ Covelo Indian Community, Shasta Tribe, Susanville Indian Rancheria, Klamath Tribe, Modoc Tribe, Quartz Valley Tribe, Wintu Tribe of Northern California, and Winnemem Wintu Tribe. No responses were received as a result of the notification letters. All cultural and historic resources will be avoided during project implementation following recommendations included in the Archaeological Survey Report prepared for areas to be treated. See **Mitigation Measure 15** included in the Cultural Resources Section of this document. **Less than significant with mitigation incorporated.**

UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒

a) The project will not result in the construction of new or relocated water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

b) The project is a short-duration project. The project will require water for dust suppression treatment activities. The source of water for the project will depend on the location within the project area and the treatment contractor. The project is not anticipated to require significant quantities of water for dust suppression, and the need for water will cease upon completion of fuel reduction activities. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒

c) The project will not require expanded wastewater treatment services. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

d) Small quantities of solid waste (trash) generated by the project contractor will be bagged, removed from the site, and transported to the county transfer site for disposal. Solid organic waste (biomass) generated by project activities will be disposed onsite, disposed through pile burning, or transported to a bioenergy facility to be used as feedstock. The volume of biomass transported

offsite will not exceed capacity of local bioenergy facilities. None of removed biomass will be disposed at a landfill. The project will not generate solid waste in excess of standards, exceed capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **Less than significant impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

e) The project will comply with all federal, state, and local statutes and regulations relating to solid waste and disposal. **No impact.**

WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

a) The project site includes state responsibility areas classified as very high fire hazard severity zones (FRAP 2023). The project will not impair an adopted emergency response plan or emergency evacuation plan. The project will result in reduced fire intensity around the communities of Dunsmuir, Mt. Shasta, and McCloud through reducing ladder and surface fuels as well as tree crown density. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

b) The project could temporarily increase wildfire risk due to operation of vehicles and mechanized equipment, pile burning, and increased human presence in the project area during project activities. BMPs listed in the Hazards and Hazardous Materials section of this document include the following that will also reduce the risk of wildfire caused by project activities:

- Vehicles and equipment will be inspected and approved before use to ensure that they will not leak hazardous materials such as oil, hydraulic fluid, or fuel. All equipment will be equipped with spark arrestors and fire extinguishers.
- The contractor will prepare a Spill Prevention and Response Plan and have emergency cleanup gear for spills (spill containment and absorption materials) and fire-suppression equipment available onsite at all times.
- No smoking will be allowed in work areas.

In addition to BMPs listed above, California Public Resources Code (PRC) 4427 contains requirements for use of any motor, engine, or other stationary equipment on or near any forest-covered, brush-covered, or grass-covered land during any time of year when burning permits are required. The project is subject to PRC 4427 and clearing of flammable material around equipment, and maintenance of a round point shovel and one backpack pump water-type fire extinguisher will be required for work during the time of year a burn permit is required. Burn permits will be obtained from SCAPCD and/or CAL FIRE for pile-burning activities. Pile-burning will be subject to burn permit requirements including burning on permissible burn days, allowable

hours of burning, maintenance of fire tools onsite, clearing flammable material around piles, etc., that will minimize risk of fire spread during pile burning activities.

Upon completion, the project will result in reduced fire intensity around the communities of Dunsmuir, McCloud, and Mt. Shasta through reducing ladder and surface fuels as well as tree crown density. **Less than significant impact.**

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☐	☐	☐	☒

c) The project will not require installation or maintenance of associated infrastructure (roads, emergency water sources, power lines, or other utilities) or fire breaks not described in this document that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. **No impact.**

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	☐	☐	☐	☒

d) The project area has not been recently impacted by wildfires. The project does not include construction of structures or change in existing land uses. The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. **No impact.**

MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

a) All impacts associated with the project have been identified in this document. Potential project impacts to biological resources, cultural resources, and tribal cultural resources are discussed in the Biological Resources, Cultural Resources, and Tribal Cultural Resources sections of this document. The project will not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory with implementation of mitigation measures and BMPs included in the Cultural Resources, Tribal Cultural Resources and Biological Resources sections of this document. **Less than significant with mitigation incorporated.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐

b) Potential impacts of the project including air quality, GHG emissions, energy, traffic, noise, hazards and hazardous materials, recreation, utilities, and wildfire impacts are short-term and will cease upon completion of project activities. These short-term project impacts could be cumulatively considerable in combination with activities occurring within the same area at the same time as project activities. Burn permit and SMP requirements will ensure cumulative air quality and GHG impacts of multiple burn projects occurring at the same time would be less than significant. Other short-term impacts (noise, traffic, hazards, recreation, utilities, and wildfire) would occur in a single area for only a short duration of time and are unlikely to combine with other projects or activities to result in significant cumulative impacts.

Other project-level impacts including those related to aesthetics, biological resources, cultural and tribal cultural resources, geology and soils, and hydrology and water quality would occur for a longer duration. Since the project will retain large trees, the forested character of the treatment areas will be retained, and the project will not combine with visual impacts of other fuel reduction or timber harvest activities to result in a significant cumulative impact to aesthetics. BMPs and mitigation measures will be implemented to avoid cultural and tribal cultural resources within the project area as well as direct and indirect impacts to special-status wildlife species and wildlife nursery sites. BMPs will also be implemented to minimize project-level impacts to hydrology and water quality and geology and soils including soil stabilization following treatment, compliance with R5-2017-0061, and buffer areas adjacent to wetlands and watercourses. Other projects, including large-scale fuel reduction or timber harvest projects, will also be subject to CEQA review or Forest Practice Rules and will also include measures to minimize impacts to biological resources, cultural and tribal cultural resources, geology and soils, and hydrology and water quality. With the implementation of BMPs and mitigation measures included in this document, the cumulative effects of the project would be less than significant. **Less than significant with mitigation incorporated.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

c) The environmental effects of the project would not result in substantial adverse effects on human beings either directly or indirectly. The project could benefit humans by reducing fire intensity around communities to protect structures and evacuation routes. **Less than significant impact**.

PREPARERS OF THIS DOCUMENT

This document was prepared by VESTRA Resources, Inc., for The McConnell Foundation with input and support from Shasta Valley Resource Conservation District.

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Mitigation Monitoring and Reporting Plan

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

POTENTIALLY SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The following is a list of the resources that will be potentially affected by the project and the mitigation measures made part of the Initial Study-Mitigated Negative Declaration.

Mitigation Measure 1: Naturally Occurring Asbestos (NOA) Dust Mitigation Plan (Dunsmuir PAA)
Prior to ground-disturbing treatment in areas identified as likely to contain naturally occurring asbestos (see Figure 17), the Siskiyou County Air Pollution Control District (SCAPCD) shall be contacted to verify if an NOA Dust Mitigation Plan is required for project activities within this area. If required by the SCAPCD, an NOA Dust Mitigation Plan shall be prepared for their approval and SCAPCD requirements will be implemented during activities in these areas.
Schedule: Before ground-disturbing treatment in areas shown on Figure 17
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 2: Riparian and Wetland Identification and Exclusion (All PAAs)
During the Preliminary Site Assessment (PSA), each eligible parcel will be surveyed for aquatic resources. The treatment prescription will exclude activities within 75 feet of perennial streams and wetlands (including vernal pools) as well as 50 feet from ephemeral and intermittent streams. The exclusion area will be marked with flagging. Biomass removal, herbicide application, equipment staging, operation of mechanical equipment, pile burning, and onsite disposal of removed biomass shall not occur within the marked buffers.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 3: Pre-Treatment Botanical Surveys (All PAAs)
During the Preliminary Site Assessment (PSA), each eligible parcel will be evaluated for the presence and conditions of habitat types appropriate for special-status plants. If habitat types for special-status plants are identified, protocol-level surveys of the parcels shall be conducted by a qualified biologist. Surveys shall comply with survey protocols for plant species listed under the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). If no special-status plants are found, no further measures pertaining to special-status plants are necessary. If special-status plant species are identified during the botanical surveys, treatment will exclude activities within 15 feet of the

individual and placement of exclusionary fencing or high-visibility flagging around the plants prior to operations on the parcel to demarcate the avoidance area.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 4: Surveys for Western Pond Turtle (WPT) (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, work areas within 150 feet of flowing watercourses will be evaluated to determine if suitable nesting habitat for WPT is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland habitat is identified, no more than seven days prior to the start of ground-disturbing activities that occur during WPT nesting season (May 1 to August 1), focused surveys for turtle nests will be completed by a qualified biologist. If a WPT or nest is found, CDFW will be notified. If an adult individual is observed within the survey area, then the animal shall be avoided until it is no longer in harm's way, or it may be relocated by a qualified biologist if an area offsite that has appropriate habitat for the species is available. If relocating, the animal should be moved to a nearby area with habitat similar to the environment in which it was found.

If a nest, eggs, hatchlings, or an aestivating adult are observed within the survey area, then an avoidance buffer of 50 to 100 feet shall be applied to heavy-equipment access, ground-disturbing activities, and herbicide application until the nest is no longer active. The qualified biologist shall consider the topography and vegetation onsite, as well as the treatments proposed onsite and the potential for disturbance when determining the buffer distance. Additionally, to avoid impacts to hatchling dispersal from the nest site, no woody debris or other barrier shall be placed between the nest site and the nearest body of water.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 5: Raptors, Migratory Birds, and Special-Status Birds (All PAAs)
Vegetation removal shall occur outside of avian nesting season (February 1 through August 31) to the greatest extent feasible to avoid impacts to nesting birds. If vegetation or other avian nesting habitat must be disturbed during the nesting season, then a qualified biologist shall conduct preconstruction surveys within the project area and surrounding 150 feet (wherever access is feasible) no more than seven days prior to the start of activities. If an active nest is found, a non-disturbance buffer shall be established around the nesting site, with the buffer distance to be determined by the biologist based on the bird species and the nest and site conditions. The buffer

shall remain in place until the nest is determined to be no longer active by the biologist. If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume. If an active nest is found at any time during implementation, the qualified biologist or CDFW shall be notified and an appropriate buffer shall be implemented. The buffer shall remain in place until the nest is determined to no longer be active by the biologist. If an active raptor, osprey, or bald eagle nest is observed onsite at any time, then the appropriate buffer (250 to 500 feet for raptors, 300 feet for osprey, and up to 0.5 miles for bald eagle) shall be established, with the buffer distance to be determined by the biologist or CDFW based on the bird species and the nest and site conditions. If a non-active osprey, bald eagle, or goshawk nest is observed (i.e., any large stick nest), the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by these species.
Schedule: Within seven days of the start of treatment activities occurring during nesting season
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 6: Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat Determination (All PAAs)
Areas with suitable NRF habitat within each eligible parcel shall be classified to the appropriate functional habitat type according to the minimum structural parameters listed in Table 4 (over a scale of 20 acres) using existing NSO habitat datasets or during Preliminary Site Assessment (PSA).
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 7: Northern Spotted Owl (NSO) Surveys and Limited Operating Periods (All PAAs)
If NSO surveys have not been completed or obtained, and surveys are planned, they shall be conducted according to the 2012 NSO Survey Protocol. Seasonal restrictions described below for 'Surveyed Landscape' shall be followed. If surveys are not planned or feasible, assume occupancy based on the presence of suitable Nesting, Roosting, and Foraging (NRF) habitat; and adhere to the guidance and seasonal restrictions described below for operating in an 'Un-Surveyed Landscape.'

- As an option to the full six-visit protocol surveys described in the 2012 NSO Survey Protocol, three surveys can be conducted in the year of action implementation. If no NSO are detected within 0.25 miles of the proposed activities, activities may proceed that year without seasonal restrictions.

Surveyed Landscape. If surveys are completed or are current for the Action Area (based on surveys conducted by the applicant/project proponent, or other data provided by other landowners or agencies):

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 miles (1,320 feet) of a nest site between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 miles (1,320 feet) of a nest site between February l and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Un-Surveyed Landscape. If surveys have not been completed and cannot be performed, assume occupancy in the Action Area (or portion) based on the presence of suitable NRF habitat.

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 miles (1,320 feet) of un-surveyed suitable NRF habitat between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle backup alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.
- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 miles (1,320 feet) of un-surveyed suitable NRF habitat between February 1 and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs, or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1 to July 9.

Schedule: As stated above
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 8: Northern Spotted Owl (NSO) Nesting, Roosting, and Foraging (NRF) Habitat Treatment (All PAAs)

- Within all suitable NRF habitat:
    - Avoid removing or damaging known nest trees and associated screen trees unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the Action Area.
    - Avoid removing or damaging trees or snags with potential nesting platforms and associated screen trees, including trees with large, flattened tops; large broken-topped trees; trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with similar characteristics).
    - Avoid removing large (20 inches DBH or larger) snags, unless they are a confirmed safety hazard per the implementing agency's guidance documents.
    - Equipment must be in good working order with standard noise abatement devices attached if applicable.

- Within Nesting/Roosting Habitat:
    - Treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging); but the treatment/activity does not remove suitable habitat function entirely. Removal of habitat function occurs when treatment activities reduce habitat elements to a degree that the habitat no longer functions as a suitable habitat. Project activities will not downgrade or remove the function of suitable nesting/roosting habitat as defined by the parameters in Table 4.
        - While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat.
        - If the proposed project will remove or downgrade nesting/roosting habitat function, ESA consultation is warranted.

- Within suitable foraging habitat in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center):
    - Avoid downgrading or removing suitable foraging habitat function as defined by the parameters in Table 4.
    - While habitat elements may be removed, such as individual trees, shrubs, down logs, and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction, and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres).
    - If the proposed project will remove or downgrade suitable foraging habitat function in a core and home range to below the recommended levels, ESA consultation is warranted.

Schedule: As stated above
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 9: Mammal Den Surveys (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, the project area will be evaluated for suitable mammal den habitat. If potential den habitat for ringtail (*Bassariscus astutus*), fisher (*Pekania pennaniti*), gray wolf (*Canis lupis*), Oregon snowshoe hare (*Lepus americanus klamathensis*), or wolverine (*Gulo gulo luscus*) is identified, pretreatment surveys shall be completed within three days prior to ground-disturbing activities to determine if any terrestrial mammal den structures are present within the work area. If potential dens are located within the work area and cannot be avoided during project activities, a qualified biologist will determine if the dens are occupied. CDFW will be contacted immediately prior to implementation to determine if any known wolf sightings, wolf den locations, or wolf pack activity are present in the project area. If occupied dens are present within the work area, their disturbance and/or den destruction will be avoided by halting operations until an appropriate buffer is approved by CDFW or USFWS.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 10: Bat Roost Humane Exclusion (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, trees with maternity roost structures (i.e., cavities in the trunk or branches, woodpecker holes, loose bark, cracks) will be identified. If no trees with maternity roost structures are identified, no further measures are necessary. If removal of trees identified to have bat roost structures occurs from September 1 to October 30, no measures for special-status bats are required.

If removal of trees identified to have bat-roost structure potential will occur during the bat maternity season, when young are non-volant (March 1 to August 31), or during the bat hibernacula (November 1 to March 1) when bats have limited ability to safely relocate roosts, humane exclusions shall be implemented. Humane exclusions consist of a two-day removal process by which the non-habitat trees and brush are removed along with smaller tree limbs on the first day, and the remainder of the tree limbs and the tree trunk on the second day.
Schedule: During PSA of each eligible parcel/During treatment activities
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation

Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 11: Bat Roost Habitat Avoidance (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, the presence of caves or bridges within the treatment area will be noted. If no caves or bridges are located within the project area, no further measures are necessary. If present within 50 feet of project activities, caves and bridges in the project area will be assessed during the PSA for potential bat roost structures (crevice roosts tend to be approximately 3/4 to 1-1/2 inches across and at least 18 inches deep; in most cases, they run from one side of the bridge to the other, and between three and several hundred meters aboveground). If found, a qualified biologist will assess the structure for signs of bat presence (i.e., guano, insect pieces, etc.). If no roost is present, then no buffer is needed. If a roost is present, then a 50-foot non-disturbance buffer shall be implemented around the roost structure to prevent changes to the thermal stability and protective cover surrounding the roost structure that could result from tree removal.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 12: Bumble Bee Avoidance (All PAAs)
If feasible, all ground-based mechanical equipment will be excluded from meadows or annual grasslands. If ground-based mechanical equipment must use annual grassland for access to a treatment area, a dedicated access route will be established to minimize disturbance. If suitable habitat for special-status bumble bees is identified outside of the non-disturbance wetland buffers implemented for **Mitigation Measure 2** during the Preliminary Site Assessment (PSA) (e.g., forest meadow or grassland habitat containing sufficient floral resources), then the following measures will be implemented, as feasible:

- Prescribed burning within suitable habitat for special-status bumble bees will occur only from October 1 through March 1 to avoid the bumble bee flight season.
- 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).
- Removal or herbicide treatment of flowering native plants within occupied or suitable habitat will not occur during the flight season (March 1 through October 1) to the extent feasible.

Schedule: During treatment activities
Responsible Party: VESTRA Resources, Inc.

Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 13: Monarch Avoidance (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, the presence of native milkweed (*Asclepias* spp.) will be determined. If milkweed is identified onsite, and treatments occur between May 1 to October 31, then a qualified biologist will inspect the plant for monarchs and their eggs or caterpillars. If monarch eggs or caterpillars are present, the plant will be avoided by implementing a 25-foot buffer. If no monarch eggs or caterpillars are present, treatment may proceed. Herbicide treatment or removal of native milkweed will be avoided if feasible.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 14: Sensitive Natural Communities Surveys (All PAAs)
During the Preliminary Site Assessment (PSA) of each eligible parcel, the area will be evaluated for the presence and condition of habitat types appropriate for regionally occurring sensitive natural communities. If appropriate habitat types for sensitive natural communities are identified, measures found in the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) will be implemented by a qualified biologist or RPF during treatment. If no sensitive natural communities are found, no further measures pertaining to sensitive natural communities are necessary. If sensitive natural communities are identified during the surveys, treatment will exclude activities within the sensitive natural communities, and exclusionary fencing or high-visibility flagging will be placed to demarcate the avoidance area. If avoidance is not feasible, the treatment prescription within upland sensitive natural communities will be modified such that the CNPS membership rules of the alliance or association are maintained at the appropriate spatial scale.
Schedule: During PSA of each eligible parcel
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 15: Cultural Resource Avoidance
A records search at the California Historical Resources Information System (CHRIS) for the areas to be treated will be completed and results provided to Shasta Valley RCD (SVRCD) prior to

treatment activities. In addition, archaeological pedestrian surveys shall be conducted by a qualified archaeologist in areas of the project site with the potential to contain cultural resources prior to treatment activities. These surveys shall be conducted during the Preliminary Site Assessment (PSA) for each eligible parcel. The results and management recommendations to avoid impacts to cultural resources for the project will be presented in an Archaeological Survey Report provided to SVRCD. Management recommendations could include avoidance of sites eligible for listing on the California Register of Historic Resources (CRHR) through implementation of a specified buffer around the site boundary or modification of treatment (use of hand tools and exclusion of equipment) for areas where vegetation removal may be beneficial to site preservation. The recommended buffers or modified treatment (STZ) will be included in the treatment prescription for the parcel, and buffers around known cultural resources will be marked with exclusionary flagging prior to project implementation. In addition, recommendations for the unanticipated discovery of cultural resources and human remains included in the Archaeological Survey Report shall be implemented for the project.
Schedule: During PSA of each eligible parcel/Prior to and during treatment activities
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

Mitigation Measure 16: Operational Hours in City of Mt. Shasta
Project activities within the City of Mt. Shasta will be conducted between the hours of 7:00 a.m. and 5:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturday and Sunday to comply with both the FEMA Best Management Practices and the allowable hours of construction activity (Policy NZ-1.8c) included in the City of Mt. Shasta General Plan Noise Element.
Schedule: During treatment activities within the City of Mt. Shasta
Responsible Party: VESTRA Resources, Inc.
Verification of Compliance: The McConnell Foundation
Monitoring Party: Shasta Valley RCD
Initials: _____
Date: _____

A copy of the completed MMRP will be retained by the Shasta Valley Resource Conservation District.

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Attachment A

Figures

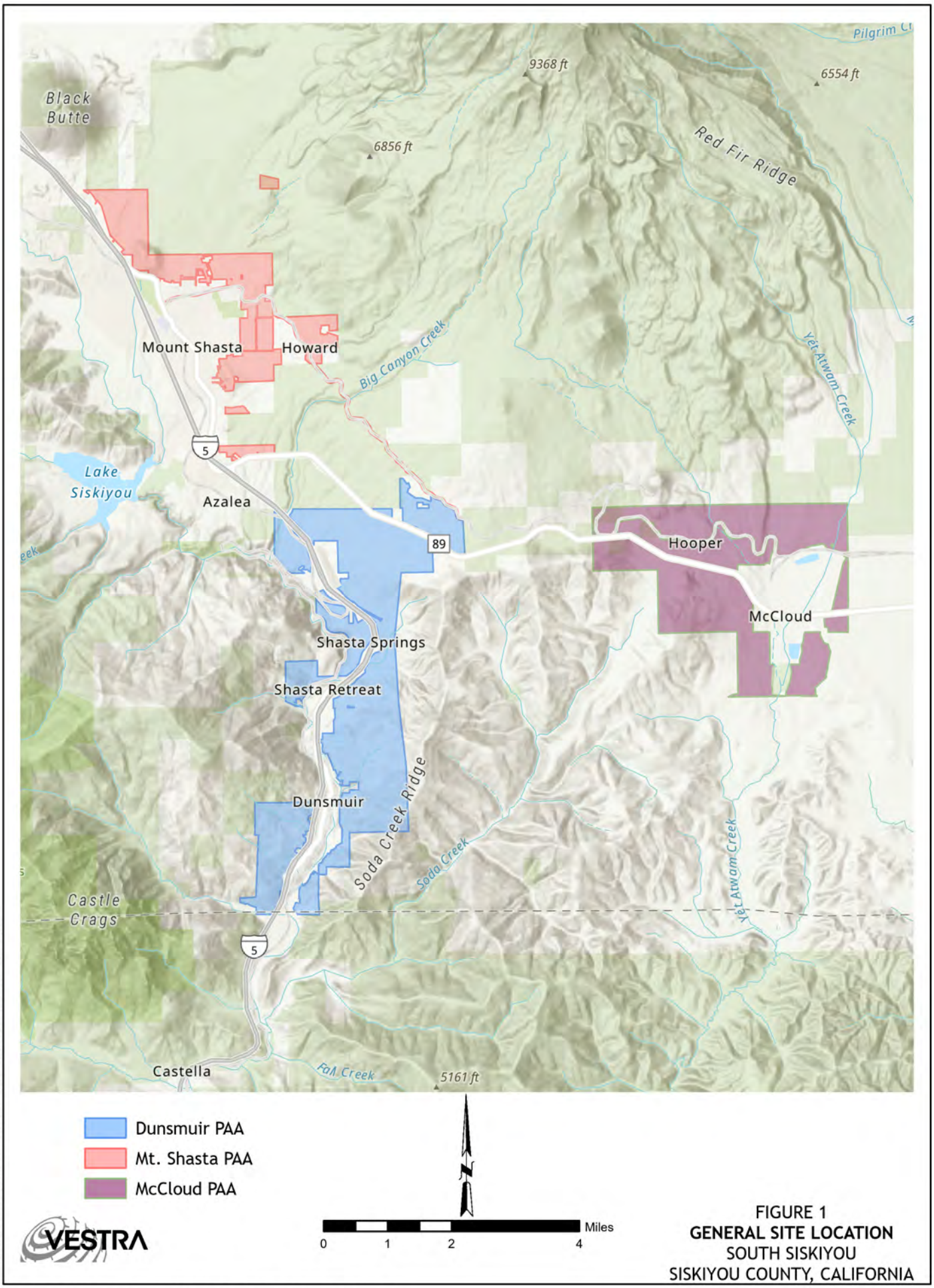

FIGURE 1
GENERAL SITE LOCATION
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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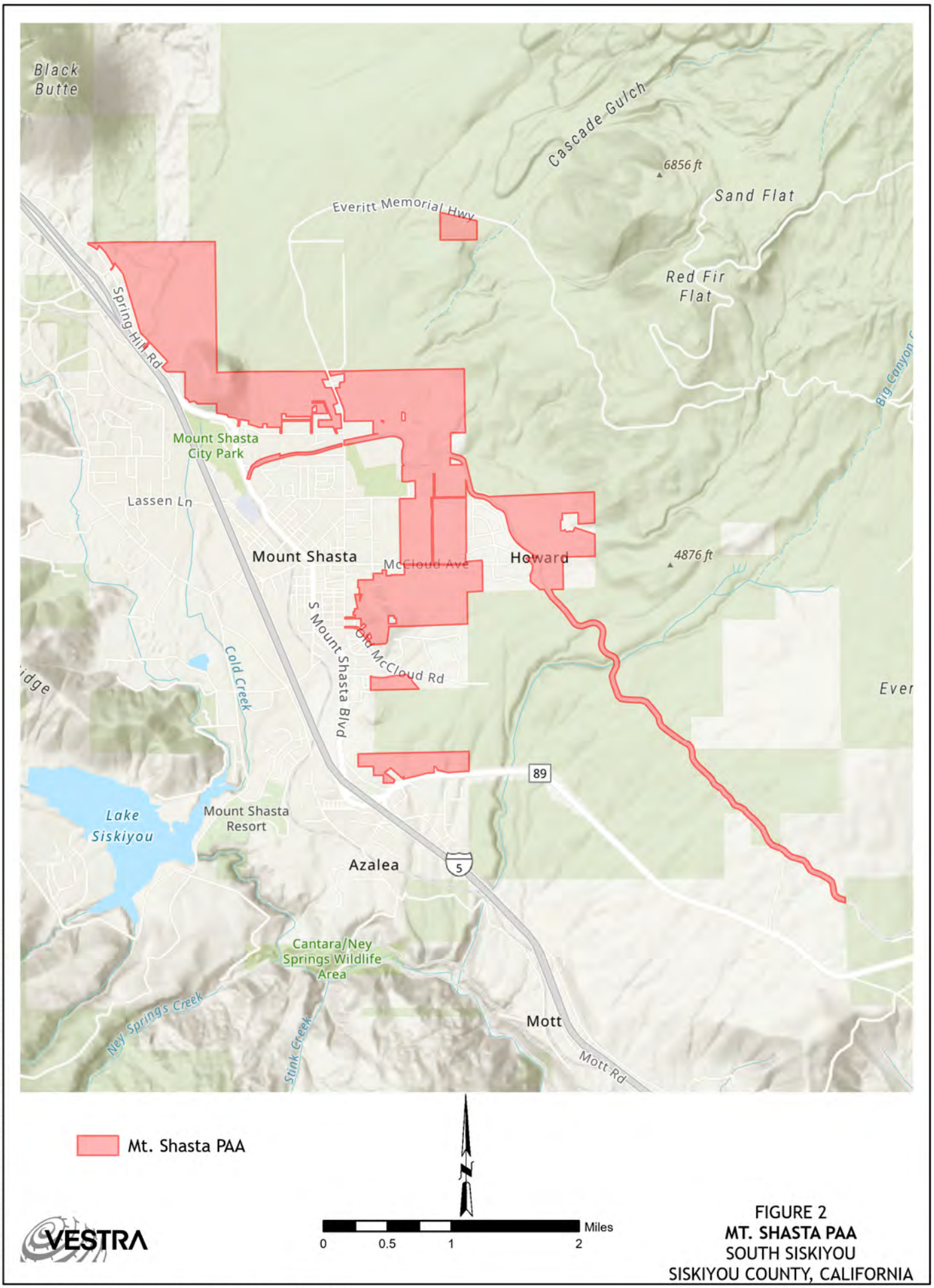

FIGURE 2
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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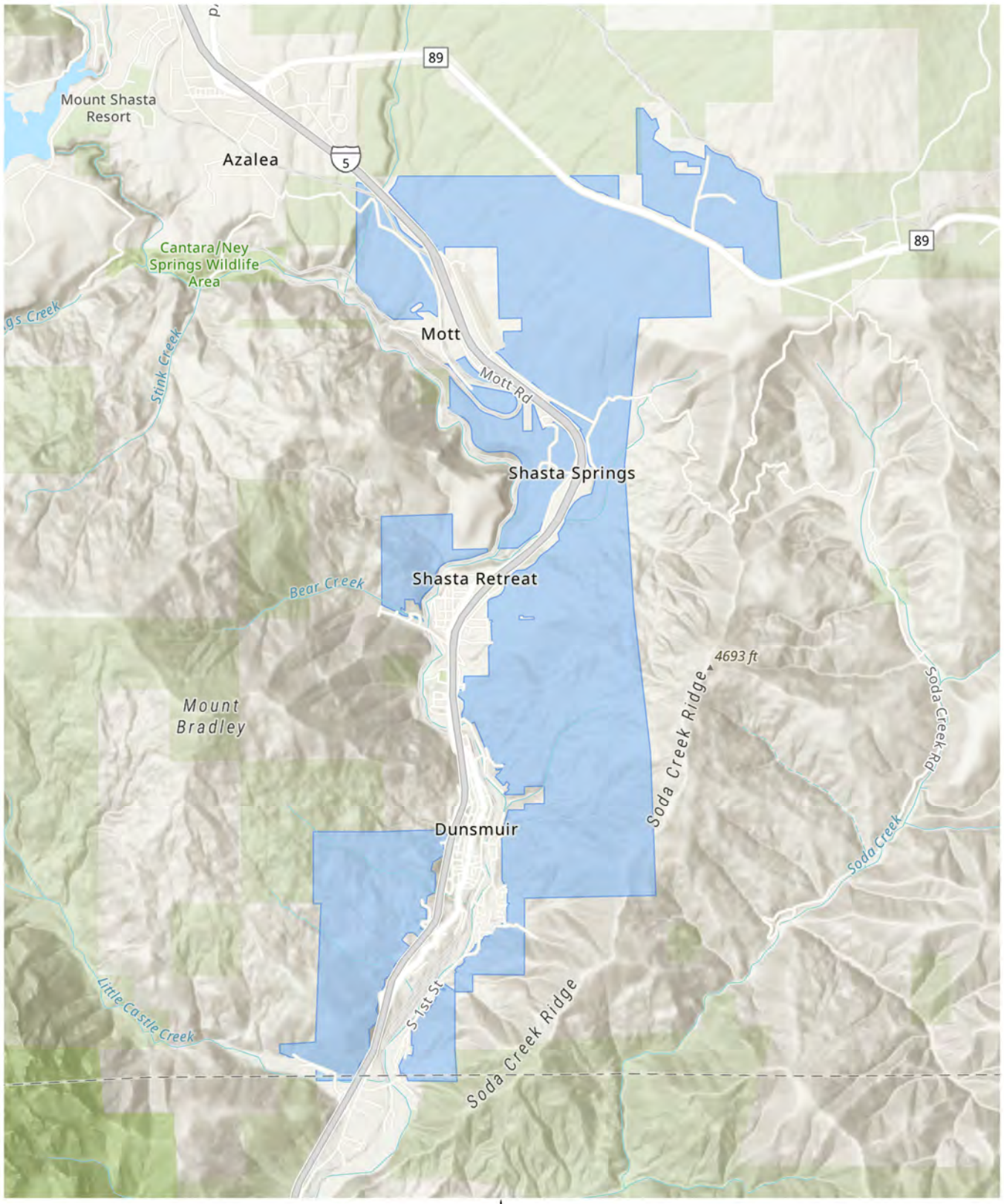

VESTRA

FIGURE 3
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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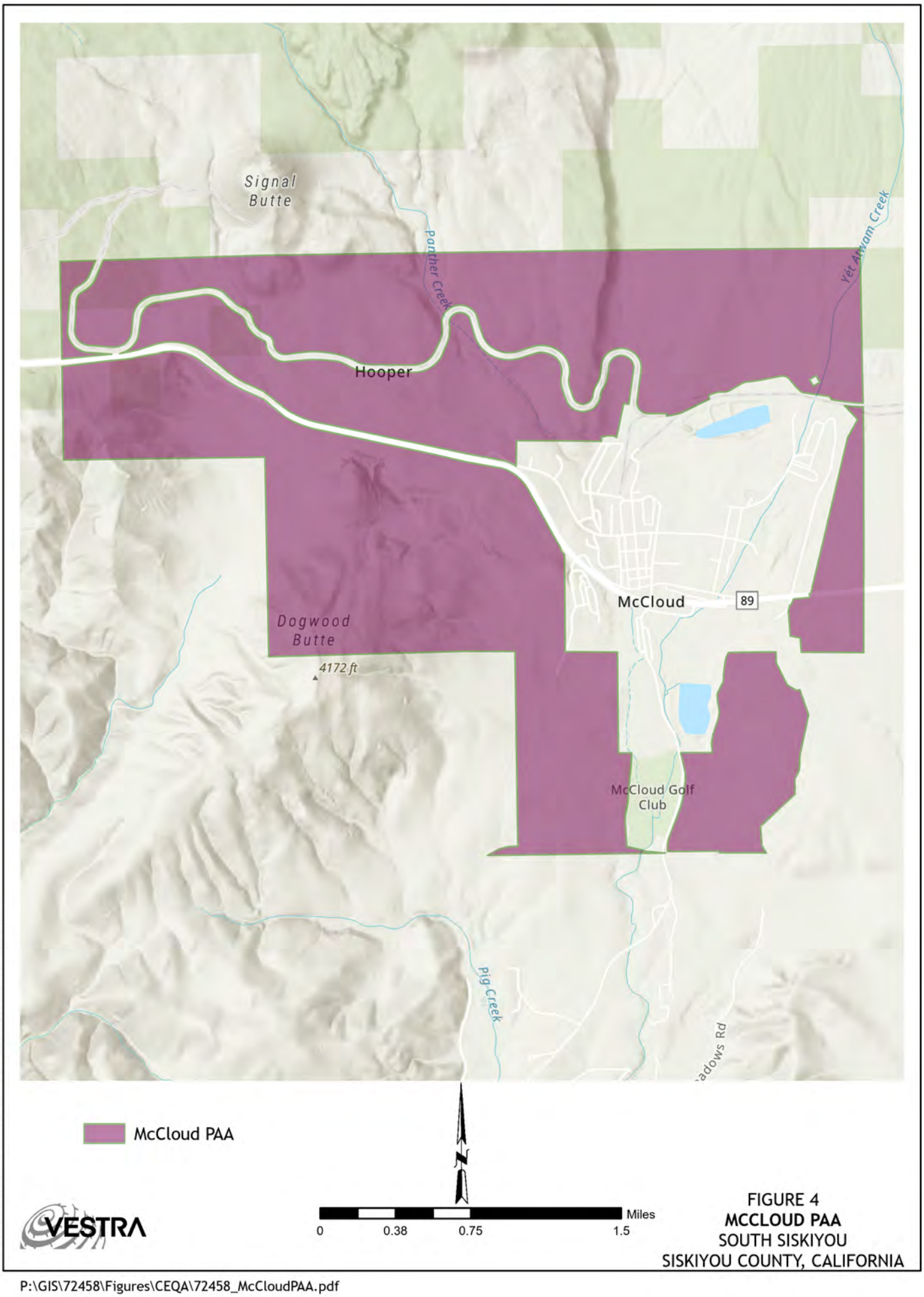

FIGURE 4
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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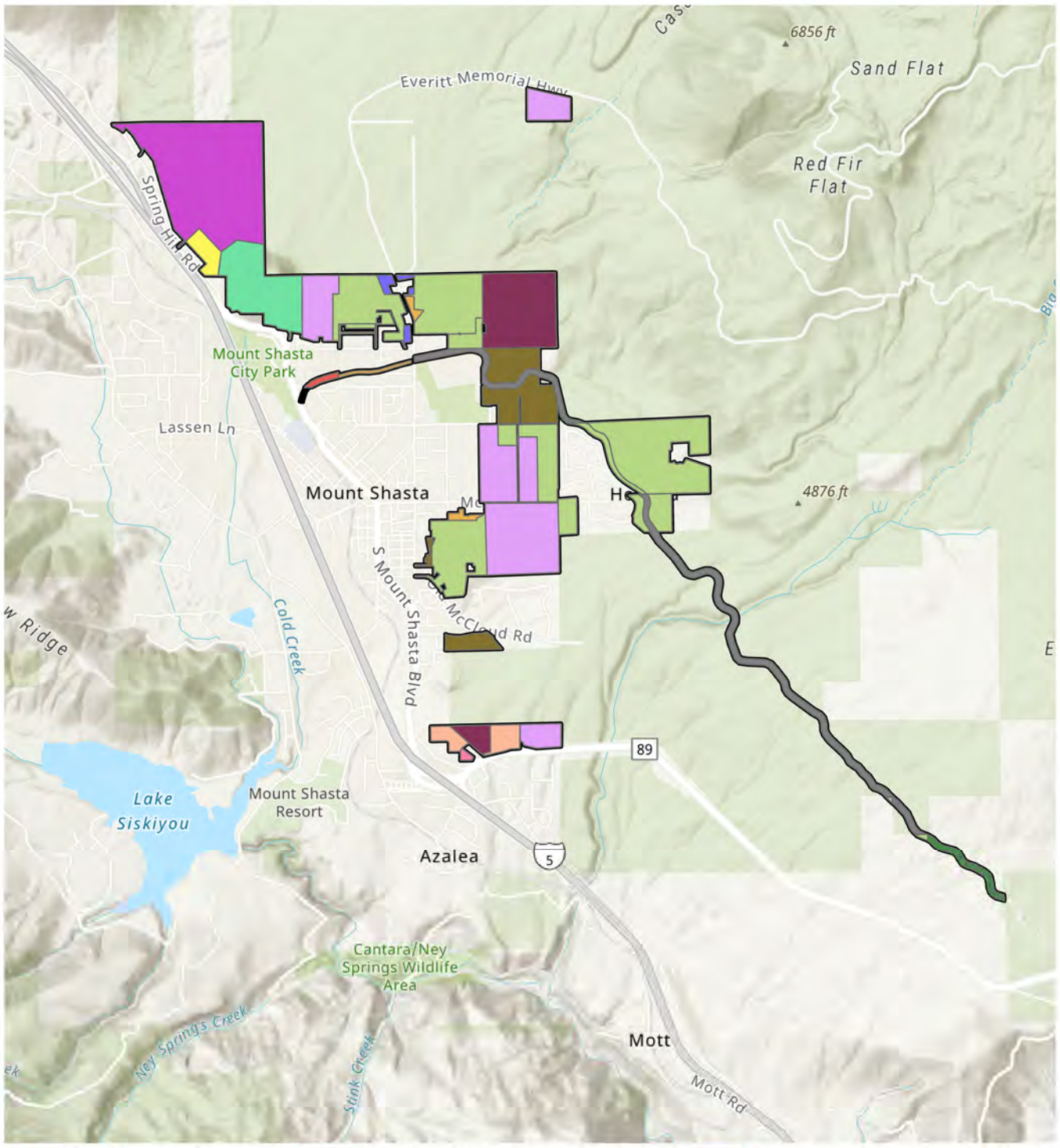

- Employment Center
- General Commercial
- Heavy Industrial
- Highway Commercial
- Light Industrial
- Low Density Residential
- Mixed Multiple-Family Residential
- Multiple-Family Residential
- Neighborhood Commercial
- Non-Prime Agriculture
- Planned Development
- Rural Residential Agricultural
- Single-Family Residential District
- Timberland Production
- Town Center
- Unclassified
- Zoning Not Identified
- Mt. Shasta PAA

0 0.5 1 2 Miles

VESTRA

SOURCE: SISKIYOU COUNTY AND CITY OF MT. SHASTA ZONING

FIGURE 5
ZONING
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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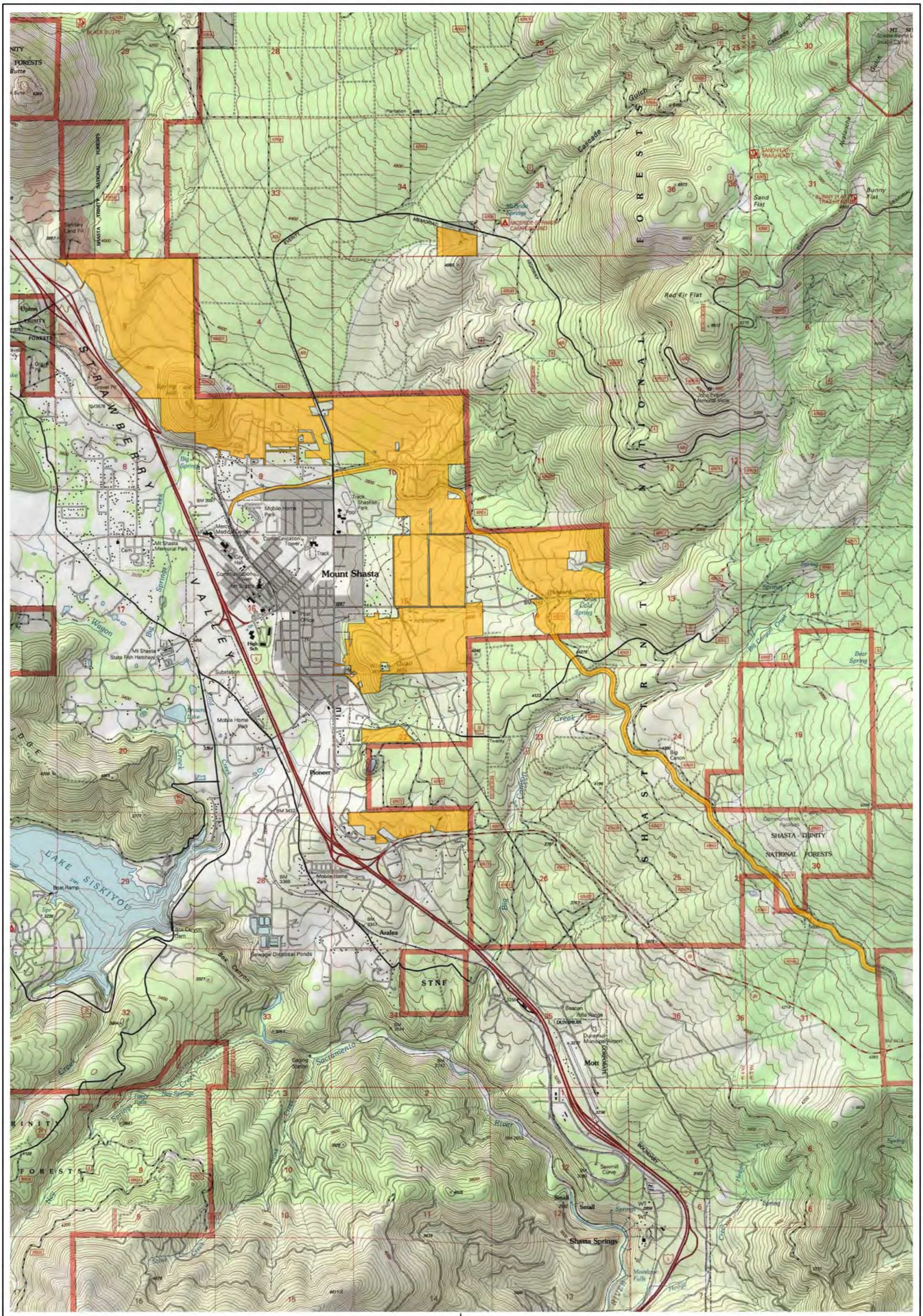

FIGURE 6
USGS TOPOGRAPHIC MAP
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, CITY OF MOUNT SHASTA AND MCCLOUD QUADRANGLES

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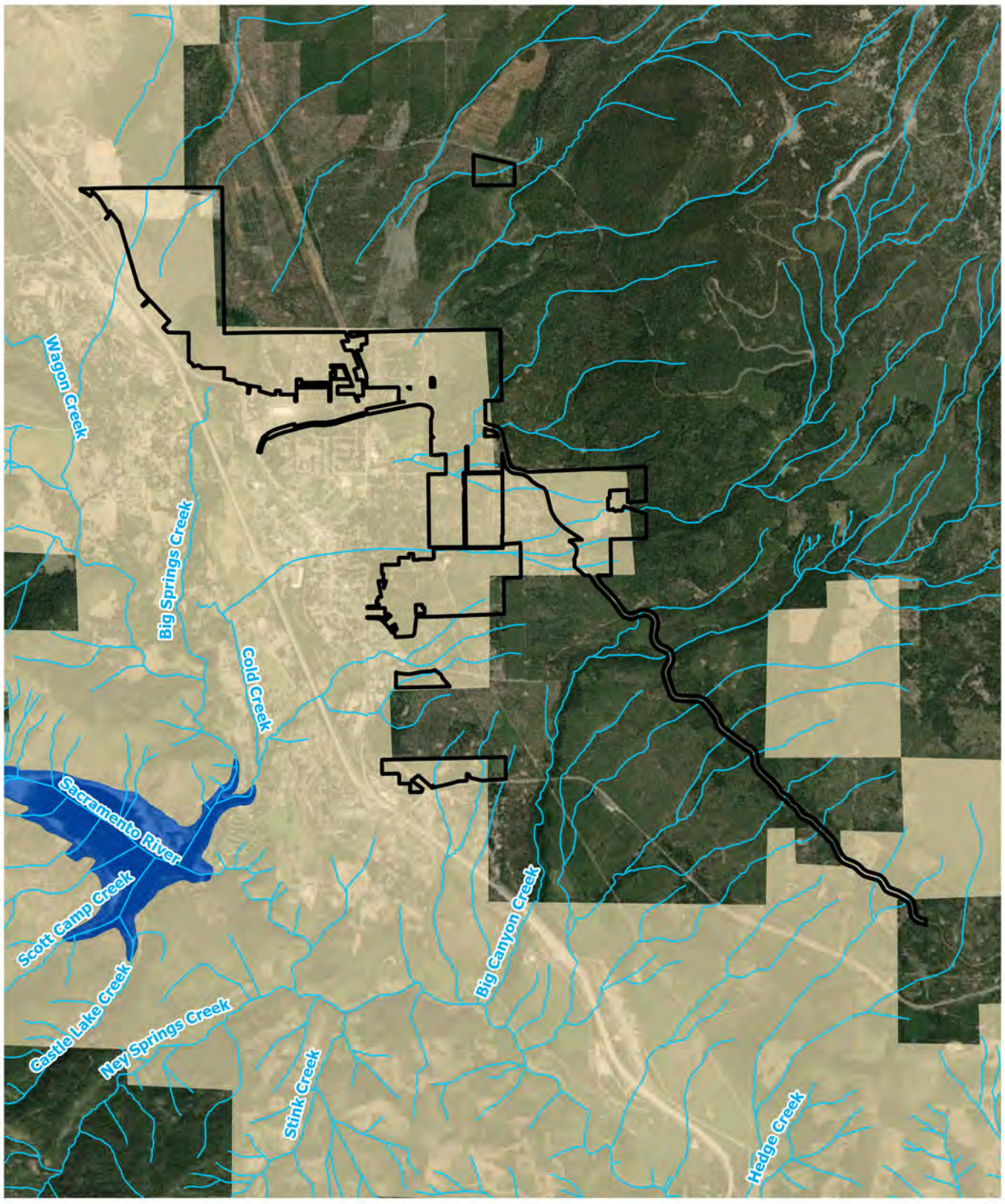

VESTRA

SOURCE: FEMA NHFL 2020

FIGURE 7
FEMA FLOOD ZONES
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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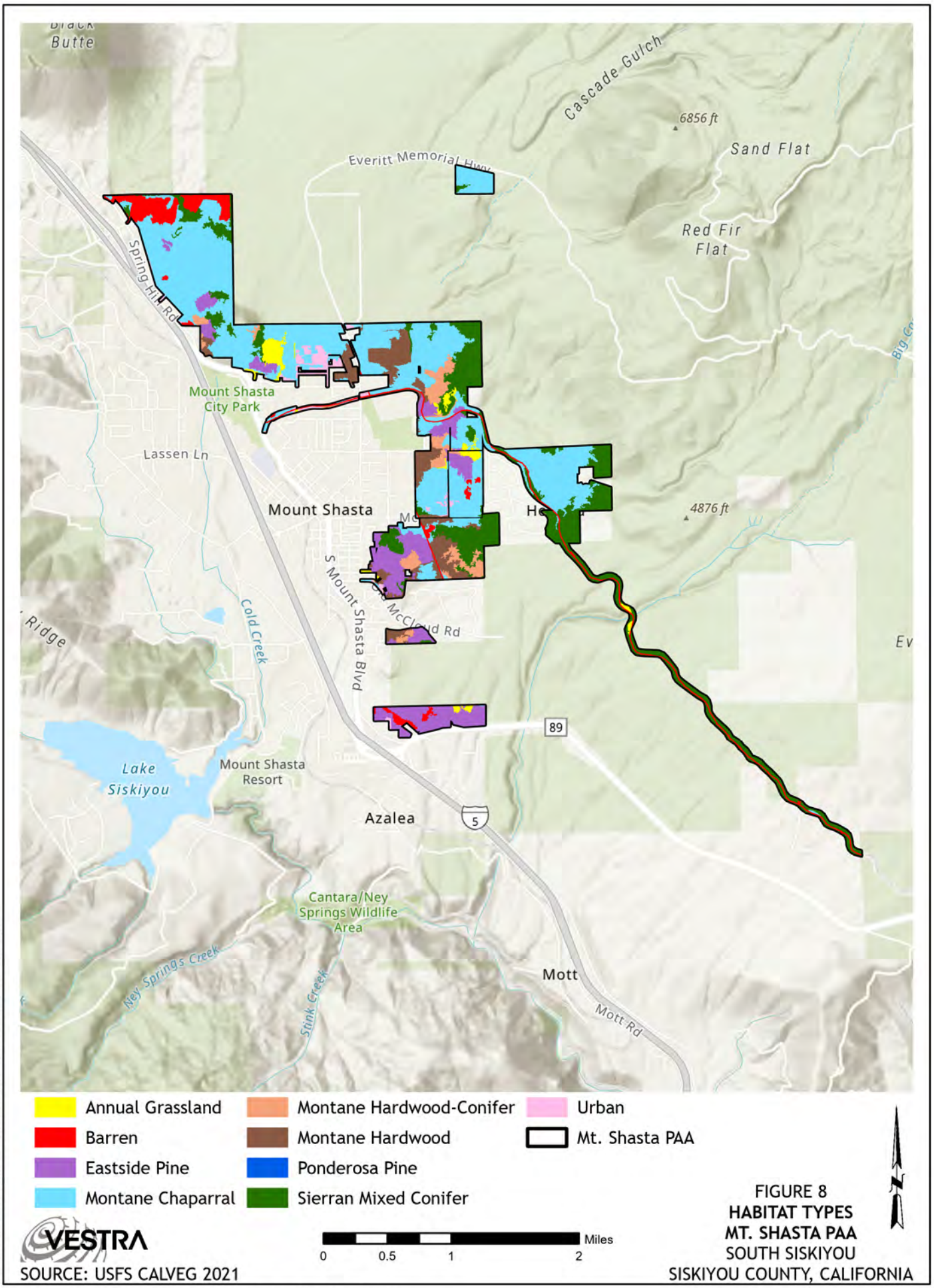

SOURCE: USFS CALVEG 2021

FIGURE 8
HABITAT TYPES
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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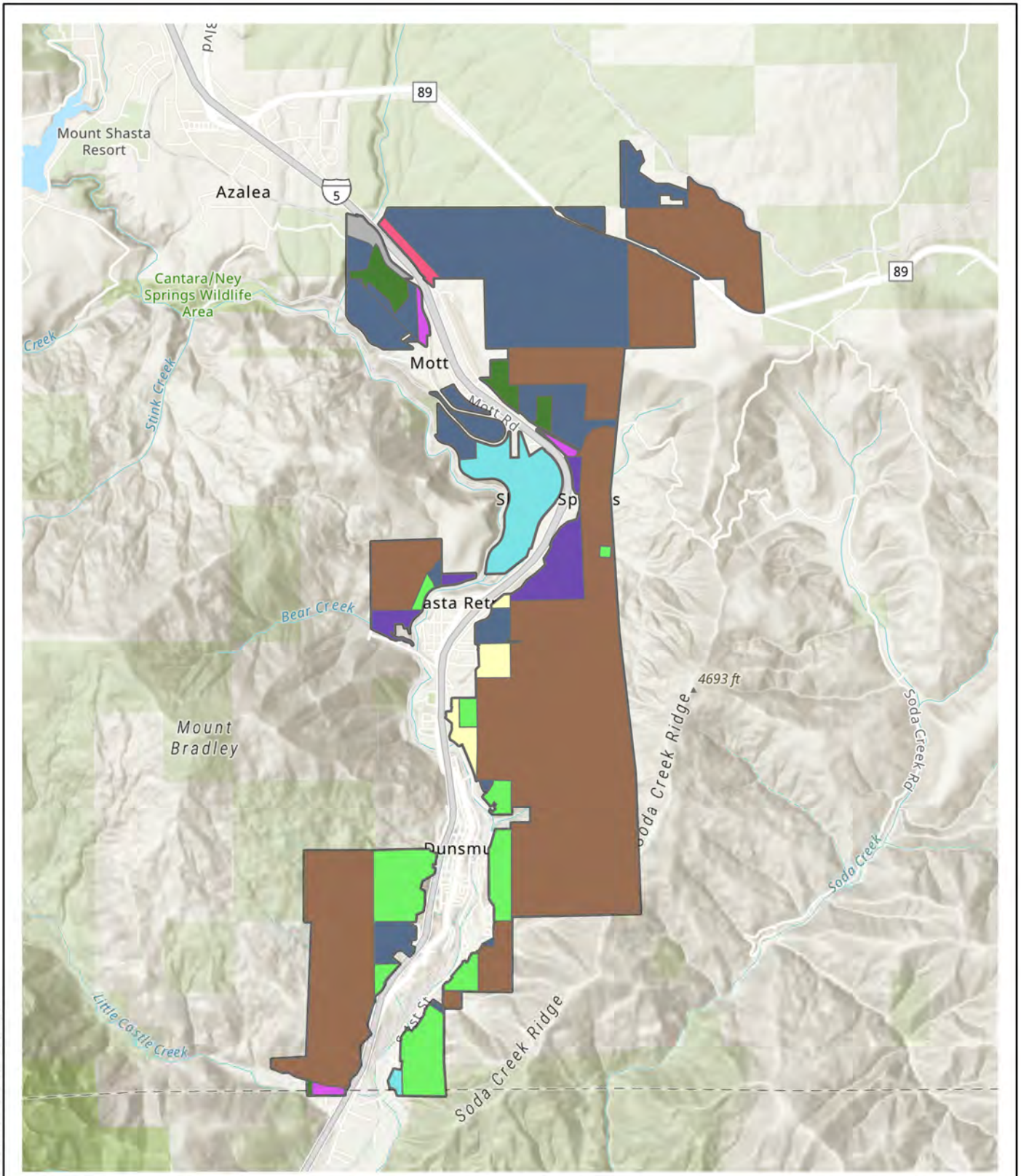

VESTRA

SOURCE: SISKIYOU COUNTY AND CITY OF DUNSMUIR ZONING, 2024

FIGURE 9
ZONING
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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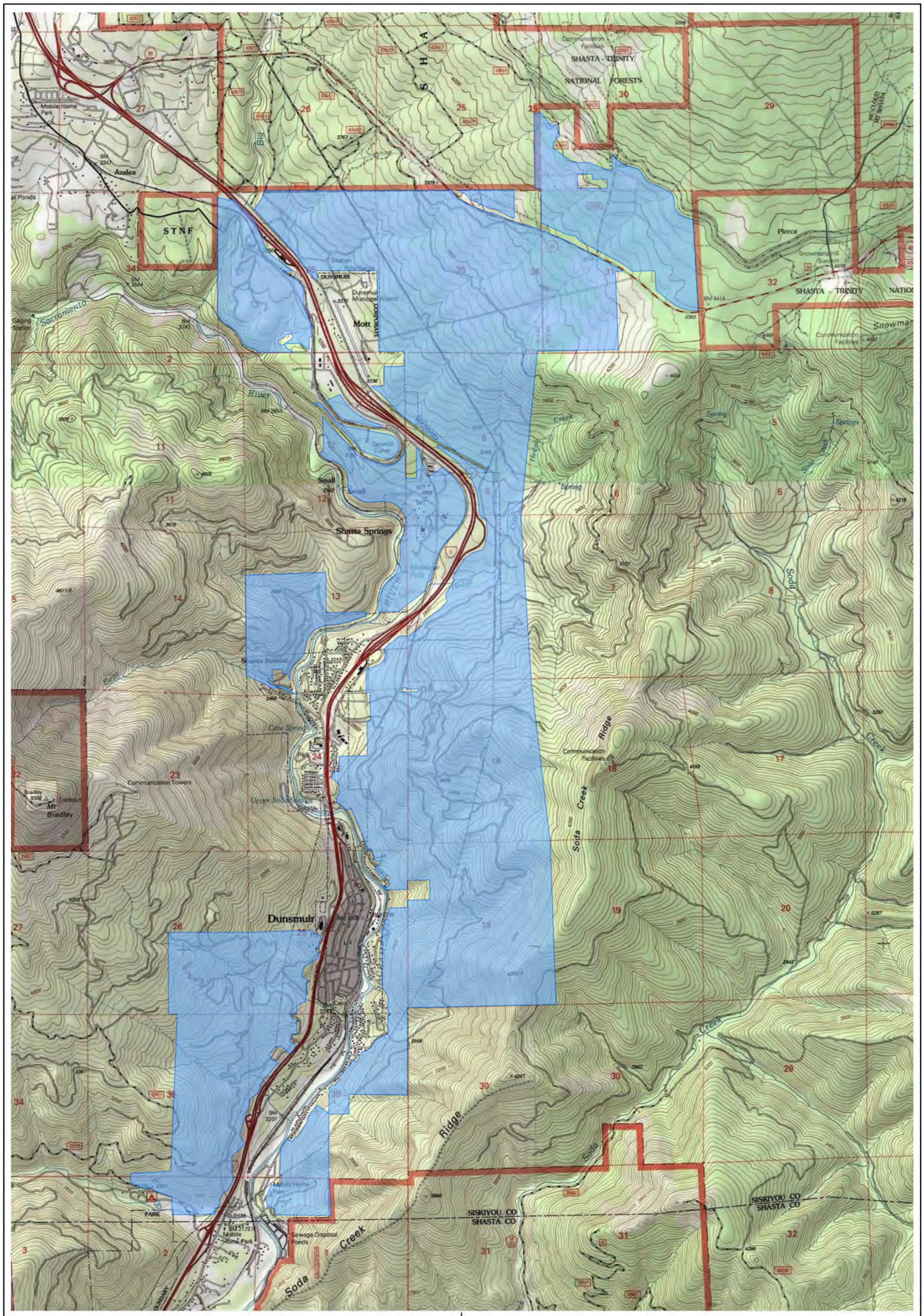

VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, CITY OF MOUNT SHASTA AND DUNSMUIR QUADRANGLES

FIGURE 10
USGS TOPOGRAPHIC MAP
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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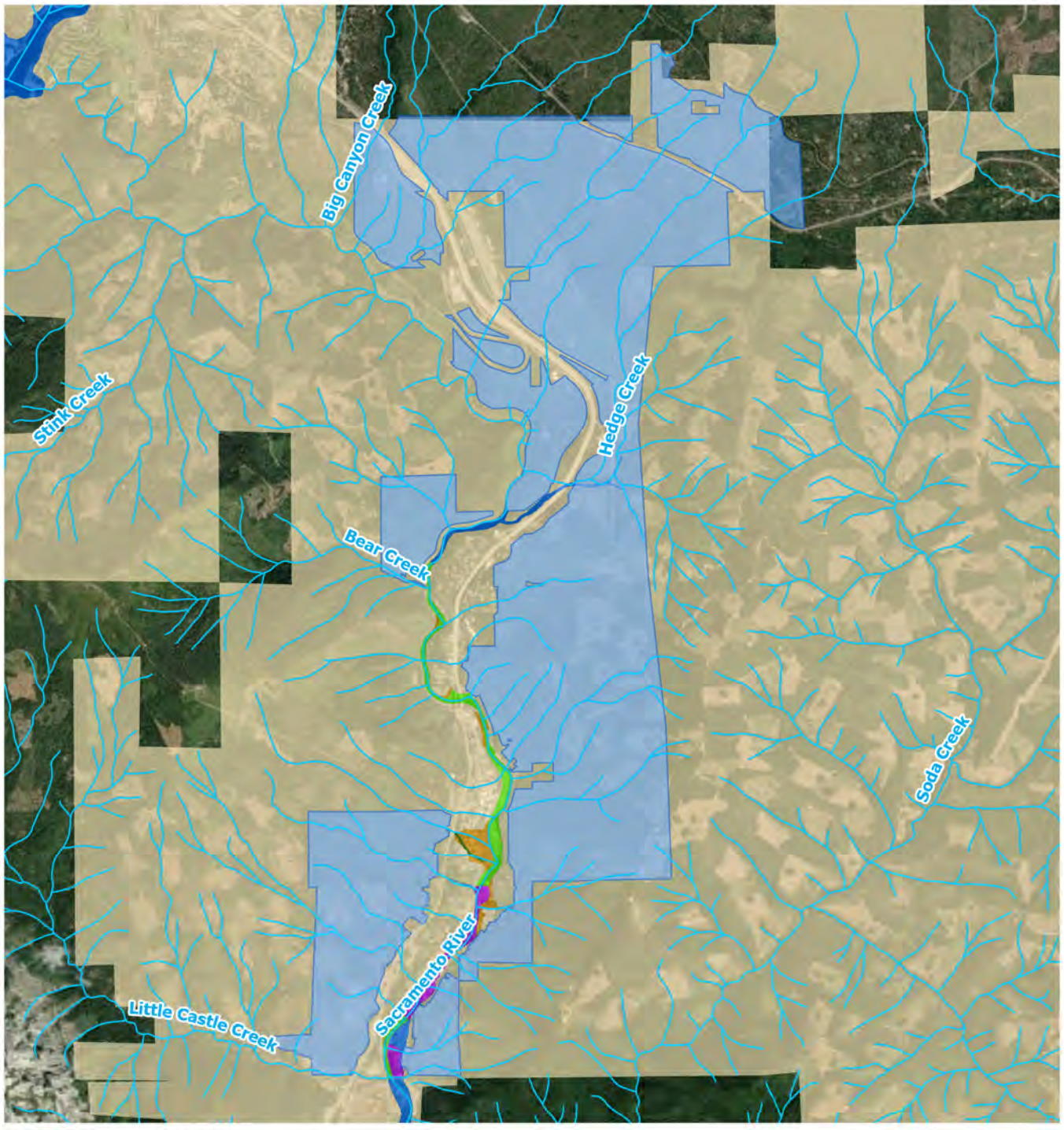

Dunsmuir PAA
Watercourse
Zone A: Area Subject to Inundation
Zone AE: Area Subject to Inundation by the 1 Percent Annual Chance Flood Event
Zone AE Floodway: Area Subject to Inundation by the 1 Percent Annual Chance Flood Event
Area AO: Area Subject to Inundation by 1 Percent Annual Chance Shallow Flooding
Zone X: Areas of Moderate Flood Hazard
Zone X: Area of Minimal Flooding

0 0.5 1 2 Miles

VESTRA

SOURCE: FEMA NHFL 2020

FIGURE 11
FEMA FLOOD ZONES
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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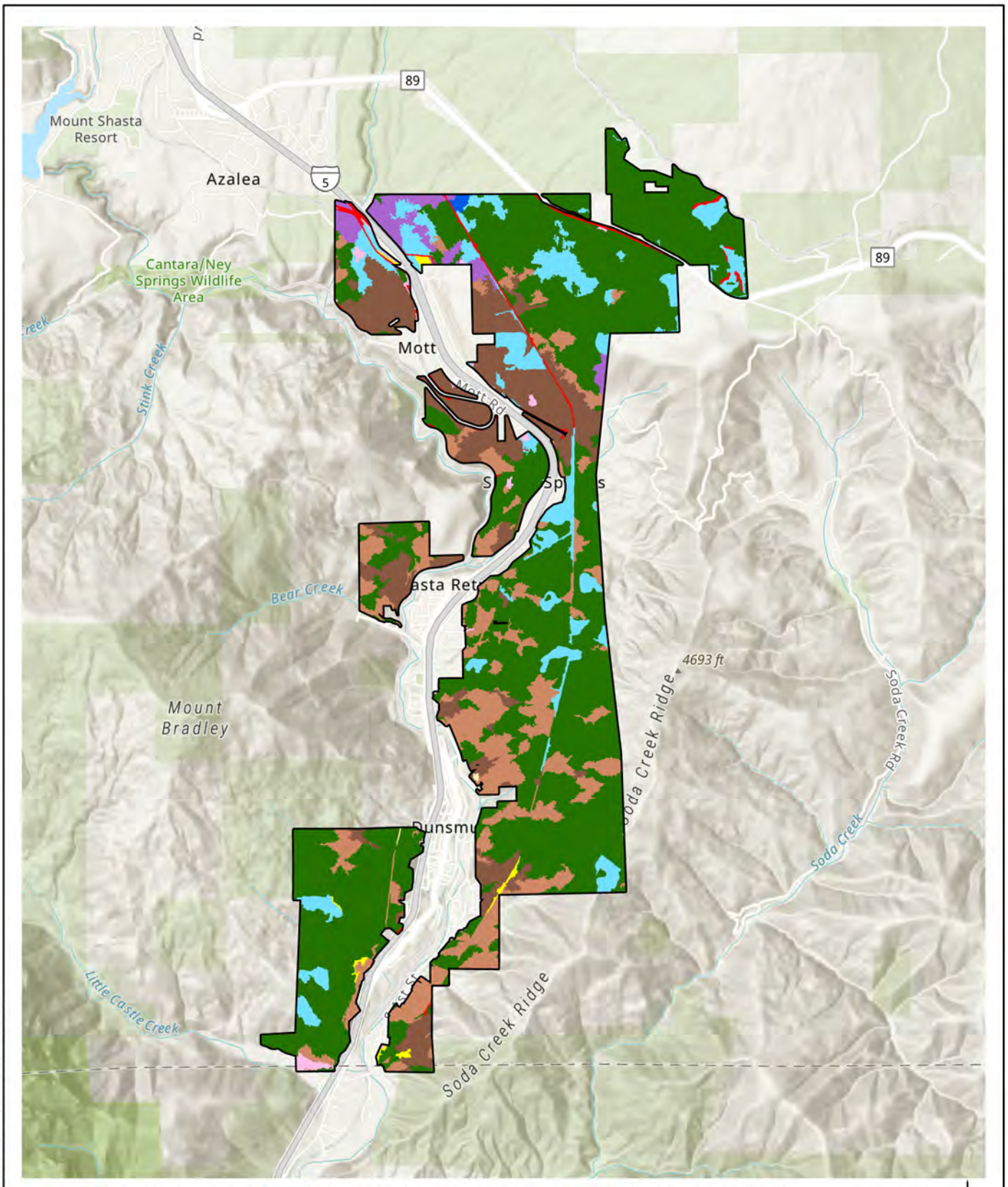

VESTRA

SOURCE: USFS CALVEG 2021

FIGURE 12
HABITAT TYPES
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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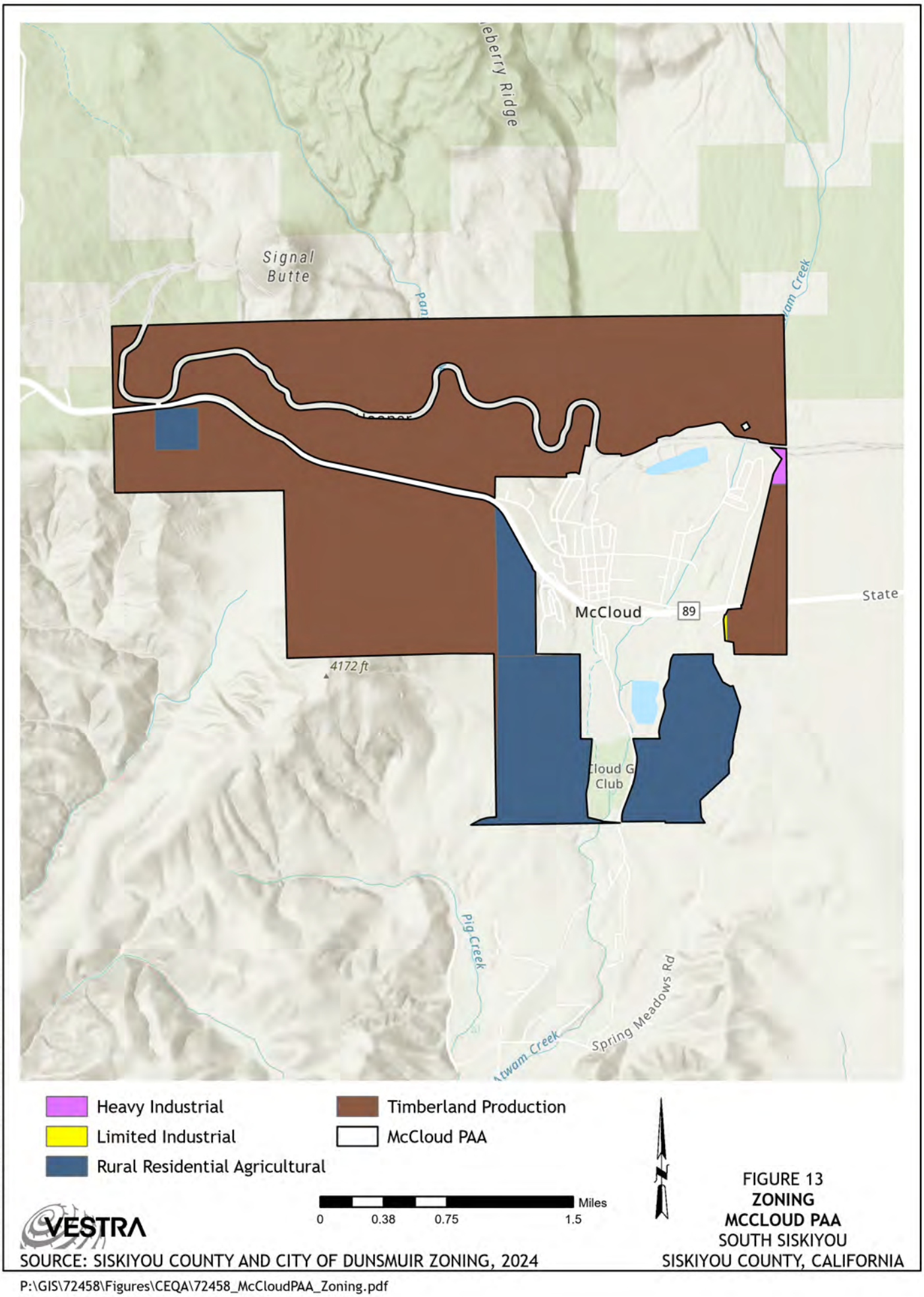

SOURCE: SISKIYOU COUNTY AND CITY OF DUNSMUIR ZONING, 2024

FIGURE 13
ZONING
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

P:\GIS\72458\ProProjects\JDW\SouthSiskiyou_CEQA\SouthSiskiyou_CEQA.aprx

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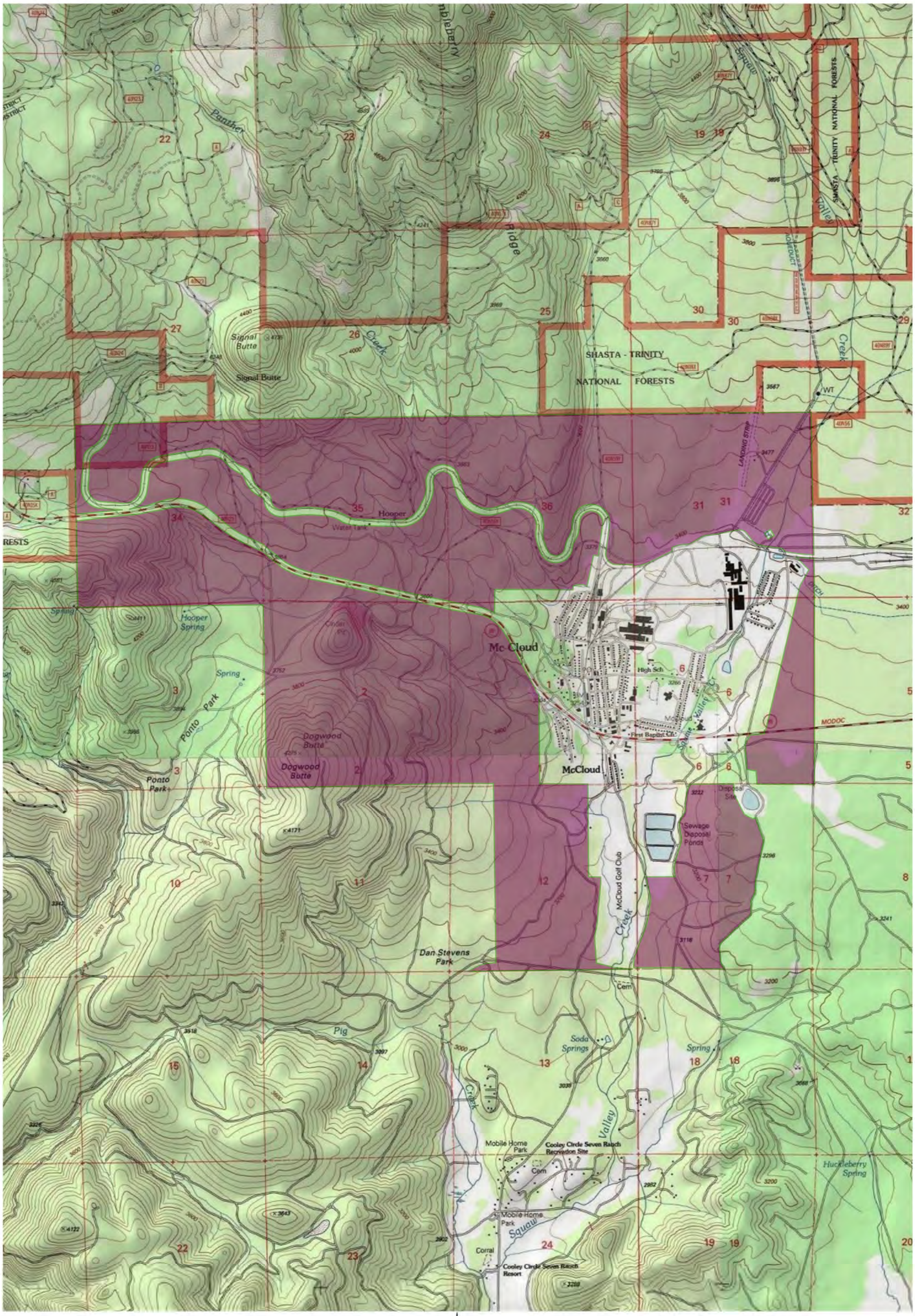

VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, MCCLOUD, ELK SPRING, GIRARD RIDGE, AND LAKE MCCLOUD QUADRANGLES

FIGURE 14
USGS TOPOGRAPHIC MAP
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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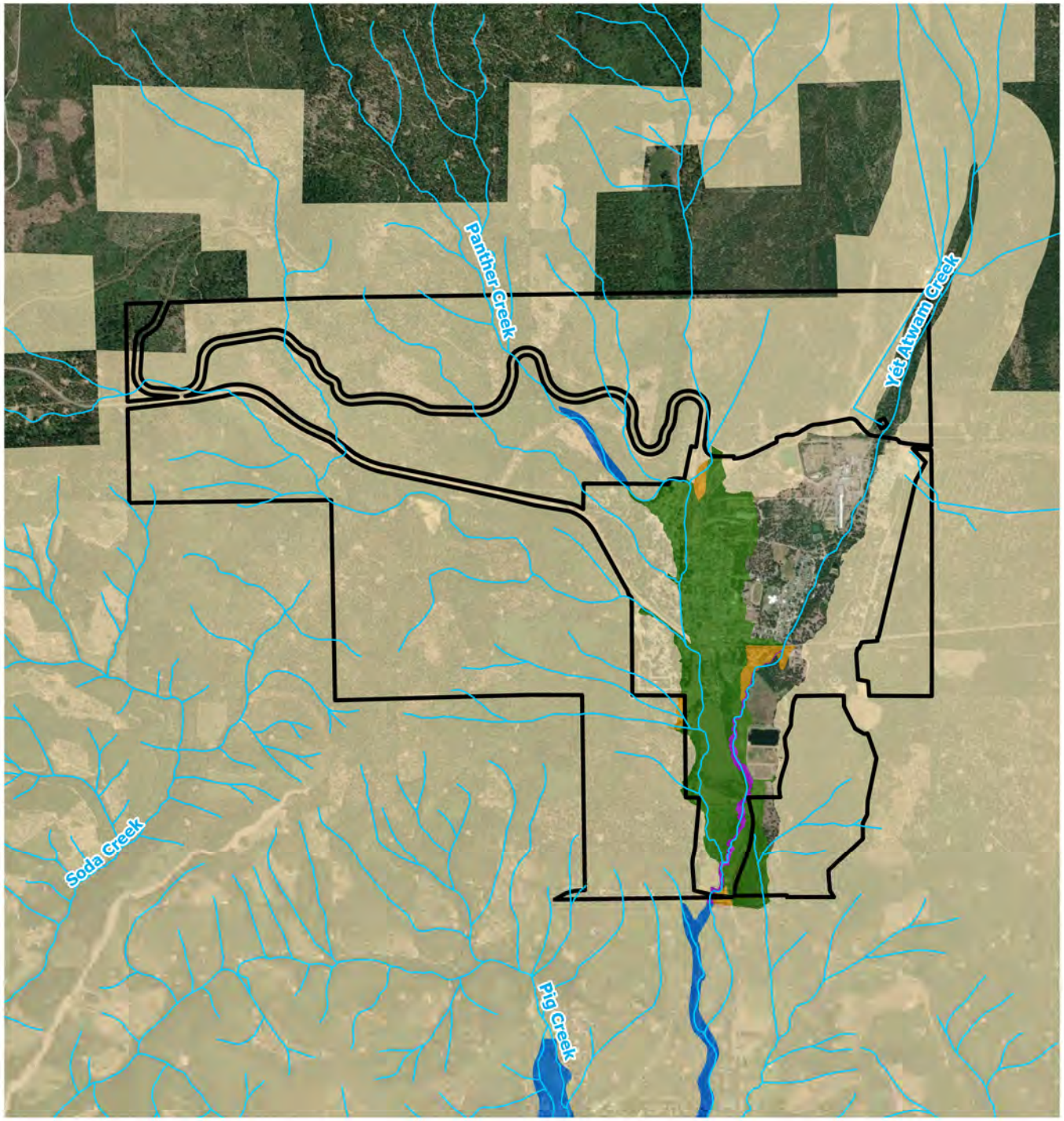

Watercourse
Zone A: Area Subject to Inundation
Zone AE: Area Subject to Inundation by the 1 Percent Annual Chance Flood Event
Zone AE Floodway: Area Subject to Inundation by the 1 Percent Annual Chance Flood Event
Area AO: Area Subject to Inundation by 1 Percent Annual Chance Shallow Flooding
Zone X: Areas of Moderate Flood Hazard
Zone X: Area of Minimal Flooding
McCloud PAA

VESTRA

SOURCE: NHFL FEMA 2020

FIGURE 15
FEMA FLOOD ZONES
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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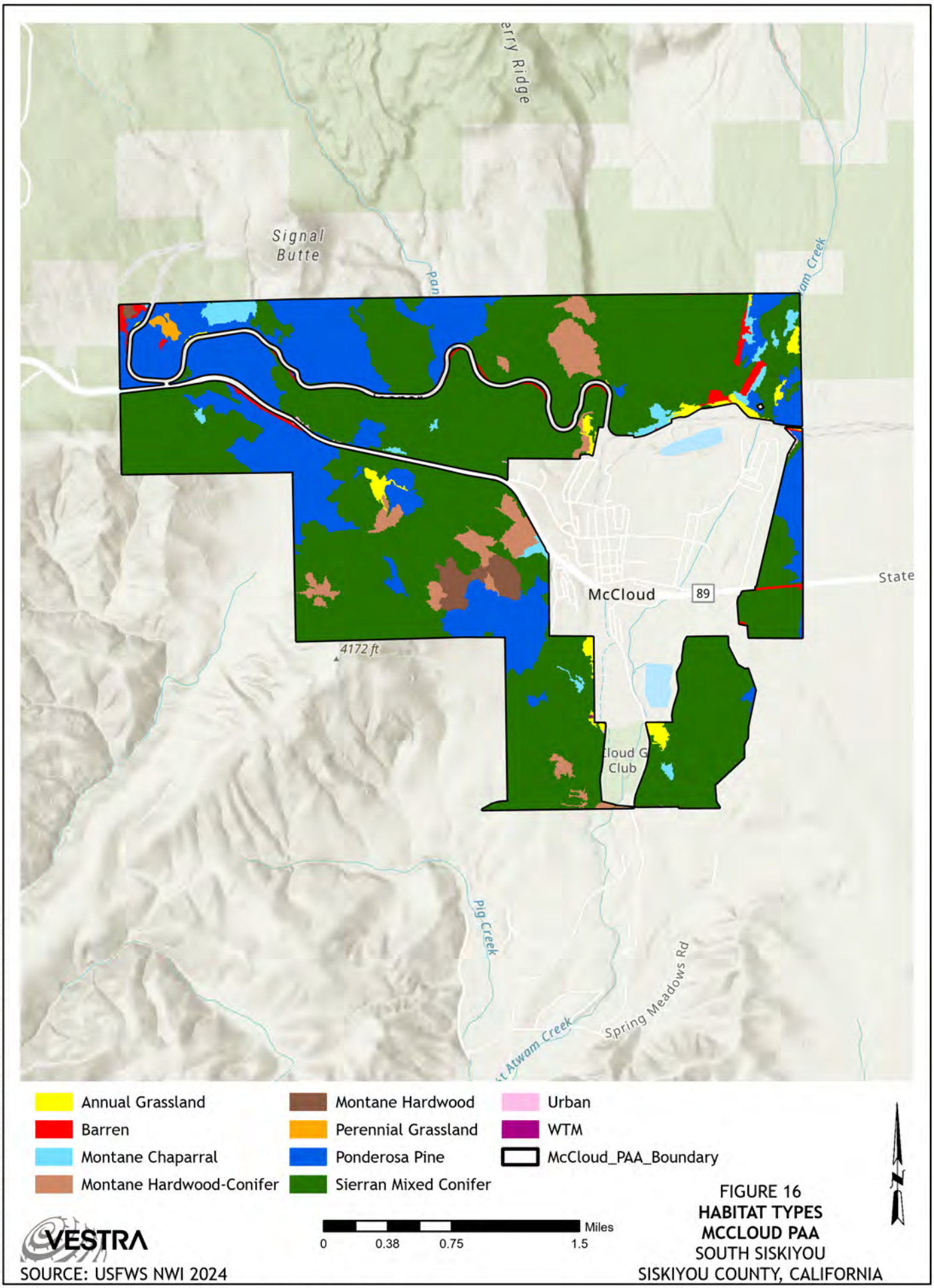

VESTRA

SOURCE: USFWS NWI 2024

FIGURE 16
HABITAT TYPES
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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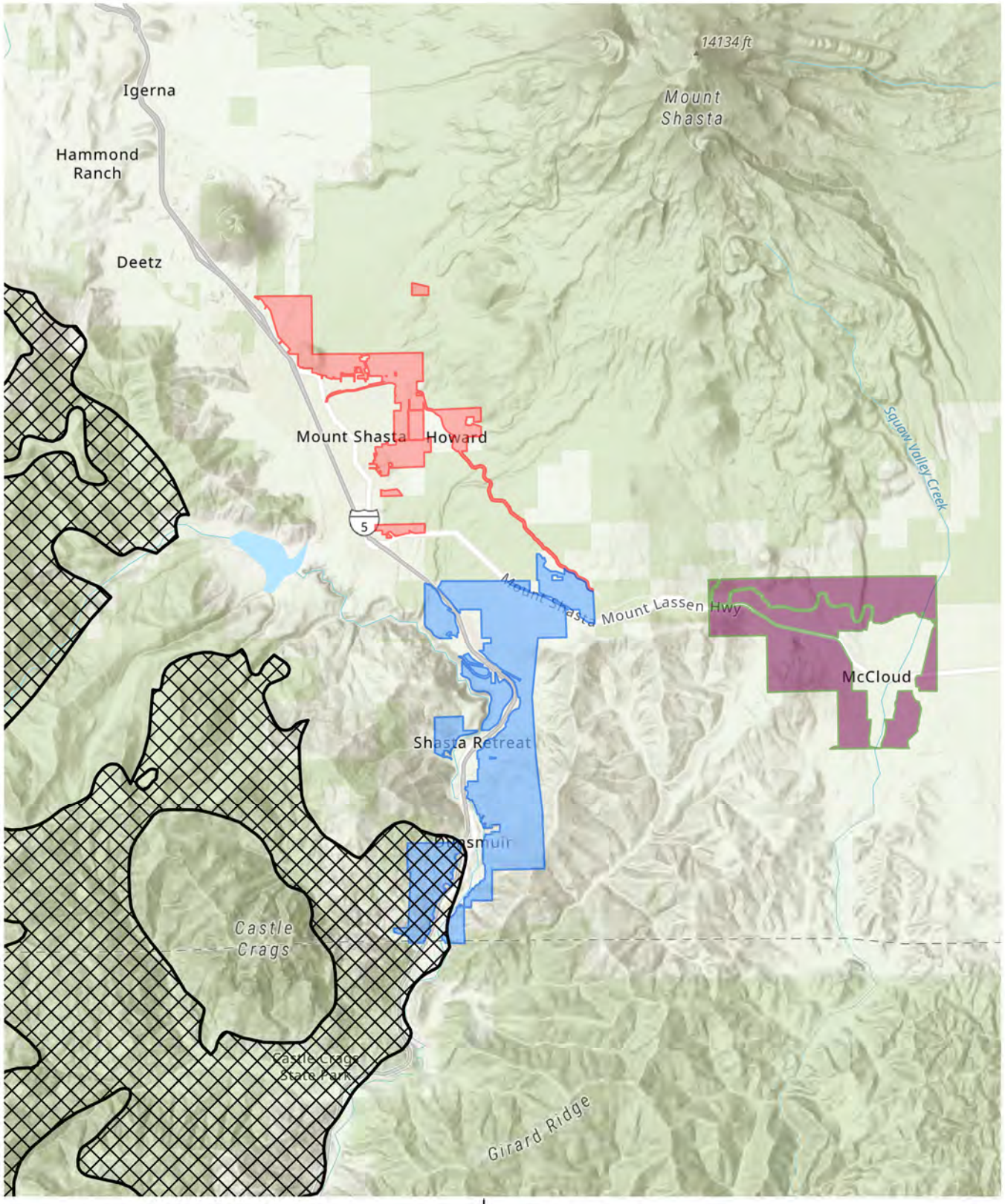

VESTRA

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION

FIGURE 17
ULTRAMAFIC ROCK
DUNSMUIR, MCCLOUD, AND MT. SHASTA PAAs
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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Attachment B

Biological Resources Assessment

BIOLOGICAL RESOURCES ASSESSMENT

SOUTH SISKIYOU FUELS REDUCTION PROJECT
SISKIYOU COUNTY, CALIFORNIA

Prepared for

The McConnell Foundation

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

72458

JANUARY 2025

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APPENDICES

1.0 INTRODUCTION

This Biological Resources Assessment (BRA) describes the biological resources present in the proposed Southern Siskiyou Fuels Reduction Project in Siskiyou County, California. This report includes a project description, proposed conservation measures, study methods, regulatory framework, description of the affected environment, and description of project impacts on sensitive resources.

1.1 Project Description

The proposed treatments include removing ground and ladder fuels, thinning trees to reduce crown closure, removing dead and dying trees and after removal activities, applying herbicide to control the future regrowth of unwanted vegetation and maintain an understory canopy without fire-prone fuels. Treatment will focus on reducing vertical and horizontal continuity of fuels; removing competition from small, closely spaced, fire-vulnerable species; and promoting a smaller number of resilient larger trees. Generally, larger living trees will be spaced to a distance of greater than 30 feet.

Both mechanized and manual techniques will be deployed for the removal of fuels. Areas that would be heavily disturbed by equipment or stacked logs would be reseeded with sterile cover crops or mulched with certified weed-free rice straw or wheat straw. Fuel reduction, biomass disposal, herbicide treatment and site restoration activities are described in greater detail below.

The treatment contractor will conduct the hazardous fuel reduction techniques and biomass disposal method appropriate for each individual parcel. A Preliminary Site Assessment (PSA) will be conducted on each eligible parcel to identify watercourses, special-status species and habitat, cultural resources, or any other obstacles to be avoided. An individual treatment prescription will be specified in a Site Specific Work Plan (SSWP) developed for each parcel based on the Preliminary Site Assessment.

1.1.1 Hazard Fuel Reduction

Fuel reduction treatments will be accomplished using mechanized and manual techniques. The mechanized technique will involve the use of heavy machinery and equipment such as track hoes, track chippers, track equipment with masticator heads, and logging equipment. The manual technique will involve the use of hand crews equipped with chainsaws and other field-deployable equipment. The mechanized technique may cover more acreage per day, but its use is limited by slope, access, seasonal consideration, and similar limitations that do not apply to the manual technique. The general contractor(s) or subcontractors will determine which technique or combination of techniques will be appropriate for each PAA following the Preliminary Site Assessment.

1.1.2 Mechanical Treatment

Mechanical treatment is effective for removing dense stands of vegetation and is typically used in shrub and tree fuel-removal operations. Mechanical treatments are generally the most cost effective and are the preferred treatments under the project. Mechanical treatments that may be used during the project include:

- Mastication (track, rubber tire or skid steer mounted)
- Logging and skidding (non-commercial)
- Bucket and boom
- Chipping and grinding
- Grubbing of root wads

1.1.3 Manual Treatment

Manual treatment would involve the use of hand tools and hand-operated power tools to cut, clear, or prune herbaceous and woody species. Activities could include the following:

- Removing trees and undesirable species with chainsaws, lopper, or pruners
- Pulling, grubbing, or digging out root systems of undesired plants to prevent sprouting and regrowth
- Hand piling

Ground disturbance from manual treatment is typically less than mechanical treatment within an equivalent area. Manual treatment will be used in sensitive habitats such as on steeper slopes, within constrained areas (biological), and in areas that are inaccessible to vehicles.

1.1.4 Biomass Removal and Disposal

On properties within the project site owned by commercial timber companies, merchantable timber removed during treatment activities will be decked at specified locations and the commercial timber landowners will presume ownership of the logs. On the remaining properties, Licensed Timber Operators will be responsible for the removal of merchantable timber and transportation to the mill.

Woody biomass generated during treatment activities is anticipated to include:

- Woody debris up to 6 inches in diameter, or vegetation present at an undesired density as determined by a registered professional forester, or supervised designee
- Green plant material from thinning and brush residuals
- Cut shrubs, branches, and saplings.
- Branches and logs from dead or diseased trees
- Felled trees

1.1.5 Onsite Disposal

Some residual biomass from treatment activities may be left in place for habitat, erosion control, or other purposes. Biomass that is of a size and constitution suitable for chipping may be disposed of onsite to the extent that it is feasible to do so without compromising the objective of reducing fire risk and fuel load. Removed biomass may also be placed in piles and burned. Such biomass will be handled in the following manner:

- Logs and large branches will be cut into pieces (no longer than 6 feet) and used to create small, unobtrusive piles no larger than 3 feet high, 5 feet long, and 4 feet wide. Piles will be separated by different distances, depending on slope. The piles will be created in such a manner so as to break down relatively quickly while also preserving habitat for wildlife.
- Logs and large branches will be lopped and scattered.
- Chipped waste will be blown onto the ground as mulch where appropriate in a manner that suppresses invasive plant and weed growth and helps stabilize soil in steep terrain. In no case will chipped material be spread greater than 4 inches.
- Biomass will be placed in piles by hand and burned (pile burning) during wet periods of the year. Pile burning will be implemented where other disposal options are not viable, such as steep areas receiving manual treatments or areas where equipment cannot be used. Pile burning would be subject to Siskiyou County Air Pollution Control District and/or CAL FIRE burn permit requirements.

Material disposed onsite will not be placed in Defensible Space Zones and piling around remaining trees will be avoided.

1.1.6 Offsite Disposal

If onsite disposal or pile burning cannot be used on a property, woody biomass generated by project activities may be chipped, piled, and transported to a biomass facility. The use of this material can provide renewable electricity and potentially biofuels, offsetting the consumption of fossil fuels. Biomass facilities are located in Siskiyou County in Weed and in the Anderson and Burney areas in Shasta County. Biomass will be delivered to the nearest facility where economically and contractually feasible to reduce transportation-related emissions

1.1.7 Herbicide Treatment

Most or all treatment areas will need some level of pre-treatment or post-treatment with herbicide prior to or post fuel removal. A secondary herbicide treatment prescription will be applied where fuel reduction work has been completed. The treatment prescription will be determined by a California Licensed Pest Control Advisor (PCA) and will target the control of fire-prone and invasive vegetation. Treatments will be prescribed by a PCA during periods of the year when species are most vulnerable and will promote restoration of native or desired plant communities that reduce the potential for accumulating excessive fuel loads and increased wildfire hazards.

All herbicide applications for this project will be conducted using hand-backpack equipment. Only the following herbicides will be used onsite (unless otherwise specified by a PCA):

- Glyphosate (Rodeo/ Roundup)
- Triclopyr (Garlon 4/Vastlan)
- Imazapyr (Arsenal/Chopper)
- Aminopyralid (Milestone)

For work within between 50 and 200 feet of a wetland or waterbody, herbicides will be restricted to glyphosate-based herbicides that are approved by the EPA for use around water (e.g., Rodeo), per FEMA Best Management Practices.

The use of cut-stump treatment is allowed but is discouraged around residential properties where non-target vegetation may be affected through root-to-root contact.

All work will be conducted by Licensed Pest Applicators. Due to the nature of the project, licensed applicators must have either a *right-of-way* or *landscape certification* (i.e., forestry alone is insufficient).

Glyphosate
Glyphosate, known by the common name of Roundup or Rodeo, is the most commonly used broad-spectrum, non-selective systemic herbicide in the United States. It is categorized as a phosphonomethyl amino acid. Some varieties are also used to control aquatic plants. It kills both broadleaf plants and grasses and works by preventing plants from making certain proteins that they need for plant growth. It is absorbed through the leaves and is translocated throughout the plant. Glyphosate concentrates in the meristem tissue where it stunts growth, malforms and discolors leaves, and causes death. It has very low toxicity to birds and mammals. It is moderately toxic to fish. The typical half-life of glyphosate in soil is 47 days. It is relatively unaffected by light. Surfactants can help improve the efficacy of glyphosate. Colorants and dyes that are agriculturally approved may be added to this product.

Triclopyr
Triclopyr, known by the common names of Garlon 4 and Vastlan, is one of the most commonly used selective systemic herbicides. It is used to control woody and herbaceous broadleaf plants with little to no impact on grasses. It works by mimicking the plant growth hormone auxin and causes uncontrolled and disorganized plant growth and allows the cell walls to separate causing vascular tissue destruction and death. Triclopyr is slightly toxic to fish, birds, and mammals. The typical half-life of Triclopyr is 30 days. It degrades readily in the sunlight. The Garlon formulation can be highly volatile and must be applied in cool temperatures with no wind. The Vastlan formulation is more stable and may be used at higher temperatures. A surfactant should be added to increase efficacy.

Imazapyr
Imazapyr, known by the common names of Arsenal and Chopper, is a non-selective herbicide that can control grasses, broadleaves, vines, brambles, shrubs, trees, and riparian emergent species. It is categorized in the herbicide family as Imidazolinone and works by inhibiting plant growth by preventing the synthesis of branched-chain amino acids. It translocates in the xylem and phloem to meristematic tissues where it inhibits the enzyme that is required for plant growth. Imazapyr has a low toxicity to mammals, birds, fish, or invertebrates but can cause damage with contact to the eye. The typical half-life of Imazapyr is one to five months. It rapidly degrades in sunlight. Imazapyr is not readily volatile; however, in increased temperature, the potential for volatility increases. A surfactant should be added to increase efficacy.

Aminopyralid
Aminopyralid, also known as Milestone, is a broad-spectrum herbicide used to control noxious, poisonous, and invasive broadleaf weeds – especially thistle and clovers. It is intended for rangeland pastures and non-cropland areas. It is categorized as a pyridine carboxylic acid and

provides residual weed control. It works by affecting the growth process causing uneven cell division when it mimics the plant growth hormone auxin. It disfigures and cracks stems and leaves, killing the plant. Aminopyralid is virtually non-toxic to birds, fish, mammals, and aquatic invertebrates but can cause eye damage if exposure occurs. There are no grazing restrictions with this herbicide. The average half-life of Aminopyralid in soil is 40 days. It is highly water-soluble and the half-life in water is 15 hours. It is not significantly degraded by sunlight. A surfactant should be added to increase efficacy. Aminopyralid is non-volatile and is considered a *reduced risk* herbicide by the EPA.

Surfactants
Surfactants are added to herbicides to improve performance and reduce application problems. Surfactants are surface-active agents that aid by increasing the spreading and wetting properties of herbicide liquids. They improve retention and penetration and generally work by reducing surface tensions and increasing the amount of herbicide that reaches the target site. Nonionic surfactants work well with glyphosate, while petroleum oil-based surfactants inhibit glyphosate performance. Surfactants that are oil-based are more effective for annual grasses or weeds with waxy cuticles. It is important to select the proper surfactant for the proper herbicide. All surfactants are good dispersing agents and have low toxicity to plants and animals.

1.1.8 Site Restoration

Some degree of ground disturbance will be caused by the machinery and equipment that will be used with any mechanized techniques. Disturbance will be addressed to ensure that additional risks (erosion and slope destabilization) do not occur. Grass seeding, slash packing, or other appropriate erosion control or slope stabilization techniques will be deployed on any site where site inspection determines that disturbance would likely lead to an increased risk of erosion or slope stabilization. Techniques to be used will be site-specific and implemented by hand crews in areas that are sensitive to soil stabilization issues. The determination of risk will be based on:

- Exposure of the disturbance
- Soil type disturbed
- The capability of the soil to support germination of grass seeding
- Timeframe (proximity to the rainy season)
- Proximity of the disturbance to a watercourse

1.1.9 Project Schedule

Project activities will be limited to the hours of 6:00 a.m. to 6:00 p.m. during weekdays and 7:00 a.m. to 5:00 p.m. on Saturday and Sunday.

2.0 AFFECTED ENVIRONMENT

2.1 General Setting

The topography of the survey area is mountainous and occurs at elevations between approximately 2300 and 5000 feet above mean sea level. Annual precipitation within the Dunsmuir Project Activity Area (PAA) is approximately 65 inches of rain and 28 inches of snow. Air temperatures range between an average low of 40 degrees Fahrenheit (ºF) and an average high of 69ºF. Annual precipitation within the Mt. Shasta PAA is approximately 40 inches of rain and 103 inches of snow. Air temperatures range between an average low of 37 degrees Fahrenheit (ºF) and an average high of 62ºF. Annual precipitation within the McCloud PAA is approximately 29 inches of rain and 54 inches of snow. Air temperatures range between an average low of 27 ºF and an average high of 86ºF. (Western Regional Climate Center 2006).

2.2 Soils

Dominant soil types within the Mt. Shasta PAA are Ponto-Neer complex, 2 to 15 percent slopes; Neer-Ponto stony sandy loams, 15 to 50 percent slopes; and Deetz gravelly loamy sand, 0 to 15 percent slopes.

Dominant soil types within the Dunsmuir PAA are Kettlebelly, dry-Neuns complex, 30 to 50 percent slopes; Neuns-Kindig complex, 50 to 75 percent slopes; Dunsmuir-Ishi Pishi, deep families complex, 20 to 40 percent slopes; and Dunsmuir family, 15 to 40 percent slopes.

Dominant soil types within the McCloud PAA are Neer-Ponto complex, 2 to 30 percent slopes; Ponto sandy loam, 2 to 15 percent slopes; and Kindig-Neuns complex, 30 to 50 percent slopes.

Web Soil Survey maps of each PAA are included as Appendix A.

2.3 Vegetation Communities

Vegetation within the survey area was identified through consultation with the California Wildlife Habitat Relationships (CWHR) (Figures 4-6). The treatment area is in Siskiyou County where the Klamath Mountains meet the Southern Cascades. Habitat types within all PAAs include a mix of man-made development, historically disturbed areas, and natural habitats including annual grassland, eastside pine, montane chaparral, montane-hardwood conifer, montane hardwood, ponderosa pine, Sierran mixed conifer, barren, urban, freshwater emergent wetland, montane riparian, lacustrine, and riverine habitats. Emergent wetlands, riparian, lacustrine, and riverine habitats would be excluded from treatments and remain undisturbed.

2.3.1 Annual Grassland

Annual grassland occurs in small patches throughout all three PAAs. These patches consist of a mix of native and non-native annual grasses and few forbs. Many non-native species were introduced during historic urban development. This vegetation community has now naturalized in most developed areas in California. Species typically observed in annual grasslands include rye (*Secale cereale*), Kentucky bluegrass (*Poa pratensis* ssp. *pratensis*), brome (*Bromus* sp.), perennial sweet pea (*Lathyrus latifolius*), hairy vetch (*Vicia villosa* ssp. *villosa*), yellow star thistle (*Centaurea solsticialis*),

cornflower (*Centaurea cyanus*), bull thistle (*Cirsium vulgaris*), sheep sorrel (*Rumex acetosella*), goat grass (*Aegilops triuncialis*), bulbous bluegrass (*Poa bulbosa*), and slenderstem lessingia (*Lessingia nemaclada*).

Isolated patches of grass species occur along the roadside, alongside railroad tracks, and between lots of residential and commercial land. These patches are mostly too small to provide habitat for wildlife. Larger patches may provide foraging opportunities for deer and rodents. In general, these areas do not contain shrubs or trees and would not receive treatment. Annual grasslands contribute little mass to fuel loads for wildfires. In cases where annual grasses occur underneath a tree or shrub canopy with low limbs, dried grasses can create ladder fuels which can assist the spread of fires to larger fuel loads.

2.3.2 Eastside Pine

Eastside pine occurs in large patches throughout the Mt. Shasta PAA. The eastside pine habitat is characterized by short to moderate height (65 to 115 feet tall) pine trees at maturity. Without disturbance, except for naturally occurring fire, a mosaic of even-aged patches develops, with open spaces filled by dense sapling stands. Oaks or junipers or a shrub understory may form into open stands of shrubs less than 2 meters (6.5 feet) tall. Crowns of pines are open, allowing light, wind, and rain to penetrate, whereas other associated trees provide more dense foliage.

Ponderosa pine (*Pinus ponderosa*) is the dominant tree species, with a mix of Jeffrey pine, lodgepole pine, white fir (*Abies concolor*), incense-cedar (*Calocedrus decurrens*), Douglas-fir (*Pseudotsuga menziesii*), California black oak (*Quercus kelloggii*), and western juniper (*Juniperus occidentalis*). Understory growth depends on site conditions. In stands with openings, an understory is usually present and includes one or more of the following shrubs: big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia tridentata*), manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), rubber rabbitbrush (*Chrysothamnus nauseosus*), mountain mahogany (*Cercocarpus* spp.), and mountain snowberry (*Symphoricarpos oreophilus*). Prominent herbaceous plants include mule ears (*Wyethia amplexicaulis*), arrowleaf balsamroot (*Balsamorhiza sagittata*), Idaho fescue (*Festuca idahoensis*), pinegrass (*Calamagrostis rubescens*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and bottlebrush squirreltail (*Elymus elymoides*).

Eastside pine communities offer habitat for many wildlife species. Large pine tree branches and snags (large standing dead trees) form good nesting substrates for songbirds and raptors. Eastside pine stands often form important migratory and winter range for deer. Higher elevation stands with open grassy understories near water may be extremely important deer fawning areas and migratory holding areas.

2.3.3 Montane Chaparral

Montane chaparral occurs in all three PAAs. It is the dominant habitat type within the Mt. Shasta PAA. The growth form of montane chaparral species can vary from tree-like (up to 3 meters) to prostrate (low to the ground). Montane chaparral is characterized by evergreen species; however, deciduous or partially deciduous species may also be present. Understory vegetation in the mature chaparral is usually absent, though species composition changes with elevation and geographical range, soil type, and aspect.

Montane chaparral provides habitat for a wide variety of wildlife. Numerous rodents inhabit chaparral. Deer and other herbivores make extensive use of chaparral; shrubs provide protective cover throughout the year and forage in fall and winter when grasses are not in abundance. Rabbits and hares eat twigs, evergreen leaves, and bark from chaparral. Shrubs are important to many mammals as shade during hot weather, and moderate temperature and wind velocity in the winter. Many birds find a variety of habitat needs in the montane chaparral as it provides seeds, fruits, insects, protection from predators and climate, as well as singing, roosting, and nesting sites.

Most montane chaparral species are fire-adapted. Mature plants sprout back from the root crown. Chaparral shrubs are fire-adapted and rapidly establish after fire by re-sprouting following top-kill or establishing from seed from a long-lived seed bank in the soil (Keeley 1991, Knapp et al. 2012). Once established, they impede tree seedling establishment and growth, slowing forest development. Chaparral may persist for up to 50 years or longer before conifer development begins to significantly reduce the shrub growth through shading. Once this occurs, shrubs may die off and contribute to ladder fuels.

2.3.4 Montane-Hardwood Conifer

Montane chaparral occurs in all PAAs but is one of the dominant habitat types within the Dunsmuir PAA. Montane Hardwood Conifer (MHC) habitat includes conifers and hardwoods, often as a closed forest. To be considered MHC, at least one-third of the trees must be conifer and at least one-third must be broad-leaved. In the northern interior, California black oak (*Quercus kelloggii*), bigleaf maple (*Acer macrophyllum*), Pacific madrone (*Arbutus menziesii*), and tanoak (*Notholithocarpus densiflorus*) are common with ponderosa pine (*Pinus ponderosa*), incense-cedar (*Calocedrus decurrens*), Douglas-fir (*Pseudotsuga menziesii*), and sugar pine (*Pinus lambertiana*) forming the overstory. In the northern Sierra Nevada, common associates include California black oak, bigleaf maple, gray alder (*Alnus incana*), Douglas-fir, incense-cedar, and ponderosa pine. This vegetation community is interspersed with Montane Hardwood and Eastside Pine. Montane hardwood conifer offers similar habitat to the eastside pine habitat.

Mature MHC forests are valuable to cavity-nesting birds and an important food source for many birds as well as mammals. The variable canopy cover and understory vegetation make the habitat suitable for numerous species. The development of a duff layer on the forest floor can create refugia for amphibians and invertebrates year-round.

2.3.5 Montane Hardwood

Montane hardwood occurs throughout all PAAs as one of the dominant habitat types. A typical montane hardwood habitat is composed of a pronounced hardwood tree layer, a poorly developed shrub stratum, and a sparse herbaceous layer. In the Klamath Mountains, huckleberry oak (*Quercus vacciniifolia*) is scattered in the overstory among ponderosa pine (*Pinus ponderosa*) or Jeffrey pine (*Pinus jeffreyi*) at high elevations. Middle elevation associates are Douglas-fir (*Pseudotsuga menziesii*), tanoak (*Notholithocarpus densiflorus*), Pacific madrone (*Arbutus menziesii*), and California black oak (*Quercus kelloggii*).

Bird and animal species characteristic of the montane hardwood habitat include disseminators of acorns, such as Steller's jay (*Cyanocitta stelleri*), woodpecker (*Leuconotopicus* spp.), and western scrub

jay (*Aphelocoma californica*). Many other wildlife use acorns as a major food source including deer, squirrels, and bears.

2.3.6 Ponderosa Pine

Ponderosa pine occurs as the second most dominant habitat type within the McCloud PAA and in one small patch within the southeastern section of the Mt. Shasta PAA. Tree spacing in ponderosa pine stands varies. Typical overstory coverage of all layers may exceed 100 percent. Other conifers, when present, provide denser crowns than do the pine, thus creating habitat diversity. Grasses, shrubs, and deciduous trees may be present or absent. Typical coverage of shrubs is 10 to 30 percent and of grasses and forbs is 5 to 10 percent. The ponderosa pine habitat includes pure stands of ponderosa pine as well as stands of mixed species in which at least 50 percent of the canopy area is ponderosa pine. Associated species vary depending on location in the state and site conditions. Typical tree associates include white fir (*Abies concolor*), incense-cedar (*Calocedrus decurrens*), Jeffrey pine (*Pinus jeffreyi*), sugar pine (*Pinus lambertiana*), Douglas-fir (*Pseudotsuga menziesii*), bigcone Douglas-fir (*Pseudotsuga macrocarpa*), canyon live oak (*Quercus chrysolepis*), California black oak (*Quercus kelloggii*), Oregon white oak (*Quercus garryana*), Pacific madrone (*Arbutus menziesii*), and tanoak (*Notholithocarpus densiflorus*).

Ponderosa pine offers a similar habitat to the eastside pine habitat. Ponderosa pine sometimes is a transitional or migratory habitat for deer and can be extremely important to deer nutrition in migration-holding areas. Stands of pure ponderosa pine offer limited habitat for spotted owls while stands with multi-layer canopy and an oak understory offer nesting and foraging habitat for owls among other raptors and mammals.

2.3.7 Sierran Mixed Conifer

Sierran mixed conifer occurs as the most dominant habitat type within the Dunsmuir and McCloud PAAs and as one of the most dominant habitat types in the Mt. Shasta PAA. The Sierran mixed conifer habitat is an assemblage of conifer and hardwood species that forms a multilayered forest. Forested stands form closed, multilayered canopies with nearly 100 percent overlapping cover. When openings occur, shrubs are common in the understory. Typical species that comprise this habitat are Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), incense-cedar (*Calocedrus decurrens*), and California black oak (*Quercus kelloggii*).

The mixed conifer forest is known to support some 355 species of animals. Special-status species inhabiting mixed conifer include spotted owl (*Strix occidentalis caurina*), fisher (*Pekania pennanti*), bald eagle (*Haliaeetus leucocephalus)*, and peregrine falcon (*Falco peregrinus anatum)*. Variety in plant species composition provides diversity in food and cover. Black oak acorns, berries from a variety of shrubs, and a great number of grasses and forbs provide forage for wildlife.

2.3.8 Barren

Barren areas occur throughout all PAAs. Barren habitat is defined by the absence of vegetation. Specifically, barren habitat is land that has less than two percent herbaceous cover and less than ten percent cover by trees or shrubs. Areas onsite that are void of vegetation include paved roadways, gravel pullouts, driveways, railroads, and commercial and industrial developments.

These barren areas may present existing barriers to wildlife migration within the survey area. Barren areas typically provide existing fuel breaks due to the lack of vegetation.

2.3.9 Urban

Urban areas occur throughout all PAAs. The structure of urban vegetation varies, with five types of vegetative structure defined by CWHR: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Shade trees and lawns are typical of residential areas and reminiscent of natural grasslands. Structural variation in the shade tree/lawn type is typical when many species (native or non-native) are incorporated into the landscape. Lawns are structurally the most uniform vegetative units of the California urban habitat. Species, planting design, and maintenance control the structural characteristics of this type. In the wildland-urban interface, residential yards typically include a lawn or ornamental plants surrounded by manicured/managed native shrub and tree species. Treatments within urban areas may occur if trees present a wildfire hazard and are selected by the landowner for removal.

The juxtaposition of urban vegetation types within cities produces a rich mosaic with considerable edge areas. The overall mosaic may be more valuable as a wildlife habitat than the individual units in that mosaic. Bird species include wrentits (*Chamaea fasciata*), bushtits (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), chestnut-backed chickadee (*Poecile rufescens*), California quail (*Callipepla californica*). Common mammals are black-tailed deer (*Odocoileus hemionus*), ringtail (*Bassariscus astutus*), and black-tailed jackrabbit (*Lepus californicus*).

2.3.10 Freshwater Emergent Wetland (Aquatic)

Freshwater emergent wetlands may occur as small patches throughout all PAAs. Freshwater emergent wetlands are characterized by erect, rooted herbaceous hydrophytes. The dominant vegetation is generally perennial monocots. All emergent wetlands are flooded frequently, enough so that the roots of the vegetation prosper in an anaerobic environment. Saturated or periodically flooded soils support several moist soil plant species with sedges (*Carex* spp.) and rushes (*Juncus* spp.) typically dominant.

Freshwater emergent wetland habitats within the PAAs often occur in association with terrestrial habitats or aquatic habitats. These wetlands are among the most productive wildlife habitats in California. They provide food, cover, and water for many species of birds, mammals, reptiles, and amphibians. Mitigation Measure (MM) BIO-1 incorporates a non-disturbance wetland buffer which will exclude freshwater emergent wetlands from the treatment areas.

2.3.11 Montane Riparian

Montane riparian habitats may occur along perennial or intermittent streams through all PAAs. Canopy height is approximately 30 meters in a mature riparian forest, with a canopy cover of 20 to 80 percent, made up of mostly winter deciduous trees. Dominant species in the montane riparian upper canopy layer are Fremont's cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*), and big-leaf maple (*Acer macrophyllum*). Subcanopy trees are white alder (*Alnus rhombifolia*) and Oregon or California ash (*Fraxinus* sp.*)*. Understory plants include wild grape (*Vitis californica*), wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), and annual grasses and forbs. The herbaceous layer consists of sedges, rushes, and grasses.

Riparian habitats generally provide food, water, migration and dispersal corridors, breeding grounds, protective cover, and refugia for many terrestrial wildlife species. Riparian habitats are essential in the regulation of temperature, hydrology, and soil stability, all of which are important for aquatic habitat integrity. Large trees provide shade over surface waters, which regulates temperatures and evaporation. The presence of a tree canopy protects the slope in two ways. First, the root masses provide structural stability to the soil, and second, the tree canopy slows the erosive forces of rainfall. Therefore, the presence of riparian trees benefits water quality and aquatic species. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude montane riparian habitats from the treatment areas.

2.3.12 Lacustrine (Aquatic)

Lacustrine habitats may occur throughout all PAAs. Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. They may vary from small ponds less than one hectare to large areas covering several square kilometers. Depth can vary from a few centimeters to hundreds of meters. Typical lacustrine habitats include permanently flooded lakes and reservoirs, intermittent lakes, and ponds (including vernal pools). MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude lacustrine habitats from the treatment areas.

2.3.13 Riverine (Aquatic)

Riverine habitats occur in all three PAAs. In the riverine habitat, a stream of intermittent or continually flowing water originates at some elevated source, such as a spring or lake, and flows downward at a rate relative to the gradient and the volume of surface runoff. Velocity generally declines at progressively lower altitudes, and the volume of water increases until the enlarged stream finally becomes sluggish. Over this transition from a rapid, surging stream to a slow, sluggish river, water temperature and turbidity will tend to increase, dissolved oxygen will decrease, and the bottom will change from rocky to muddy. Riverine habitats within the project area occur in association with all habitat types.

Little Castle Creek, Hedge Creek, Big Canyon Creek, and numerous unnamed tributaries to the Sacramento River flow within the PAAs. These riverine systems are known to support populations of special-status species including Foothill yellow-legged frog (FYLF) (*Rana boylii pop. 1*), cascades frogs (*Rana cascadae*), Pacific tailed frog (*Ascaphus trueiand*), and northwestern pond turtle (*Actinemys marmorata*). Additionally, vegetated, unmaintained roadside ditches may have suitable natural substrate and/or vegetation that provides seasonal habitat for wildlife. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude riverine habitats from the treatment areas.

2.4 Hydrology

The Upper Sacramento River originates from water flowing off Mount Shasta and from the Klamath Mountains. The river flows south through the survey area, is joined by numerous tributary streams, and empties into Lake Shasta above Shasta Dam nearly 30 miles to the south of Dunsmuir. The survey area contains multiple seasonal (i.e., ephemeral or intermittent) and perennial streams such as Little Castle Creek, Hedge Creek, and Big Canyon Creek. The National Wetlands Inventory maps are included for each PAA as Figures 7-9.

2.5 Special-Status Biological Resources

2.5.1 Special-Status Plants

Special-status plant species include plants that are (1) designated as rare by California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS) or are listed as threatened or endangered under the California Endangered Species Act (CESA) or the ESA; (2) proposed for designation as rare or listed as threatened or endangered; (3) designated as state or federal candidate species for listing as threatened or endangered; and/or (4) ranked as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 or 4 (if tracked by CNDDB).

A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, a review of the USFWS species list query, a 5-mile radius search of the California Natural Diversity Database (CNDDB), and a nine-quad search of California Native Plant Society (CNPS) database records around each PAA. The CNDDB query for listed species within five miles of the project area is included in Appendix B.

The habitat and ecological requirements of each special-status plant species were evaluated and compared to the known CWHR habitat types in, or in the immediate vicinity, of the study area to assess the potential for occurrence. The determination of whether the species is likely to occur within the project area is summarized in Table 1. Impacts to potentially occurring special-status species are discussed in Section 4. Species with habitat requirements that are not present onsite were determined to be unlikely to occur and are not discussed further. Based on this assessment, 40 special-status plant species may occur within at least one of the three PAAs (Table 1).

2.5.2 Special-Status Wildlife

Special-status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature, consultation with the USFWS Information for Planning and Consultation (iPAC) database (Project Code 2025-0039946) (Appendix C), and a five-mile radius query of the CNDDB. The CNDDB query for listed species within five miles of the project area is included in Appendix B.

The habitat and ecological requirements of each special-status wildlife species were evaluated and compared to the CWHR habitat types in, or in the immediate vicinity, of the study area to assess their potential to occur. The determination of whether the species is likely to occur within the project area is summarized in Table 2. Impacts to potentially occurring special-status species are discussed in Section 4. Species with habitat requirements that are not present onsite were determined to be unlikely to occur and are not discussed further. Based on this assessment, twenty-six special-species wildlife species may occur within least one of the three PAAs (Table 2).

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
Shasta ageratina	*Ageratina shastensis*	1B.2	Perennial herb occurring on limestone and metavolcanic outcrops within chaparral and conifer forest. Elevations between 400 and 1800 meters, blooms June through Oct..	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: dry areas within chaparral and coniferous forest.	Less than significant with mitigation incorporated.
Woolly balsamroot	*Balsamorhiza lanata*	1B.2	Perennial herb occurring in rocky or volcanic microhabitats within cismontane woodland. Present at elevations between 800-1895 meters, blooms April through June.	Potential to occur in: Dunsmuir and Mt. Shasta PAAs. Where the following exists: rocky or volcanic microhabitats within cismontane woodland.	Less than significant with mitigation incorporated.
Rattlesnake fern	*Botrypus virginianus*	2B.2	Perennial herb occurring in streambanks within bogs, fens, lower montane coniferous forest (mesic), meadows, seeps, and riparian forest. Present at elevations between 715-1355 meters, blooms Jun-Sep.	Potential to occur in: All PAAs. Where the following exists: riparian forest or moist and mesic areas within lower montane coniferous forest.	Less than significant with mitigation incorporated.
Indian Valley brodiaea	*Brodiaea rosea*	3.1/ State Endangered	Perennial herb occurring in chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland, and serpentinite habitats. Present between 335 and 1450 meters, blooms May-June.	Potential to occur in: Dunsmuir PAA. Where the following exists: seeps, swales, intermittent streambeds, or any moist (but not inundated) areas within chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland, and serpentinite habitats.	Less than significant with mitigation incorporated.
Castle Crags harebell	*Campanula shetleri*	1B.3	Perennial rhizomatous herb occurring in lower montane coniferous forest (rocky). Present at elevations between 1220-1830 meters, blooms June through Sept.	Potential to occur in: All PAAs. Where the following exists: lower montane coniferous forest above 1220 meters.	Less than significant with mitigation incorporated.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
Oregon sedge	*Carex halliana*	2B.3	Perennial rhizomatous herb often occurring in pumice within meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 1370 and 2105 meters, blooms May through September.	Potential to occur in: McCloud PAA. Where the following exists: meadows within upper montane coniferous forest.	Less than significant with mitigation incorporated.
Shasta chaenactis	*Chaenactis suffrutescens*	1B.3	Perennial herb occurring in upper and lower montane coniferous forest, sandy, and serpentinite habitats. Present at elevations between 700-2300 meters, blooms May-August.	Potential to occur in: All PAAs. Where the following exists: sandy or serpentine microhabitats within upper and lower coniferous forest.	Less than significant with mitigation incorporated.
Pallid bird's-beak	*Cordylanthus tenuis* ssp. *pallescens*	1B.2	Annual herb (hemi parasitic) occurring in lower montane coniferous forest (gravelly, volcanic alluvium). Present at elevations between 695-1645 m.	Potential to occur in: All PAAs. Where the following exists: gravelly or volcanic alluvium within lower montane coniferous.	Less than significant with mitigation incorporated.
Jepson's dodder	*Cuscuta jepsonii*	1B.2	Annual parasitic vine occurring along streambanks in North Coast coniferous forest. Present at elevations between 1200-2300 meters, blooms July-September.	Potential to occur in: All PAAs. Where the following exists: streambanks above 1200 meters, with *Ceanothus diversifolius* or *Ceanothus prostratus* present.	Less than significant with mitigation incorporated.
Oregon fireweed	*Epilobium oreganum*	1B.2	Perennial herb occurring in bogs, fens, upper and lower montane coniferous forest, meadows, seeps, and mesic habitats. Present at elevations between 550-1800 meters and blooms July-August.	Potential to occur in: All PAAs. Where the following exists: riparian forests or bogs, fens, meadows, seeps within upper and lower montane coniferous forest. Easily confused with *Epilobium ciliatum.*	Less than significant with mitigation incorporated.
Waldo daisy	*Erigeron bloomeri var. nudatus*	2B.3	Perennial herb strictly endemic to serpentinite microhabitats within upper and lower montane coniferous forest. Elevations	Potential to occur in: All PAAs. Where the following exists: serpentinite microhabitats within upper and lower montane coniferous forest.	Less than significant with mitigation incorporated.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			between 600-2300 meters, blooms June through July.		
Shasta limestone monkeyflower	*Erythranthe taylorii*	1B.1	Annual herb strictly endemic to crevices in limestone cliffs and outcrops within cismontane woodland, and lower montane coniferous forest. Present at elevations between 355 and 1070 meters, blooms February through May.	Potential to occur in: McCloud PAA. Where the following exists: limestone crevices, cliffs, outcrops.	Less than significant with mitigation incorporated.
Pink-margined monkeyflower	*Erythranthe trinitiensis*	1B.3	Annual herb occurring in serpentinite or roadside microhabitats within cismontane woodland, upper and lower montane coniferous forest, meadows, and seeps. Elevations between 400 and 2285 meters, blooms June through August.	Potential to occur in: Mt. Shasta PAA. Where the following exists: moist, generally clay soil with full to slightly filtered sun.	Less than significant with mitigation incorporated.
Klamath fawn lily	*Erythronium klamathense*	2B.2	Perennial bulbiferous herb occurring in meadows, seeps, and upper montane coniferous forest. Present at elevations between 1200 and 1850 meters, blooms April through July.	Potential to occur in: All PAAs. Where the following exists: meadows above 1200 meters.	Less than significant with mitigation incorporated.
Subalpine aster	*Eurybia merita*	2B.3	Perennial herb occurring in upper montane coniferous forest. Present at elevations between 1300 and 2085 meters.	Potential to occur in: Mt. Shasta and McCloud PAAs. Where the following exists: upper montane coniferous forest above 1300 meters.	Less than significant with mitigation incorporated.
Scott Mountain bedstraw	*Galium serpenticum ssp. scotticum*	1B.2	Perennial herb occurring in lower montane coniferous forest (serpentinite). Present at elevations between 1000 and 2075 meters, blooms May through August.	Potential to occur in: Mt. Shasta and Dunsmuir PAAs. Where the following exists: steep, open canopy areas open pine forests above 1000 meters.	Less than significant with mitigation incorporated.

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
Aleppo avens	*Geum aleppicum*	2B.2	Perennial herb occurring in Great Basin scrub, lower montane coniferous forest, meadows, and seeps. Present at elevations between 450 and 1500 meters, blooms June through August.	Potential to occur in: Mt. Shasta and McCloud PAAs. Where the following exists: meadows and seeps.	Less than significant with mitigation incorporated.
Scott Mountain howellanthus	*Howellanthus dalesianus*	4.3	perennial herb occurring on ultramafic substrates, meadows, streambanks, and conifer forest between elevations of 1500 and 2000 meters elevation, blooms May through August.	Potential to occur in: McCloud PAA. Where the following exists: ultramafic substrate within meadows and streambanks.	Less than significant with mitigation incorporated.
Alkali hymenoxys	*Hymenoxys lemmonii*	2B.2	Perennial herb occurring in Great Basin scrub, lower montane coniferous forest, meadows and seeps (subalkaline). Present at elevations between 240-3390 meters, blooms May-Sep.	Potential to occur in: All PAAs. Where the following exists: Roadsides, open areas, meadows, slopes, drainage areas, stream banks within lower montane coniferous forest.	Less than significant with mitigation incorporated.
Baker's globe mallow	*Iliamna bakeri*	4.2	Perennial herb occurring in burned areas (often) or volcanic microhabitats within Chaparral, Great Basin scrub, + (openings), Pinyon and juniper woodland. Present at elevations between 1000 and 2500 meters, blooms June through September.	Potential to occur in: Mt. Shasta and McCloud PAAs. Where the following exists: burned areas or volcanic soil in forest openings above 1000 meters.	Less than significant with mitigation incorporated.
Castle Crags ivesia	*Ivesia longibracteata*	1B.3	Perennial herb occurring in lower montane coniferous forest (granitic, rocky). Present at elevations between 1200-1400 meters, blooms Jun.	Potential to occur in: All PAAs. Where the following exists: granite crevices above 1200 meters.	Less than significant with mitigation incorporated.
Pickering's ivesia	*Ivesia pickeringii*	1B.2	Perennial herb occurring in clay, mesic, seep, or serpentinite microhabitats within lower montane coniferous forest,	Potential to occur in: Mt. Shasta and Dunsmuir PAAs. Where the following exists: Wet, rocky meadows with serpentine clay	Less than significant with mitigation incorporated.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			meadows and seeps. Present at elevations between 800-1510 meters, blooms Jun-Oct.	within lower montane coniferous forest.	
Holzinger's bristle moss	*Lewinskya holzingeri*	1B.3	A moss, usually occurring on rock in and along streams, rarely on tree limbs within cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest between elevations of 715 and 1800 meters.	Potential to occur in: McCloud PAA. Where the following exists: rocks along streams.	Less than significant with mitigation incorporated.
Howell's lewisia	*Lewisia cotyledon var. howellii*	3.2	A perennial herb occurring in rocky microhabitats within broad-leafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Present between elevations of 150 to 2010 meters, blooms April through July.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: rocky outcrops within broad-leafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest.	Less than significant with mitigation incorporated.
Peck's lomatium	*Lomatium peckianum*	2B.2	Perennial herb occurring in volcanic microhabitats within chaparral, cismontane woodland, lower montane coniferous forest, Pinyon and juniper woodland. Present at elevations between 700-1800 meters, blooms Apr-Jun.	Potential to occur in: Mt. Shasta and Dunsmuir PAAs. Where the following exists: Volcanic soils within pine or oak woodlands.	Less than significant with mitigation incorporated.
Broad-nerved hump moss	*Meesia uliginosa*	2B.2	Moss occurring in bogs, fens, meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Elevations between 1210-2804 meters, blooms Jul-Oct.	Potential to occur in: Mt. Shasta PAA. Where the following exists: bogs, fens, meadows, seeps above 1210 meters.	Less than significant with mitigation incorporated.
Woodnymph	*Moneses uniflora*	2B.2	Perennial rhizomatous herb occurring in broad-leafed upland forest and North Coast	Potential to occur in: Mt. Shasta PAA. Where the following exists: Moist, mossy areas	Less than significant with mitigation incorporated.

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
			coniferous forest. Present at elevations between 100-1100 meters, blooms May-Aug.	within broad-leafed upland forest.	
Northern adder's-tongue	*Ophioglossum pusillum*	2B.2	Perennial rhizomatous fern occurring in marshes, swamps (margins), meadows and seeps. Present at elevations between 1000-2000 meters, blooms July.	Potential to occur in: Mt. Shasta PAA. Where the following exists: Marsh edges, low pastures, grassy roadside ditches, vernal pool margins above 1000 meters.	Less than significant with mitigation incorporated.
Rosy orthocarpus	*Orthocarpus bracteosus*	2B.1	Annual herb occurring in meadows and seeps. Present at elevations between 1030-1850 meters, blooms Jun-Sep.	Potential to occur in: Mt. Shasta PAA. Where the following exists: meadows and seeps.	Less than significant with mitigation incorporated.
Cascade grass-of-Parnassus	*Parnassia cirrata* var. *intermedia*	2B.2	Perennial herb occurring in rock or serpentinite microhabitats within bogs, fens, meadows, and seeps. Present at elevations between 700-2900 meters and blooms August-September.	Potential to occur in: All PAAs. Where the following exists: bogs, fens, meadows, and seeps.	Less than significant with mitigation incorporated.
Thread-leaved beardtongue	*Penstemon filiformis*	4.2	Perennial herb occurring in rocky or serpentine microhabitats within cismontane woodland and lower montane coniferous forest. Present at elevations between 450 and 1875 meters, blooms May through September.	Potential to occur in: All PAAs. Where the following exists: Open, rocky places among shrubs (usually serpentine) within cismontane woodland and lower montane coniferous forest.	Less than significant with mitigation incorporated.
Siskiyou phacelia	*Phacelia leonis*	1B.3	Annual herb occurring in serpentinite microhabitats within meadows, seeps, and upper montane coniferous forest (openings). Present at elevations between 1200-2000 meters, blooms Jun-Aug.	Potential to occur in: Mt. Shasta and Dunsmuir PAAs. Where the following exists: serpentine, meadows, and seeps within upper montane coniferous forest, above 1200 meters.	Less than significant with mitigation incorporated.
Horned butterwort	*Pinguicula macroceras*	2B.2	Perennial herb (carnivorous) occurring in bogs and fens (serpentinite). Present at	Potential to occur in: All PAAs. Where the following exists:	Less than significant with mitigation incorporated.

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
			elevations between 40-1920 meters, blooms Apr-Jun.	Serpentine, moist cliff faces, bogs, or fens.	
Pacific fuzzwort	*Ptilidium californicum*	4.3	Liverwort occurring in lower and upper montane coniferous forest. Present at elevations between 1140 and 1800 meters, blooms May through August.	Potential to occur in: All PAAs. Where the following exists: lower and upper montane coniferous forest above 1140 meters.	Less than significant with mitigation incorporated.
Gasquet rose	*Rosa gymnocarpa* var. *serpentina*	1B.3	Perennial rhizomatous shrub occurring in openings, roadside (often), serpentinite, or streambank microhabitats within chaparral and cismontane woodland. Present at elevations between 400-1725 meters, blooms Apr-Aug.	Potential to occur in: Mt. Shasta PAA. Where the following exists: Chaparral and cismontane woodland openings.	Less than significant with mitigation incorporated.
Marsh skullcap	*Scutellaria galericulata*	2B.2	Perennial rhizomatous herb occurring in lower montane coniferous forest, marshes, swamps, meadows, and seeps (mesic). Present at elevations between 0-2000 meters, blooms Jun-Sep.	Potential to occur in: Mt. Shasta PAA. Where the following exists: Riparian, seeps, meadows, or roadside ditches.	Less than significant with mitigation incorporated.
Canyon Creek stonecrop	*Sedum paradisum ssp. paradisum*	1B.3	Perennial herb occurring in granitic or rocky microhabitats within broad-leafed upland forest, chaparral, lower montane coniferous forest, and subalpine coniferous forest. Present at elevations between 300 and 1900 meters and blooms May through June.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: rocky or volcanic microhabitats within broad-leafed upland forest, chaparral, lower montane coniferous forest, and subalpine coniferous forest.	Less than significant with mitigation incorporated.
Wilkin's harebell	*Smithiastrum wilkinsianum*	1B.2	Perennial rhizomatous herb occurring in meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations	Potential to occur in: Mt. Shasta and McCloud PAAs. Where the following exists: meadows and seeps above 1270 meters.	Less than significant with mitigation incorporated.

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
			between 1270-2600 meters, blooms Jul-Sep.		
Cylindrical trichodon	*Trichodon cylindricus*	2B.2	Moss occurring in roadside or sandy microhabitats within broad-leafed upland forest, meadows, seeps, and upper montane coniferous forest. Present at elevations between 50-2002 meters.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: muddy road or trail banks as well as streambanks within broad-leafed upland forest or upper montane coniferous forest.	Less than significant with mitigation incorporated.
Siskiyou clover	*Trifolium siskiyouense*	1B.1	Perennial herb occurring in meadows, seeps, and streambanks. Present at elevations between 880-1500 meters, blooms Jun-Jul.	Potential to occur in: Mt. Shasta PAA. Where the following exists: streambanks, meadows, and seeps.	Less than significant with mitigation incorporated.
Vanilla-grass	*Anthoxanthum nitens* ssp. *nitens*	2B.3	Perennial rhizomatous herb occurring in meadows and seeps. Present at elevations between 1500-1895 meters, blooms Apr-Jul.	No potential to occur in any PAA. PAAs are outside the species known range and below known elevation range.	No Impact
Vanilla grass	*Anthoxanthum nitens ssp. Nitens*	2B.3	Perennial grass occurring in montane meadows and arid sites. Present at elevations between 1500 to 1800 meters, blooms April through July.	No potential to occur in any PAA. PAAs are outside the species known range and below the known elevation range.	No Impact
Klamath manzanita	*Arctostaphylos klamathensis*	1B.2	Perennial evergreen shrub occurring in rocky outcrops or serpentinite within upper, lower, and subalpine montane coniferous. Present at elevations between 1370-2250 meters, blooms May through August.	No potential to occur in any PAA. PAAs are outside the species known range and below the known elevation range.	No Impact
Scalloped moonwort	*Botrychium crenulatum*	2B.2	Perennial rhizomatous herb occurring in bogs, fens, lower and upper montane coniferous forest, marshes, swamps (freshwater), meadows and seeps. Present at elevations	No potential to occur in any PAA. PAAs are outside the species known range and below the known elevation range.	No Impact

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			between 1500-3600 meters, blooms June through September.		
Mingan moonwort	*Botrychium minganense*	2B.2	Perennial rhizomatous fern occurring in bogs, fens, upper and lower montane coniferous forest, meadows and seeps. Present at elevations between 1500-3100 meters, blooms July through October.	No potential to occur in any PAA. PAAs are outside the species known range and below the known elevation range.	No Impact
Northwestern moonwort	*Botrychium pinnatum*	2B.3	Perennial rhizomatous herb occurring in upper and lower montane coniferous forest, meadows and seeps. Present at elevations between 1900-2800 meters, blooms July through October.	No potential to occur in any PAA. PAAs are below the known elevation range.	No Impact
Pumice moonwort	*Botrychium pumicola*	2B.2	Perennial rhizomatous herb occurring in volcanic microhabitats within alpine boulder and rock fields or subalpine coniferous forest. Present at 2750 meters, blooms July through September.	No potential to occur in any PAA. PAAs are outside the species known range and below the known elevation range. No suitable habitat exists.	No Impact
Mud sedge	*Carex limosa*	2B.2	Perennial rhizomatous herb occurring in bogs, fens, upper and lower montane coniferous forest, marshes, swamps, meadows and seeps. Present at elevations between 1200 and 2700 meters, blooms June through August.	No potential to occur in any PAA. PAAs are outside the species known range.	No Impact
Golden alpine draba	*Draba aureola*	1B.3	Perennial herb occurring in serpentinite or volcanic microhabitats within alpine boulder and rock fields or subalpine coniferous forest. Present at elevations between	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			2000-3355 meters, blooms Jul-Aug.		
Mt. Eddy draba	*Draba carnosula*	1B.3	Perennial herb occurring in rocky or serpentinite microhabitats within subalpine or upper coniferous forest. Present at elevations between 1935-3000 meters, blooms Jul-Aug.	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Siskiyou fireweed	*Epilobium siskiyouense*	1B.3	Perennial herb occurring in rocky or serpentinite microhabitats within alpine boulder and rock fields, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 1700-2500 meters, blooms July through September.	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Snow fleabane daisy	*Erigeron nivalis*	2B.3	Perennial herb occurring in rocky or volcanic microhabitats within alpine boulder and rock fields, meadows, seeps, and subalpine coniferous forest. Present at elevations between 1735-2900 meters, blooms July through August.	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Trinity buckwheat	*Eriogonum alpinum*	1B.2, State Endangered	Perennial rhizomatous herb strictly endemic to serpentine microhabitats within alpine boulder and rock fields, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 1675-2900 meters, blooms June through September.	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Pyrola-leaved buckwheat	*Eriogonum pyrolifolium* var. *pyrolifolium*	2B.3	Perennial herb occurring in alpine boulder and rock fields	No potential to occur in any PAA. PAAs are below the	No Impact

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			(pumice, sandy or gravelly). Present at elevations between 1675-3200 meters, blooms July through September.	known elevation range. No suitable habitat exists.	
Blushing wild buckwheat	*Eriogonum ursinum* var. *Erubescens*	1B.3	Perennial herb growing in gravelly or rocky slopes and clearings in Chaparral and coniferous forest. 750 to 1900 meters, looms June through September.	No potential to occur in any PAA. PAAs are outside the species known range.	No Impact
Coast fawn lily	*Erythronium revolutum*	2B.2	Perennial bulbiferous herb occurring in mesic and streambank microhabitats within bogs, fens, broad-leafed upland forest, and North Coast coniferous forest. Present at elevations below 1600 meters, blooms March through August.	No potential to occur in any PAA. PAAs are outside the species known range.	No Impact
Little hulsea	*Hulsea nana*	2B.3	Perennial herb occurring in gravelly, rocky, or volcanic microhabitats within Alpine boulder and rock fields or subalpine coniferous forest. Present at elevations between 1720 and 3355 meters, blooms July through August.	No potential to occur in either PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Cantelow's lewisia	*Lewisia cantelovii*	1B.2	Perennial, semi-succulent herb that grows in moist granite cliffs, rocky outcrops, serpentine seeps, or damp areas of chaparral, woodland and coniferous forest. Generally found growing in moss mats but occasionally in bare rock as well. Present at elevations between 330 to 1370 meters, blooms May through October.	No potential to occur in any PAA. PAAs are outside the species known range. No CNDDB or Calflora observations within Siskiyou County.	No Impact

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
Hutchison's lewisia	*Lewisia kelloggii ssp. hutchisonii*	3.2	A perennial herb occurring on ridgetops, often slate, sometimes rhyolite tuff within upper montane coniferous forest. Present at elevations between 765 and 2365 meters, blooms April through August.	No potential to occur in any PAA. PAAs are outside the species known range and no suitable habitat exists.	No Impact
Three-ranked hump moss	*Meesia triquetra*	4.2	Moss occurring in bogs, fens, meadows and seeps within subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 1300 and 2953 meters, blooms July.	No potential to occur in any PAA. No suitable habitat exists.	No Impact
Shasta orthocarpus	*Orthocarpus pachystachyus*	1B.1	Annual herb occurring in Great Basin scrub, meadows, seeps, valley and foothill grasslands between 840 and 850 meters elevation, blooms in May.	No potential to occur in any PAA. No suitable habitat exists.	No Impact
Whitebark pine	*Pinus albicaulis*	Federally Threatened	A tree occurring in subalpine forest or upper red-fir forest to the timberline, between elevations of 2000 to 3700 meters.	No potential to occur in any PAA. PAAs are below the species known elevation range and no suitable habitat exists.	No Impact
Timber blue grass	*Poa rhizomata*	1B.3	Perennial rhizomatous herb occurring on semi-shaded moist slopes within small openings in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 520 and 2040 meters, blooms April through July.	No potential to occur in any PAA. PAAs are outside the species known range within the Klamath Mountains.	No Impact
Mt. Eddy sky pilot	*Polemonium eddyense*	1B.2	Perennial herb occurring in rocky or serpentinite microhabitats within alpine	No potential to occur in any PAA. PAAs are below the	No Impact

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status/ CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**	**Impact Determination**
			boulder and rock fields. Present at elevations between 2480-2750 meters, blooms Jun-Aug.	known elevation range. No suitable habitat exists.	
Mt. Shasta sky pilot	*Polemonium pulcherrimum* var. *shastense*	1B.2	Perennial herb occurring in alpine boulder and rock field, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 2175-3900 meters, blooms Jun-Sep.	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Crested potentilla	*Potentilla cristae*	1B.3	Perennial herb occurring in gravelly (sometimes), mesic (sometimes), rocky (sometimes), seeps (often), or serpentinite (often) microhabitats within alpine boulder and rock fields and Subalpine coniferous forest. Elevations between 1800-2800 meters, blooms Jul-Sep	No potential to occur in any PAA. PAAs are below the known elevation range. No suitable habitat exists.	No Impact
Showy raillardella	*Raillardella pringlei*	1B.2	Perennial rhizomatous herb strictly endemic to mesic, serpentinite microhabitats within meadows, seeps, bogs, fens, and upper montane coniferous forest. Present at elevations between 1300-2290 meters and blooms July-September.	No potential to occur in any PAA. PAAs are outside the species known range and/or below the known elevation range.	No Impact
Water bulrush	*Schoenoplectus subterminalis*	2B.3	Grass-like perennial herb occurring in fresh lakes, bogs, marshes, swamps and low-nutrient streams. Present at elevations between 750 and 2250 meters.	No potential to occur in any PAA. PAAs are outside the species known range.	No Impact
Cascade stonecrop	*Sedum divergens*	2B.3	Perennial herb occurring in alpine boulder and rock field. Elevations between 1600-2330 meters, blooms Jul-Sep.	No potential to occur in any PAA. PAAs are outside the species known range and below	No Impact

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name	Conservation Status/ CA Rare Plant Rank	Habitat Description	Potential to Occur in Project Area	Impact Determination
				the known elevation range. No suitable habitat exists.	
Rocky Mountain spike-moss	*Selaginella scopulorum*	2B.3	Perennial rhizomatous herb occurring in granitic, metamorphic, rocky, and volcanic microhabitats within subalpine coniferous forest and upper montane coniferous forest. Elevations between 1430-2285 meters, blooms Jul-Aug.	No potential to occur in either PAA. PAAs are outside the species known range and/or below the known elevation range. No suitable habitat exists.	No Impact
Redding checkerbloom	*Sidalcea celata*	3	Perennial herb sometimes occurring in serpentine microhabitats within cismontane woodland. Present at elevations between 150 and 370 meters, blooms April through August.	No potential to occur in any PAA. PAAs are above the species known elevation range.	No Impact
Cascade alpine campion	*Silene suksdorfii*	2B.3	Perennial herb occurring in rocky or volcanic microhabitats within alpine boulder and rock fields, subalpine coniferous forest, and upper montane coniferous forest. Present at elevations between 2355-3110 meters, blooms Jul-Sep.	No potential to occur in any PAA. PAAs are below the species known elevation range. No suitable habitat exists.	No Impact
Northern slender pondweed	*Stuckenia filiformis* ssp. *alpina*	2B.2	Perennial rhizomatous herb (aquatic) occurring in marshes and swamps (shallow freshwater). Elevations between 300-2150 meters, blooms May-July.	No potential to occur in any PAA. PAAs are outside the species known range.	No Impact
Little-leaved huckleberry	*Vaccinium scoparium*	2B.2	Perennial deciduous shrub occurring in subalpine coniferous forest (rocky). Elevations between 1036-2200 meters, blooms Jun-Aug.	No potential to occur in any PAA. No suitable habitat exists.	No Impact

1B: Plants rare, threatened, or endangered in California and elsewhere**; 2B**: Plants rare, threatened, or endangered in California but more common elsewhere; **3:** Plants about which more information is needed. **4:** Limited distribution or infrequent throughout a broader area in California

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
Birds					
American goshawk	*Accipiter atricapillus*	SSC/--/--	Dense, mature conifer and deciduous forest, interspersed with meadows, other openings, and riparian areas required. Nesting habitat includes north-facing slopes near water.	Potential to occur in: All PAAs. Where the following exists: Dense, mature conifer or deciduous forest, north facing slopes.	Less than significant with mitigation incorporated.
Yellow rail	*Coturnicops noveboracensis*	SSC/--/--	Breeds in shallow freshwater marshes and wet meadows. Winters in salt marshes and rice fields. Sparse in Siskiyou County.	Potential to occur in: Mt. Shasta PAA. Where the following exists: emergent wetlands, wet meadows.	Less than significant with mitigation incorporated.
Black swift	*Cypseloides niger*	SSC/--/--	Migrates between Canada and South America. Nests in moist crevice or on cliffs behind waterfalls in deep canyons. Forages while flying high in the air to capture flying insects.	Potential to occur in: Dunsmuir PAA. Where the following exists: cliffs behind Hedge Creek Falls and Mossbrae Falls.	Less than significant with mitigation incorporated.
willow flycatcher	*Empidonax traillii*	--/SE/--	Dense willow thickets near languid stream, standing water, or seep within wet meadow and montane riparian habitats.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: wet meadow, montane riparian, willow thickets.	Less than significant with mitigation incorporated.
American peregrine falcon	*Falco peregrinus anatum*	FP/SD/FD	Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: cliffs, canyons, and grassland or shrubland with bodies of water.	Less than significant with mitigation incorporated.
Bald eagle	*Haliaeetus leucocephalus*	FP/SE/FD	Near open water, nesting habitat consists of large trees usually within riparian forest near lakes and rivers.	Potential to occur in: All PAAs. Where the following exists: Open water, riparian habitat, Sacramento River.	Less than significant with mitigation incorporated.
Osprey	*Pandion haliaetus*	WL/--/--	Fish-bearing water bodies; flat or broken tops of native conifer trees, snags, or power poles.	Potential to occur in: All PAAs. Where the following exists: Open water, isolated	Less than significant with mitigation incorporated.

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
				perch trees or towers, Sacramento River.	
Bank swallow	*Riparia riparia*	--/ST/--	Breeds and nests in burrows or cavities in steep earthen banks or bluffs up to 7000 ft elevation. Can be found during migration in open lowlands areas such as meadows, farmland, sewage ponds, freshwater lakes, rivers, and marshes.	Potential to occur in: Mt. Shasta and McCloud PAAs. Where the following exists: vertical sandy or earthen banks near open water and riparian habitat.	Less than significant with mitigation incorporated.
Northern spotted owl	*Strix occidentalis caurina*	--/ST/FT	North coast coniferous forest, old growth, redwood. High, multistory canopy dominated by big trees.	Potential to occur in: All PAAs. Where the following exists: dense, old-growth, multi-layered canopy within mixed conifer or Douglas fir habitats.	Less than significant with mitigation incorporated.
Tricolored blackbird	*Agelaius tricolor*	SSC/--/--	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats. Breeds locally in northeastern California. In winter, becomes more widespread along central coast and San Francisco Bay area and is found in portions of the Colorado Desert.	No potential to occur in any PAA. Outside known range.	No impact.
Golden eagle	*Aquila chrysaetos*	FP/--/--	Nest on secluded cliffs with overhanging ledges in canyons or escarpments within rugged, open habitats for nesting. Additionally, they require large, open terrain for foraging within grassland, dessert, savannahs, or early successional shrub habitats.	No potential to occur in any PAA.	No impact.
Western yellow-billed cuckoo	*Coccyzus americanus*	--/SE/FT	Riparian forest nester, along broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willows, often mixed with cottonwood, blackberry, nettle or wild grape.	No potential to occur in any PAA. Outside known range.	No impact.
Mammals					

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
Sierra Nevada mountain beaver	*Aplodontia rufa californica*	SSC/--/--	Found throughout the Cascade, Klamath, and Sierra Nevada Ranges within montane riparian habitats or a dense understory near water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate.	Potential to occur in: McCloud PAA. Where the following exists: Montane riparian habitats.	Less than significant with mitigation incorporated.
Ringtail	*Bassariscus astutus*	FP /--/--	Riparian habitats, forest habitats, and shrub habitats in lower to middle elevations. Usually found within 0.6 mile of a permanent water source.	Potential to occur in: All PAAs. Where the following exists: rock or tree crevices along Sacramento River and riparian corridors.	Less than significant with mitigation incorporated.
Spotted bat	*Euderma maculatum*	SSC/--/--	Prefers to roost in rock crevices. Occasionally found in caves and buildings. Cliffs provide optimal roosting habitat. Prefers sites with adequate roosting habitat and feeds over water and along washes.	Potential to occur in: All PAAs. Where the following exists: Rock outcrops, cliffs, caves, bridges.	Less than significant with mitigation incorporated.
Western mastiff bat	*Eumops perotis californicus*	SSC/--/--	Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops. These areas commonly occur in desert scrub, grassland, and woodlands. Rocky crevice roosts require vertical open space.	Potential to occur in: All PAAs. Where the following exists: Rock outcrops, cliffs, caves, bridges.	Less than significant with mitigation incorporated.
North American Wolverine	*Gulo gulo luscus*	FP/FC/ST	Remote boreal forests, taiga, and open plains with a very large home range.	Potential to occur in: All PAAs. Where the following exists: High elevation, moist forests.	Less than significant with mitigation incorporated.
Oregon snowshoe hare	*Lepus americanus klamathensis*	SSC/--/--	Montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with dense chaparral.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: Montane riparian habitats, forest edges with dense understory near meadows.	Less than significant with mitigation incorporated.
Fisher	*Pekania pennanti*	SSC/--/--	Uncommon permanent resident of the Sierra Nevada, Cascades, and Klamath Mts.; also found in a few areas in the North Coast Ranges. Occurs in intermediate to large-tree stages of coniferous	Potential to occur in: All PAAs. Where the following exists: Old growth, riparian habitat.	Less than significant with mitigation incorporated.

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
			forests and deciduous-riparian habitats with a high percent canopy closure.		
Gray wolf	*Canis lupis*	--/SE/FE	Wide range of habitats including temperate forest, mountains, tundra, taiga, and grasslands, anywhere there is suitable prey.	Potential to occur in: All PAAs. Where the following exists: forests with open meadows, grasslands.	Less than significant.
Sierra Nevada red fox-southern Cascades DPS	*Vulpes vulpes necator*	--/ST/--	High elevations, normally above 5,000 feet, amongst red fir, lodgepole pines, and alpine fell-fields.	No potential to occur in any PAA. Outside current range.	No impact.
Reptiles & Amphibians					
Southern long-toed salamander	*Ambystoma macrodactylum sigillatum*	SSC/--/--	Adults subterranean during most of the year, utilizing mammal burrows, rock fissures. Under surface objects such as rocks or logs near ponds during breeding migrations. Aquatic larvae prefer shallow water less than 12 inches.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: montane riparian, wet meadows, ponds, forested aquatic habitats.	Less than significant with mitigation incorporated.
Pacific tailed frog	*Ascaphus truei*	SSC/--/--	Aquatic. Occurs in montane hardwood-conifer, redwood, Douglas fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	Potential to occur in: Dunsmuir and McCloud PAAs. Where the following exists: perennial montane streams.	Less than significant with mitigation incorporated.
Western pond turtle	*Emys marmorata*	SSC/--/FPT	Found in quiet water habitats such as ponds, lakes, marshes, broad rivers, and irrigation ditches with mud/vegetation. May be found hibernating in mud/sand/burrows in terrestrial grassland, cropland, and forest habitats near watercourses.	Potential to occur in: All PAAs. Where the following exists: aquatic habitats and riparian, annual grassland, or open woodland within 200-feet of perennial water sources.	Less than significant with mitigation incorporated.
Foothill yellow-legged frog – north coast DPS	*Rana boylii pop. 1*	SSC/--/--	Perennial, fast-flowing streams; deposit eggs on underside of rocks; adults and metamorphs may migrate in ephemeral tributaries in winter.	Potential to occur in: All PAAs. Where the following exists: Little Castle Creek, Ney Springs Creek, Big Springs Creek, Sacramento River, and other rocky	Less than significant with mitigation incorporated.

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
				stream with moderate riparian cover.	
Cascades Frog	*Rana Cascadae*	SSC/CE/--	Inhabits wet mountain areas in open coniferous forests near timberline. Small streams, pools, meadows, bogs, ponds, and marshes lacking predatory fishes.	Potential to occur in: All PAAs. Where the following exists: small ponds, streams, emergent wetland, and wet meadows within coniferous forests.	Less than significant with mitigation incorporated.
Fish					
Bull trout	*Salvelinus confluentus*	--/SE/FT	Confined to northwestern North America from Alaska to northern California. These fish inhabit Artic waters, Pacific waters and are usually found in mountain or coastal streams. Extirpated in California.	No potential to occur in any PAA.	No impact.
Invertebrates					
Franklin's Bumble Bee	*Bombus franklini*	--/SC/FE	This species has precipitously declined since 1998 and is now found only in southern Oregon and northern California between the Coast and Sierra-Cascade Ranges.	Potential to occur in: All PAAs. Where the following exists: meadows and grasslands with adequate floral diversity.	Less than significant with mitigation incorporated.
Western Bumble Bee	*Bombus occidentalis*	--/SC/--	Found in mixed woodlands, farmlands, urban areas, montane meadows and prairie grasslands often utilizing rodent burrows for nesting habitat	Potential to occur in: All PAAs. Where the following exists: meadows and grasslands with adequate floral diversity.	Less than significant with mitigation incorporated.
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	--/SC/FPE	Pacific coast from Alaska to far northern California, east to Nebraska. An inquiline in the colonies of other bumblebees. Adult food plant genera include Aster, Centaurea, Cirsium, Trifolium, Chrysothamnus, Helichrysum.	Potential to occur in: All PAAs. Where the following exists: meadows and grasslands, wherever the Western bumble bee occurs.	Less than significant with mitigation incorporated.
Monarch Butterfly	*Danaus plexippus*	--/--/FPT	Forages on nectar producing plants, Milkweed required for egg deposition and larval development.	Potential to occur in: All PAAs. Where the following exists: wherever milkweed is present	Less than significant with mitigation incorporated.

Table 2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area	Impact Determination
Conservancy Fairy Shrimp	*Branchinecta conservatio*	--/--/FE	Vernal pools	No potential to occur in any PAA.	No impact.
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	--/--/FT			
Vernal Pool Tadpole Shrimp	*Lepidurus packardi*	--/--/FE			

Key: FT: federally listed as threatened; **FE**: federally listed as endangered; **FC**: Candidate for listing; **FD**: Federally delisted **ST**: state listed as threatened **SE:** state listed as endangered **CDFW SSC**: Species of Special Concern; **CDFW FP**: CDFW fully protected; **CDFW WL**: CDFW watch list **CV**: Central Valley **SCE** State Candidate Endangered

2.5.3 Sensitive Natural Communities

Natural communities are evaluated using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the California Natural Diversity Database (CNDDB). Natural communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes. Natural communities are defined as Alliances that meet the percent cover and composition of certain species. Within Alliances, there are Associations that further define specific plant communities. These Associations and their sensitivity ranking are listed on the California Sensitive Communities List. Many sensitive natural communities occur within the Klamath Mountains and the Southern Cascades. Below are the sensitive natural alliances that are known to occur within or adjacent to the survey area. Additional sensitive natural communities may be identified during the preliminary site assessments or protocol-level special-status plant surveys.

Vegetation Alliances that are known to occur within or adjacent to the project area include Aspen groves, Green Leaf Manzanita-Pinemat Manzanita Chaparral, Black Cottonwood Association, and Fen-Darlingtonia Seeps.

Green Leaf Manzanita-Pinemat Manzanita Chaparral
Green leaf manzanita-Pinemat manzanita chaparral includes pinemat manzanita (*Arctostaphylos nevadensis*) and/or green leaf manzanita (*Arctostaphylos patula*) covering at least 60 percent of the shrub canopy with associated species. Several associations occur within this habitat; only the "*Arctostaphylos patula – Ceanothus velutinus – Ceanothus prostratus*" Association is listed as sensitive by the California Sensitive Communities List.

Any area at least 1 acre in size with green leaf manzanita (*Arctostaphylos patula),* snowbrush *(Ceanothus velutinus),* and pinemat ceanothus *(Ceanothus prostratus*) existing as co-dominant (in roughly equal proportions) on the landscape with all shrubs comprising greater than 60 percent total canopy cover would be considered a Sensitive Natural Community.

Black Cottonwood Forest and Woodland, Black Cottonwood Association
Populus trichocarpa 61.120.00, 61.120.01
S3, sensitive
The Black Cottonwood Forest and Woodland Alliance is defined as having a minimum 5 percent absolute cover and 30 percent relative cover of black cottonwood. In inland California, it occurs exclusively in riparian zones, usually in cooler climates. The Black Cottonwood Association, a subset of the Black Cottonwood Alliance, is generally considered to have a range of 15 to 88 percent cover and a mean of 40 percent. These are found in various sections along the Sacramento River riparian corridor, so this community is unlikely to occur outside of the riparian buffer zone.

Aspen Groves
An aspen grove natural community occurs when Aspen (*Populus tremuloides*) is dominant or co-dominant in the tree canopy with *Abies* sp., *Juniperus* sp., Jeffrey pine (*Pinus jeffreyi),* and black cottonwood (*Populus trichocarpa*). The aspen grove natural community is rated as an S3.2 Sensitive Natural Community. This species occurs near streams and wet meadows within the survey area. Because this type typically overlaps with forested wetlands and riparian corridors, it is unlikely that this community will occur within treatment areas.

Fen/Darlingtonia Seep

Fens are low-lying flat areas that are seasonally or permanently flooded by shallow surface water. Surface water may pool or sheet flow across the fen. Darlingtonia seeps occur in fen habitats. A component of the Mt. Shasta wet meadow/emergent wetland is documented as a Darlingtonia seep, which is listed as S3. *Darlingtonia californica* is characteristically present in the herbaceous layer and trees provide less than 10 percent cover. They exist in perennially wet and saturated seeps and meadows with running water. Soils are derived typically from peridotite, but also from gabbro and granitic parent materials. Peat accumulations are uncommon. Because this type typically overlaps with wetlands and wet meadows, it is unlikely that this community will occur within the proposed treatment areas.

2.5.4 Critical Habitat

The ESA defines critical habitat to include specific and formally designated geographic areas that are occupied and unoccupied by the species at the time of listing. To be designated as critical habitat, occupied areas must contain physical or biological features that are essential to the species' conservation and may require special management. Unoccupied areas must be "essential for the conservation of the species."

Critical habitat was assessed through the USFWS Critical Habitat for Threatened and Endangered Species Mapper and the USFWS Information for Planning and Consultation (iPAC) database (Appendix C). No critical habitat overlaps with the project area. Critical habitat for the northern spotted owl (*Strix occidentalis caruina*) exists approximately 0.5 miles east of the Dunsmuir PAA, two miles west as well as five miles east of the Mt. Shasta PAA, and within 0.5 miles of the McCloud PAA.

3.0 REGULATORY FRAMEWORK FOR BIOLOGICAL RESOURCES

This section describes the federal and state regulation of special-status species, waters of the United States, and other sensitive biological resources.

3.1 Federal Regulations

3.1.1 Federal Endangered Species Act

Section 9 of the federal Endangered Species Act of 1973 (ESA) prohibits acts that result in the "take" of threatened or endangered species. As defined by the federal ESA, "endangered" refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term "threatened" is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. "Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Sections 7 and 10 of the federal ESA provide methods for permitting otherwise lawful actions that may result in "incidental take" of a federally listed species. Incidental take refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action; Section 10 provides a process for non-federal actions. The act is administered by the USFWS for terrestrial species.

3.1.2 Clean Water Act

The objective of the Clean Water Act (1977, as amended) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands, is regulated by the Corps under Section 404 of the Clean Water Act (33 USC 1251-1376) under a permitting process. Applicants for Section 404 permits are also required to obtain water quality certification or waiver through the local Regional Water Quality Control Board under Section 401 of the Clean Water Act (33 USC 1341).

Corps regulations implementing Section 404 define waters of the United States to include intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3; 40 CFR 230.3). To comply with the Corps policy of no net loss of wetlands, discharge into wetlands must be avoided and minimized to the extent practicable. For unavoidable impacts, compensatory mitigation is typically required to replace the loss of wetland functions in the watershed.

3.1.3 Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Mitigation measures can be identified to avoid or minimize adverse effects on migratory birds.

3.2 State Regulatory Requirements

3.2.1 California Endangered Species Act

The California Endangered Species Act lists species of plants and animals as threatened or endangered. Projects that may have adverse effects on state-listed species require formal consultation with CDFW. "Take" of protected species incidental to otherwise lawful activities may be authorized under Section 2081 of the California Fish and Game Code. Authorization from the CDFW is in the form of an Incidental Take Permit, and measures can be identified to minimize take. CDFW Species of Special Concern are considered under the California Endangered Species Act.

3.2.2 Birds of Prey

Under Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto.

3.2.3 Migratory Birds

The California Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

3.2.4 Fully Protected Species

California statutes also accord "fully protected" status to some specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be "taken," even with an incidental take permit (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

3.3 Local Regulatory Requirements

The proposed project occurs within the jurisdiction of local land management and biological resource conservation policies that apply to Siskiyou County, the City of Dunsmuir, and the City of Mt. Shasta.

The Siskiyou County General Plan Conservation Element (Siskiyou County 1973) includes recommendations to conserve fish and wildlife habitat and natural vegetation; however, it does not include specific policies that would apply to the project. The County has not adopted or implemented a tree preservation or mitigation ordinance. Thus, the implementation of this project would not conflict with local county ordinances.

The City of Mt. Shasta Tree Ordinance (Ord. CCO-01-05, 2001; Ord. CCO-98-01, 1998) advocates the control, management, conservation, planting, and enhancement of City trees

thereby enhancing the appearance of the City of Mt. Shasta and protecting an important economic and environmental resource for the benefit of the City, its residents, and visitors.

The City of Dunsmuir's General Plan contains an Open Space Element with the following goals and objectives:

- **Goal OC-1:** A healthy, forested viewshed protected from significant environmental and visual impacts.
    - Objective: The forested slopes above the Upper Sacramento River Canyon are highly visible throughout the community an add to the City's value as a place of recreation and tourism. It is the desire of the city to protect this forested vista for current and future generations.
- **Goal OC-2:** Ample and accessible open space resources within the City and its sphere of influence.
    - Objective: Accessibility to public open spaces should be improved to increase use and the ability of citizens to enjoy and appreciate the resource. Additionally, adding more open space within the community, usually in the form of small parks, will aid in maintaining the open feeling of the City and at the same time provide space for added recreation.
- **Goal OC-3:** Protection of the City's water resources.
    - Objective: The city's water supply and the Sacramento River running through the City are vital to the community. The City must protect the watershed in order to maintain the quality and quantity of the municipal water supply, as well as sustain fishing, recreation, and scenic benefits related to water resources.

The general plan outlines policies and implementation measures to support the attainment of the above-listed goals.

4.0 POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in the 2024 CEQA Guidelines. The proposed project would result in a significant impact related to biological resources if they would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or state HCP.

4.1 Special-Status Plants

An assessment was completed to determine the impacts to potentially occurring endangered, threatened, or California Rare Plant Rank plant species within habitat types onsite according to the "*Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities.*"

Potentially occurring special-status plant species that only occur within or adjacent to aquatic habitats or watercourses, wetlands, wet meadows, or riparian areas will be avoided by exclusion buffers included in MM BIO-1. Species likely to only occur within the non-disturbance buffers implemented by MM BIO-1, are unlikely to be impacted by project activities and therefore will not require additional surveys or mitigation measures. These species include: rattlesnake fern (*Botrypus virginianus*), Jepson's dodder (*Cuscuta jepsonii),* Oregon fireweed (*Epilobium oreganum*), Klamath fawn lily (*Erythronium klamathense*), Cascade grass-of-Parnassus (*Parnassia cirrata var. intermedia*), Aleppo avens (*Geum aleppicum*), Pickering's ivesia (*Ivesia pickeringii*), northern adder's-tongue (*Ophioglossum pusillum*), rosy orthocarpus (*Orthocarpus bracteosus*), Siskiyou phacelia (*Phacelia leonis*), Horned butterwort (*Pinguicula macroceras*), marsh skullcap (*Scutellaria galericulata*), Wilkin's harebell (*Smithiastrum wilkinsianum*), Siskiyou clover (*Trifolium siskiyouense*), Oregon sedge (*Carex halliana*), Scott Mountain howellanthus (*Howellanthus dalesianus*), Holzinger's bristle moss (*Lewinskya holzingerior*), or broad-nerved hump moss (*Meesia uliginosa*).

Special-status plant species that have the potential to occur within treatment areas, as well as the PAA and the habitats they could potentially occur in, are shown in Table 3.

Table 3
HABITAT TYPES OF POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES BY PAA

Common Name	Scientific Name	Habitat Types
All PAAs		
Pacific fuzzwort	*Ptilidium californicum*	EP, PP, SMC, MH, MHC
Thread-leaved beardtongue	*Penstemon filiformis*	EP, PP, SMC, MH, MHC
Castle Crags harebell	*Campanula shetleri*	EP, PP, SMC, MHC
Shasta chaenactis	*Chaenactis suffrutescens*	EP, PP, SMC, MHC
Pallid bird's-beak	*Cordylanthus tenuis* ssp. *pallescens*	EP, PP, SMC, MHC
Waldo daisy	*Erigeron bloomeri* var. *nudatus*	EP, PP, SMC, MHC
Alkali hymenoxys	*Hymenoxys lemmonii*	MC, EP, PP, URB, BAR
Castle Crags ivesia	*Ivesia longibracteata*	EP, PP, SMC, MHC
Mt. Shasta PAA		
Baker's globe mallow	*Iliamna bakeri*	MC, EP, PP, SMC, MH, MHC
Pink-margined monkeyflower	*Erythranthe trinitiensis*	AG, EP, PP, SMC, MH, MHC
Subalpine aster	*Eurybia merita*	SMC
Woodnymph	*Moneses uniflora*	MH, MHC
Gasquet rose	*Rosa gymnocarpa var. serpentina*	MC, MH, EP, PP, BAR, URB
Woolly balsamroot	*Balsamorhiza lanata*	AG, MH
Scott Mountain bedstraw	*Galium serpenticum* ssp. *scotticum*	EP, PP, SMC, MHC
Peck's lomatium	*Lomatium peckianum*	MC, EP, PP, SMC, MH, MHC
Dunsmuir PAA		
Canyon Creek stonecrop	*Sedum paradisum ssp. paradisum*	MC, SMC, MH, MHC
Howell's lewisia	*Lewisia cotyledon var. howellii*	MC, SMC, MH, MHC
Indian Valley brodiaea	*Brodiaea rosea*	AG, MC, SMC, MH, MHC
Shasta ageratina	*Ageratina shastensis*	MC, SMC, MHC
Cylindrical trichodon	*Trichodon cylindricus*	AQ, MH, MHC, SMC, BAR
Woolly balsamroot	*Balsamorhiza lanata*	AG, MH
Scott Mountain bedstraw	*Galium serpenticum ssp. scotticum*	EP, PP, SMC, MHC
Peck's lomatium	*Lomatium peckianum*	MC, EP, PP, SMC, MH, MHC
McCloud PAA		
Baker's globe mallow	*Iliamna bakeri*	MC, EP, PP, SMC, MH, MHC
Canyon Creek stonecrop	*Sedum paradisum ssp. paradisum*	MC, SMC, MH, MHC
Howell's lewisia	*Lewisia cotyledon var. howellii*	MC, SMC, MH, MHC
Shasta limestone monkeyflower	*Erythranthe taylorii*	PP, SMC, MH, MHC
Subalpine aster	*Eurybia merita*	SMC
Shasta ageratina	*Ageratina shastensis*	MC, SMC, MHC
Cylindrical trichodon	*Trichodon cylindricus*	AQ, MH, MHC, SMC, BAR

Key to Habitats: AG = Annual Grassland, AQ = Aquatic, BAR = Barren, EP = Eastside Pine, MC = Montane Chaparral, MH = Montane Hardwood, MHC = Montane Hardwood-Conifer, PP = Ponderosa Pine, SMC = Sierran Mixed Conifer, MR = Montane Riparian, URB = Urban

The proposed treatments could impact special-status plants within the project area. The project will benefit certain plants following project completion. Many grasses and herbaceous plants may increase in abundance with greater sunlight availability following project treatments. During project implementation, ground disturbance can lead to direct plant mortality as well as indirect

impacts from soil compaction and stratification, as it may in turn change the porosity of the soil and decrease the availability of water and nutrients for plants. Ground disturbance can also lead to the exposure of roots of shallowly rooted plants and the direct mortality of plants.

MM BIO-2 for special-status plants included in Table 3 requires the completion of protocol-level surveys for special-status plant species that are likely to occur in treatment areas. If special-status plants are identified, a non-disturbance buffer will be established around the plant(s) during all project activities. Therefore, impacts to Pacific fuzzwort (*Ptilidium californicum*), thread-leaved beardtongue (*Penstemon filiformis*), woolly balsamroot (*Balsamorhiza lanata*), Castle Crags harebell (*Campanula shetleri*), Shasta chaenactis (*Chaenactis suffrutescens*), pallid bird's-beak (*Cordylanthus tenuis ssp. pallescens*), Waldo daisy (*Erigeron bloomeri var. nudatus*), Scott Mountain bedstraw (*Galium serpenticum* ssp. *scotticum*), Alkali hymenoxys (*Hymenoxys lemmonii*), Castle Crags ivesia (*Ivesia longibracteata*), Peck's lomatium (*Lomatium peckianum*), Baker's globe mallow (*Iliamna bakeri*), pink-margined monkeyflower (*Erythranthe trinitiensis*), subalpine aster (*Eurybia merita*), woodnymph (*Moneses uniflora*), Gasquet rose (*Rosa gymnocarpa* var. *serpentina*), Canyon Creek stonecrop (*Sedum paradisum* ssp. *paradisum*), Howell's lewisia (*Lewisia cotyledon* var. *howellii*), Indian Valley brodiaea (*Brodiaea rosea*), Shasta ageratina (*Ageratina shastensis*), cylindrical trichodon (*Trichodon cylindricus*), and Shasta limestone monkeyflower (*Erythranthe taylorii)* will be less than significant with mitigation.

4.2 Special-Status Wildlife

An assessment was completed to determine the impacts to potentially occurring special-status wildlife species within habitat types onsite. The potentially occurring special-status wildlife species and the PAAs they could potentially occur within are shown in Table 4.

Table 4
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES BY PAA

Common Name	Scientific Name
All PAAs	
Bald eagle	*Haliaeetus leucocephalus*
American goshawk	*Accipiter atricapillus*
Osprey	*Pandion haliaetus*
Northern spotted owl	*Strix occidentalis caurina*
Fisher	*Pekania pennanti*
Spotted bat	*Euderma maculatum*
Western mastiff bat	*Eumops perotis californicus*
Ringtail	*Bassariscus astutus*
Gray wolf	*Canis lupis*
North American Wolverine	*Gulo gulo luscus*
Cascades Frog	*Rana Cascadae*
Foothill yellow-legged frog	*Rana boylii pop. 1*
Western pond turtle	*Emys marmorata*
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*
Franklin's Bumble Bee	*Bombus franklini*
Western Bumble Bee	*Bombus occidentalis*
Monarch Butterfly	*Danaus plexippus*
Mt. Shasta PAA	
Bank swallow	*Riparia riparia*
Yellow rail	*Coturnicops noveboracensis*

Table 4 POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES BY PAA	
Common Name	**Scientific Name**
Dunsmuir PAA	
American peregrine falcon	*Falco peregrinus anatum*
Black swift	*Cypseloides niger*
Willow flycatcher	*Empidonax traillii*
Oregon snowshoe hare	*Lepus americanus klamathensis*
Pacific tailed frog	*Ascaphus truei*
Southern long-toed salamander	*Ambystoma macrodactylum sigillatum*
McCloud PAA	
American peregrine falcon	*Falco peregrinus anatum*
Bank swallow	*Riparia riparia*
Willow flycatcher	*Empidonax traillii*
Oregon snowshoe hare	*Lepus americanus klamathensis*
Sierra Nevada mountain beaver	*Aplodontia rufa californica*
Pacific tailed frog	*Ascaphus truei*
Southern long-toed salamander	*Ambystoma macrodactylum sigillatum*

Cascades frog

Rana cascadae

Cascades frogs are listed as a CDFW Species of Special Concern and a CESA-Candidate Endangered Species. Historically, *R. cascadae* was found fragmented from the edge of the northern Sierra Nevada mountains to Mt. Lassen, Mt. Shasta, the Marble Mountains, and the Trinity Alps. It is now missing from an estimated 50 percent of its former range in California. *R. cascadae* inhabits wet mountain areas in open coniferous forests near timberline, including pools in high-elevation wet meadows, lakes, bogs, ponds, and marshy areas near streams above 2,400 feet above mean sea level. Cascades frogs are sensitive to predation and generally occur where no predatory fish are present. This species is also sensitive to water quality and often requires clean, clear environments fed directly by snowmelt. Breeding occurs in slow-moving waters such as lakes, ponds, or ponded areas within wet meadows or riparian corridors at high elevations. Breeding begins soon after the snow melts, occurring between March and mid-August depending on the location. Breeding is explosive and lasts roughly a week. Adults return to the same location each year to breed. Eggs are laid in a mass the size of an orange or small grapefruit containing 300 to 800 eggs which are not attached to vegetation but partly submerged in shallow water.

Multiple observations of *R. cascadae* are recorded on CNDDB near Siskiyou Lake, Shasta River, and Squaw Valley Creek. Aquatic or wet meadow habitats within the survey area may be adequate for egg deposition and breeding. Therefore, *R. cascadae* have the potential to occur in all PAAs. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to Cascades frogs or their habitat will occur. Less than significant with mitigation.

Foothill yellow-legged frog

Rana boylii

The Foothill yellow-legged frog (FYLF) occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains and along the western side of the Sierra Nevada Mountains to the edge of the Tehachapi Mountains. Distinct populations of the species have been designated

throughout its range; the treatment area occurs within the FYLF Pop. 1, which is the North Coast Population. *R. boylii population 1* are listed as a CDFW Species of Special Concern.

FYLF inhabit rocky streams with fast-flowing water over rocky substrates. Outside of breeding season, adult frogs are found basking on rocks within high flows and use deep pools for refugia to escape potential predators. Adult frogs migrate to breeding habitat in the spring, often following a tributary to its confluence with a larger stream or river. In areas where tributaries dry up, juveniles also make this downstream movement (Haggarty 2006), and they may disperse across uplands to nearby watercourses. Gravel bars and rocks in shallow, slow-moving water provide breeding habitat and egg deposition sites for the species between April and July. Egg masses occur underneath rocks at the edges of streams or rivers, near their breeding grounds. Tadpoles develop in slow-moving backwaters and isolated pools.

Multiple observations of *R. boylii* are recorded in CNDDB within perennial and intermittent streams near both the Mt. Shasta and Dunsmuir PAAs. They also have the potential to occur within the McCloud PAA. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to FYLF or their habitat are anticipated to occur. Less than significant with mitigation.

Pacific tailed frog

Ascaphus truei

A. truei are listed as a Species of Special Concern by the California Department of Fish and Wildlife. The range of *A. truei* in California is from near Anchor Bay, Mendocino County, north along the coast to the Oregon Border, and as far east as near Big Bend, Shasta County. This species inhabits cold, clear, permanent rocky streams in wet forests. They do not inhabit ponds or lakes. After heavy rains, adults may be found in moist riparian forests. A rocky streambed is necessary for protective cover for adults, eggs, and larvae. Adults do not travel to a breeding location, they breed in the cold, swift streams they inhabit. The female lays her eggs in spring and summer after the spring runoff, generally July to September in California populations.

Observations of *A. truei* are recorded in CNDDB approximately three miles west of the Dunsmuir PAA in Little Castle Creek, and three miles east in Soda Creek. The occurrence with Soda Creek is also within three miles of the McCloud PAA. Likely egg deposition and breeding habitat may be found in any of the forested perennial streams within the project area such as Little Castle Creek. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Therefore, no impacts to *A. truei* are anticipated to occur. Less than significant with mitigation.

Western pond turtle

Emys marmorata

The western pond turtle (WPT) is listed as a CDFW Species of Special Concern and a CESA-Proposed Threatened species. Western pond turtles are habitat generalists and can occupy a wide range of aquatic habitats, thus the most limiting factor of habitat suitability is the presence of water. In addition to the presence of deep pools and slow-moving water, the following general characteristics are associated with pond turtle habitat: 1) basking sites, 2) aquatic refugia, 3) streamside/bank refugia, and 4) upland nesting habitat. WPT egg deposition typically occurs on sandy banks near water. Upland migration has been documented during nesting season at certain

sites (between May and August) when individuals seek out sites for egg deposition. This can occur up to several hundred feet from water, but it is most likely in between watercourses and adjacent nesting habitats (i.e., grasslands or riparian forests).

Observations of *E. marmorata* are recorded in CNDDB approximately 10 miles north of the Mt. Shasta PAA, near Lake Shastina. Although there are no recorded observations of *E. marmorata* within any PAA on CNDDB, suitable basking sites, aquatic or streamside refugia, and upland nesting sites may be present within wet meadows, aquatic, or riparian habitats.

MM BIO-1 incorporates a non-disturbance wetland buffer. Because project activities will avoid in-water work, western pond turtles have the potential to be impacted only in their upland dispersal or nesting sites during the nesting season (May to August). Pond turtles often nest along sandy banks of rivers, but they have also been known to move a considerable distance (up to 200 feet) away from streams to find a suitable nest site. Migrating adults could potentially encounter project vehicles, equipment, or falling trees, which could lead to injury or mortality. MM BIO-3 for WPT is included to identify and protect WPT and their nests if project work occurs during nesting season. Therefore, project-related impacts to WPT will be less than significant with mitigation incorporated.

Southern long-toed salamander
Ambystoma macrodactylum sigillatum
The southern long-toed salamander is listed as a CDFW Species of Special Concern. Their range extends from Tuolumne County, in the vicinity of the Stanislaus River, to north and east of the Cascades in Modoc and Lassen counties. Their preferred habitats include ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir, and wet meadows.

Adults of this species are subterranean during most of the year, utilizing mammal burrows, rock fissures, and occasionally human-made structures. During breeding migrations in spring and fall, they may be found under surface objects such as rocks or logs near a breeding pond. Terrestrial juveniles may spend the entire first summer of life in mammal burrows or under surface objects in the immediate vicinity of their breeding pond. Aquatic larvae prefer shallow water, less than 12 inches in depth, and utilize clumps of vegetation or other bottom debris as cover.

Observations of the southern long-toed salamander are recorded on CNDDB approximately five miles east of the Dunsmuir PAA, within the McCloud PAA. Another population is recorded at the headwaters of the South Fork Sacramento River approximately 8 miles west of the Dunsmuir PAA. Suitable breeding ponds may be present within the sierran mixed conifer, montane hardwood-conifer, and montane riparian habitats in the Dunsmuir PAA and McCloud PAA.

MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities from any breeding ponds and adult dispersal grounds in the vicinity of a pond. Therefore, no impacts to the southern long-toed salamander are anticipated to occur. Less than significant with mitigation incorporated.

American peregrine falcon
Falco peregrinus anatum
The American peregrine falcon is state and federally delisted and has been removed as a Fully Protected species by the California Department of Fish and Wildlife in July 2023. In California,

peregrine falcons can be found nesting on coastal, island, and mountainous cliffs or bridges and skyscrapers with ready access to hunting grounds. During winter months or while in migration, they can be found near lakeshores, seacoasts, estuaries, or marshlands containing abundant avian prey. They typically hunt by entering a high-speed dive, striking smaller birds in mid-air.

Available data on CNDDB show that the nearest occurrence is within the Dunsmuir PAA, with likely nesting habitat outside of the PAA near Castle Crag. Nesting habitat may be present in cliffs, canyons, or ledges within the Dunsmuir and McCloud PAAs. Individuals may also be present within grassland and shrubland habitats while migrating or hunting.

No cliffs will be treated due to the slope exclusion integrated into the project design, and it is unlikely that the treatments would be near a peregrine falcon nest. MM BIO-4 for Raptors, Migratory, and Special-Status Birds will avoid direct impacts to all nesting birds by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. MM BIO-4 will prevent activities within the vicinity of a peregrine falcon nest.

Removal of shrubs as needed to achieve the shaded fuel break treatment may occur in potential foraging habitats for falcons. Treatments within potential foraging habitats would occur on private or commercial timber properties. Due to the existing timberland managed in the area, the limited extent of the vegetation treatments, and the small project footprint relative to the large foraging range of the peregrine falcon, the project is not likely to cause a significant loss of foraging habitat. Project treatments will allow for continued inhabitance of the PAAs by smaller birds, which are prey for peregrine falcons. Greater spacing of trees may improve falcons' ability to forage on these birds, which could therefore expand the foraging area for falcons. Therefore, project-related impacts to the peregrine falcon would be less than significant with mitigation incorporated.

Bald eagle

Haliaeetus leucocephalus

Bald eagles are large birds of prey that winter in California along rivers, lakes, or reservoirs that provide adequate foraging opportunities. This species forages on fish, waterfowl, other small animals, and carrion. They prefer tall, mature trees that provide a wide view of the surrounding open water. Bald eagles typically nest in forested areas adjacent to large bodies of water, staying away from heavily developed areas when possible.

Although the bald eagle was federally delisted in 2007, the Bald and Golden Eagle Protection Act (16 USC 668-668c) continues prohibitions on take including disturbance, such as injury, decreasing productivity, or substantially interfering with normal breeding, feeding, or sheltering, or nest abandonment. Under the California Endangered Species Act, the bald eagle is listed as endangered and is designated as Fully Protected by CDFW. Additionally, the Bald and Golden Eagle Protection Act upholds prohibitions of take including disturbance, injury, decreasing productivity, or substantially interfering with normal breeding, feeding, sheltering, or nesting.

Available data on CNDDB show that the nearest known bald eagle occurrences are along the South Fork Sacramento River near Siskiyou Lake. Bald eagles may nest in tall, mature trees or forage along perennial streams within all PAAs.

Bald eagles exhibit nest site fidelity and therefore have the potential to be impacted through removal or modification of their nest sites. MM BIO-4 for Raptors, Migratory, and Special-Status Birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. In addition, MM BIO-1 will avoid the removal of riparian trees where potential nest sites are most likely to occur. Protection measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact a bald eagle. The impact to bald eagles would be less than significant with mitigation incorporated.

Black swift

Cypseloides niger

The black swift is listed as a Species of Special Concern by the California Department of Fish and Wildlife. The black swift populations have been declining drastically since the 1970s, although not much is known about the cause. In Northern California, small, isolated, semi-colonial groups of black swifts exclusively nest on steep, vertical walls behind inland waterfalls and sea cliffs.

Observations of *C. niger* are recorded in CNDDB inside or adjacent to the project area, likely nesting behind Mossbrae Falls or possibly Hedge Creek Falls. Nesting habitat exists and mid-air foraging individuals may be present within the Dunsmuir PAA.

Like most birds, black swifts have the potential to be impacted through noise disturbance or vegetation removal near their nest sites. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude project treatments from habitat types that support nesting black swifts. Additionally, MM BIO-4 for Raptors, Migratory, and Special-Status Birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. MM BIO-4 will prevent direct mortality and limit the chance of habitat modification that could indirectly impact a black swift. Therefore, the impact to the black swifts would be less than significant with mitigation.

Bank swallow

Riparia riparia

Bank swallows are listed as threatened species by the State of California. Bank swallows require vertical earthen banks and cliffs with fine-textured sandy soils near water to dig nesting cavities up to five feet long. The nest exists at the end of the cavity and is made of grass and plant roots, lined with feathers. This species nests in colonies that consist of ten up to 2,000 nests. Bank swallows are typically present between March and late August. Bank swallows feed in groups, almost entirely in flight. They typically fly low over open water to capture flying insects.

Observations of *R. riparia* are recorded in CNDDB approximately 0.9 miles west of the Mt. Shasta PAA near Siskiyou Lake and 5 miles south of the McCloud PAA near Lake McCloud. *R. riparia* may be present nesting or foraging adjacent to suitable earthen banks or cliffs and waterways within the Mt. Shasta and McCloud PAAs.

Vertical earthen banks and cliffs typically lack vegetation that qualifies for treatment under this project. MM BIO-1 incorporates a non-disturbance wetland buffer that will exclude activities that

would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Additionally, MM BIO-4 for Raptors, Migratory, and Special-Status Birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact *R. riparia*. Therefore, the impact to *R. riparia* would be less than significant with mitigation incorporated.

Northern spotted owl

Strix occidentalis caruina

The northern spotted owl (NSO) is recognized as threatened under CESA and the ESA. In California, NSO can be found from Marin County, up the Coastal Ranges into Oregon, and across to the Cascade Ranges. The Pit River in Shasta County is generally considered the southeast border of the species' range, where it overlaps with the range of California spotted owls. Three large studies suggest that the population within California declined 31 to 55 percent since the 1990s (CDFW Memorandum). The primary threats to the northern spotted owl are competition with the barred owl (*Strix varia*), wildfires, and timber harvest that results in habitat modification.

USFWS Final Critical Habitat exists in multiple areas of southern Siskiyou County but would not be impacted by project activities. USFWS Final Critical Habitat approaches the survey area 2 miles west and 5 miles east of the Mt. Shasta PAA (west of Lake Siskiyou and south of Mt. Shasta); 0.5 miles east of the Dunsmuir PAA around Soda Creek Road; and within 0.5 miles of the McCloud PAA, northeast of McCloud, California. According to the CNDDB, the nearest known NSO Activity Centers are 2 miles east of the Dunsmuir PAA near Soda Creek Road, 0.6 miles north of the McCloud PAA, and 0.5 miles northeast of the McCloud PAA. There are additional NSO Activity Centers more than four miles west of the Mt. Shasta PAA.

Spotted owls inhabit mature forests with a mixed canopy comprised of conifer and oak species. Nesting habitat requires important stand elements including high canopy closure, a multi-layered, multispecies canopy with large overstory trees, and the presence of broken-topped trees or other nesting platforms. Foraging habitat provides habitat for owls' prey but lacks the structure to support nesting and roosting. Owls use a broader range of forest types for foraging than they do for nesting. Proximity to other habitats is important in determining suitable habitats. Patches less than 100 acres in size with large trees and dense canopy are not likely to function as habitat if they are less than 100 yards wide or separated by more than about 0.5 miles from other NSO habitats (USDI FWS. 2009). Table 5 (USDI 2019) describes the minimum values for selected structural parameters to classify NSO habitat in cores and home ranges for evaluation of take on private lands.

In general, treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment, but the treatment/activity does not remove suitable habitat function entirely, are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging). Removal of habitat function occurs when treatment activities reduce habitat elements to the degree that the habitat no longer functions as a suitable habitat. In general, to function as a nesting, roosting, or foraging (NRF) habitat, the parameters shown in Table 5 must be met.

Table 5
NSO NRF FUNCTIONAL HABITAT TYPES

Parameter	Functional habitat type			
	High-Quality Nesting/Roosting	**Nesting/ Roosting**	**Foraging**	**Low-Quality Foraging**
Basal area[1]	≥210 ft² /acre	Mix ranging from 150 to ≥180 ft²/acre	Mix ranging from 120 to ≥180 ft² /acre	Mix ranging from 80 to ≥120 ft² /acre
QMD[2]	≥15 inches	≥15 inches	≥13 inches	≥11 inches
Large trees[3] per acre	≥8	≥8	≥5	NA
Canopy closure[4]	≥60%	≥60%	≥ Mix ranging from 40 to 100%	≥40%
Other Notes	Multi-layered, multi-species forest structure with fairly open understory through which owls can fly		Foraging habitat must generally have some higher quality habitat nearby (within 0.5 mile)	NA

Notes:
1 Square feet per acre
2 QMD = quadratic mean diameter of trees >5 inches dbh
3 Trees >26 inches dbh
4 Canopy closure = percent cover of overstory trees

NSO forages over a wide area and subsequently returns to a nest or roost location that is often centrally located within the home range and core use area, called an Activity Center. Outside of Activity Centers, owls utilize more general habitat for dispersal. For example, juvenile owls often must disperse through a range of forest types before finding a habitat on which to establish a territory. In the absence of site-specific data, USFWS defines the core use area as the 502 acres in a 0.5-mile radius circle surrounding the activity center, while the home range is a 1.3-mile radius circle centered on the activity center (USDI 2019).

Within the PAAs, Sierran Mixed Conifer, Montane Hardwood-Conifer, Eastside Pine, Ponderosa Pine, and Montane Hardwood habitats could contain NRF habitats (Table 5). These habitat types contain the appropriate tree species for NSO habitat composition; portions of these habitat types meet the parameters for NRF habitat. The presence of NRF habitats will largely be determined by known habitat data provided by landowners operating under a Timber Harvest Plan. These data sets classify NRF habitat to the appropriate functional habitat type over a scale of 20 acres according to the minimum structural parameters listed in Table 5. NRF that exists outside of these data sets will be determined through Preliminary Site Assessments and GIS analysis on each property, plus a review of the best available data from resource agencies showing known Activity Centers. MM BIO-5 ensures that within each eligible parcel, areas with suitable NRF habitat shall be classified to the appropriate functional habitat type over a scale of 20 acres according to the minimum structural parameters listed in Table 5.

Fuels reduction within all suitable NRF habitats would be amended as per MM BIO-7 to reduce the habitat alteration such that impacts would be less than significant. Known nest trees, snags with potential nesting platforms, all large snags (20 inches diameter at breast height or larger), and associated screen trees will be avoided unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the parcel. These include trees with large, flattened tops, large broken-topped trees, trees with decadence such as

large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics (USDI 2018).

While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat (USDI 2018). All nesting and roosting habitat will be preserved.

Within suitable foraging habitat, as defined by Table 5, in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center), project activities will avoid downgrading or removing suitable foraging habitat function. While habitat elements may be removed, such as individual trees, shrubs, down logs, and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction, and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres) (USDI 2018).

Direct impacts that could occur to NSO include disturbance of individuals or their nest structures from tree removal. Additionally, noise or smoke disturbance from equipment operations and pile burning near an active nest may cause an NSO to abandon the nest. To prevent direct impacts, MM BIO-6 includes the use of existing survey data from landowners or protocol-level surveys of all suitable NRF habitats to determine the presence of NSO and/or a limited operating period which will apply to all project activities within 0.25 miles of all suitable NRF habitats. If recent survey data is not available or surveys have not been completed and cannot be done, occupancy of NSO is assumed based on the presence of suitable NRF habitat.

With the implementation of these measures, direct and indirect impacts to NSO or their habitat will be less than significant with mitigation.

American goshawk

Accipiter atricapillus

The American goshawk is listed as a Species of Special Concern by the CDFW. The American goshawk is found nesting deep into mature coastal or montane coniferous forests. Outside of the breeding season, they can be found in riparian and woodland habitats, as well as in canyons or forest edges. They tend to feed on ground-dwelling birds, rabbits, and squirrels. Since they require extensive forested areas for hunting and nesting, timber harvest in northern California is the main cause of their decline.

The nearest observations of *A. atricapillus* recorded in CNDDB east of the Mt. Shasta PAA near Ski Park Highway, west of the Dunsmuir PAA near Mt. Bradley Road, as well as north and east of the McCloud PAA. Sierran Mixed Conifer, Mixed Hardwood-Conifer, and Montane Hardwood habitats with adequate tree size and density in all PAAs could provide foraging or nesting habitat for goshawks.

Project treatments near an active nest may cause an American goshawk to abandon the nest. MM BIO-4 for Raptors, Migratory, and Special-Status Birds includes scheduling project activities outside of the nesting season, or if activities occur within the nesting season, locating active nests, and installing a species-appropriate buffer around an active nest. Goshawks demonstrate site fidelity to multiple nests and tend to maintain inactive nests as alternate sites. MM BIO-4 includes the avoidance of all inactive large stick nests observed during the preliminary site assessment, where feasible. This mitigation measure will prevent direct mortality.

American goshawks have the potential to be impacted through the removal or habitat modification of their nest sites. MM BIO-5 is designed to ensure Northern spotted owl nesting, roosting, and foraging habitat is identified and that higher quality functional habitat types (Table 5) are maintained. American goshawks and northern spotted owls inhabit similar habitat types. Generally, the functional habitat type requirements that will be maintained for the northern spotted owl exceed the minimum required to sustain American goshawks and their prey. Therefore, MM BIO-5 will help ensure that direct indirect impacts through habitat modification will be less than significant.

Project mitigation measures will prevent direct mortality, limit the chance of habitat modification, and limit changes in prey availability that could lead to population-level declines of American goshawks. Therefore, project-related impacts to American goshawks would be less than significant with mitigation incorporated.

Osprey

Pandion haliaetus

Osprey are listed as a watch list species by the CDFW. In North America, osprey nest along the coasts, large inland lakes, and rivers. This species preys mostly on fish but also birds, reptiles, amphibians, and invertebrates. Osprey nest usually within close proximity to fish-producing water, on platforms of sticks at the top of large snags, dead-topped trees, on cliffs, or human-made structures. Osprey individuals need tall trees nearby for landing before approaching the nest and for use by young for flight practice. This species is highly adaptable and has become increasingly abundant in urban landscapes (Shuford and Gardali 2008).

Potential nesting habitat for osprey includes telephone poles, transmission towers, and large trees located within or adjacent to all PAAs. Multiple active nest structures are known to occur along the Interstate 5 corridor and the Sacramento River. Because osprey exhibit site fidelity, retention of existing nest structures is important for their reproductive success.

Osprey generally have the potential to be impacted through removal or habitat modification of their nest sites. Although osprey are typically tolerant of establishing nests near ongoing human disturbances, any new significant noise or disturbance near an active nest may cause an osprey to abandon the nest. MM BIO-4 for raptors, migratory, and special-status birds will prevent direct mortality and limit the chance of noise disturbance that could directly impact nesting osprey. The project will not result in significant impacts to habitat for this species or population-level effects. Therefore, impacts to osprey would be less than significant with mitigation.

Willow flycatcher

Empidonax traillii

E. traillii is recognized as Endangered under CESA. They inhabit wet meadow and montane riparian habitats at 600-2500 meters elevation in the Sierra Nevada and Cascade Ranges. They most often occur in broad, open river valleys or large mountain meadows with lush growth of shrubby willows. They migrate to lower elevations, primarily in riparian habitats throughout the state, from mid-May to and of August. They require dense willow thickets for nesting and roosting.

The nearest observations of *E. traillii* recorded in CNDDB are approximately five miles east of the Dunsmuir PAA, within the McCloud PAA. Potential nesting and foraging habitats exist within the emergent wetland and montane riparian habitats in the Dunsmuir and McCloud PAAs.

Direct impacts that could occur to *E. traillii* include disturbance of individuals or their nest structures from ground disturbance or vegetation removal. Nest abandonment can occur because of continued exposure to increased noise or vibrations that can result from project activities. MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. MM BIO-4 Raptors, Migratory, and Special-Status Birds include avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Mitigation measures will prevent direct mortality and limit the chance of habitat modification or noise disturbance that could indirectly impact *E. traillii*. Utilizing these project mitigation measures will ensure that impacts to *E. traillii* and their habitat would be less than significant.

Yellow rail

Coturnicops noveboracensis

The yellow rail is listed as a Species of Special Concern by the CDFW. They occur in shallow marshes with fairly short vegetation such as sedges, rushes, bulrushes, and grasses. They tend to build a small cup nest of fine sedges in a dense, unflooded part of the marsh. They mostly feed on wetland invertebrates and seeds. The range of yellow rail is limited in California to the Suisun Marsh and portions of Northern California.

Yellow rails were detected 1.2 miles west of the Mt. Shasta PAA during surveys completed in 2002-2005. Potential breeding and foraging habitats exist within emergent wetlands and wet meadow habitats.

MM BIO-1 incorporates a non-disturbance wetland buffer which will exclude activities that would disturb aquatic species, watercourses, wetlands, wet meadows, or riparian areas. Additionally, MM BIO-4 for Raptors, Migratory, and Special-Status Birds includes avoidance of direct impacts by scheduling activities outside of the nesting season or otherwise conducting nesting bird surveys to locate and establish a species-appropriate buffer around active nests if activities occur during the nesting season. Protection measures will prevent direct mortality and limit the chance of habitat modification or noise disturbance that could indirectly impact the yellow rail. The project would not result in significant impacts to habitat for this species that would lead to population-level decline. No habitat would be affected. Therefore, impacts to the yellow rail would be less than significant with mitigation incorporated.

Fisher

Pekania pennanti

The fisher species in California and Oregon is called the West Coast Distinct Population Segment (DPS). This includes isolated populations in the Southern Sierra Nevada and Northern California-Southern Oregon. In Northern California, the fisher is listed as a Species of Special Concern by CDFW. Due to their extremely valuable fur, fishers have been trapped by humans since the 1800s, and by the 1930s they were nearly extinct. California banned trapping of fishers in the 1940s, but their numbers have continued to decline because of habitat loss from logging, development, and severe forest fires.

As expert tree climbers, fishers prefer to live in coniferous forests consisting of old-growth pine, Douglas fir, and true fir. They require moderately large trees for dens, and they prefer to travel on the forest floor with lots of woody debris and over 80 percent continuous overhead coverage. They are known to feed on squirrels, mice, rabbits, porcupines, carrion, and false truffles. Mating occurs in spring to early summer, followed by a gestation period of 10 to 12 months.

Fishers most commonly den in hardwood tree crevices during maternity season (May 1 to June 30) but may be found near large trees and downed logs year-round. Female fishers are selective about dens. They select tree cavities with an entrance hole that is 5 to 10 centimeters wide by 7 to 15 centimeters tall and 1.5 meters to 17 meters from the ground (Weir 2017). Den trees are at least 14 inches in diameter as they must be large enough to fit the female and her kits.

There are recent fisher observations recorded in CNDDB within the Mt. Shasta and McCloud PAAs, and adjacent to Dunsmuir PAA. Fishers may occur in riparian and heavily forested habitats within all PAAs.

Removal of hardwood trees could potentially include fisher den habitat if they are a) at least 14 inches DBH, and b) exhibit crevice entrance holes that are 5 to 10 centimeters wide by 7 to 15 centimeters tall and 1.5 meters to 17 meters from the ground. Impacts to these potential den structures would be avoided by the inclusion of MM BIO-8 for mammal dens. Any potential den structures would be identified before completing project work and would be avoided during the denning season for fishers, or otherwise would be surveyed to determine the presence of fishers before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible, if they do not contribute to fuel loads or wildfire hazards. Because any active burrows would be avoided with an appropriate temporal or spatial buffer to avoid mortality of fishers, and loss of habitat would be minimized, the project would not result in population-level effects. Therefore, impacts to fishers would be less than significant.

Ringtail

Bassariscus astutus

The ringtail is recognized as a fully protected species by the CDFW. In California, the ringtail is widely distributed throughout riparian forests, brush stands, and shrub habitats in the lower to middle elevations. They can be found nesting and living in natural cavities, snags, and attics, usually within 1 km of a permanent water source. The feed primarily on rodents and rabbits. CNDDB data has determined that ringtail habitat exists within the riparian forest and emergent wetland habitat inside all PAAs.

Ringtails utilize tree hollows with entrance holes greater than two inches in diameter in standing trees or downed logs. Similar to the fisher, the removal of dead, dying, or diseased hardwood trees could potentially target ringtail den habitat. Impacts to these potential den structures would be avoided by the inclusion of protection measures for ringtails and fisher dens. MM BIO-8 ensures any potential den structures would be identified before completing project work and would be avoided during the denning season for ringtails, or otherwise would be surveyed to determine the presence of a ringtail den before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible, if they do not contribute to fuel loads or wildfire hazards. Because any active dens would be avoided with an appropriate temporal or spatial buffer to avoid mortality and loss of den habitat would be minimized, impacts to ringtails would be less than significant.

Gray wolf

Canis lupis

The gray wolf is recognized as endangered by the State of California and the Federal Endangered Species Act. In 2016, CDFW prepared a Conservation Plan for Gray Wolves in California, intending to manage wolf packs, their habitat, and their prey populations. Gray wolves are habitat generalists and can inhabit temperate forests, mountains, and grasslands wherever there is suitable prey. Prey species primarily include ungulates such as deer, and elk, but they will also take small mammals and will readily scavenge.

This species is highly territorial and defends territories in packs. Territory size is a function of prey density and can range from 25 to 1,500 square miles. Gray wolves began the natural recolonization of California in late 2011 following the dispersal of Oregon Wolf OR-7; since then, several satellite-collared and unknown wolves from Oregon have dispersed into the state. The first known pack in California in modern times was the Shasta Pack, though the pack was last observed in late 2015. Today, California has seven confirmed wolf packs: Whaleback Pack, Lassen Pack, Beckwourth Pack, and an unnamed pack in Lassen, Plumas, Tehama, and Tulare counties. Historically, wolves dispersing in Northern California have utilized the open terrain that occurs east of Interstate-5 and dispersal has been most abundant in the spring and autumn months (Kovacs 2018).

The nearest recorded observations of gray wolves in the project vicinity are from the Whaleback Pack approximately 10 to 20 miles from the project area. CDFW is currently monitoring the male OR-85 and the female WHA01F. The pair produced seven pups in 2021 and eight pups in 2022. OR-85 was re-collared in February 2023. Currently, there are no known den or rendezvous sites or areas of wolf activity within the survey area (CDFW 2024).

Current threats to this pack, and all gray wolf packs as they establish territories, include continued conflict with humans, primarily resulting from livestock depredation, and habitat loss, degradation, and fragmentation due to land development. In recent cases, wolves have been hit by cars while trying to disperse across busy roadways.

Due to the proximity to the Whaleback Pack's known boundary and the likelihood of wolf dispersal due to offspring success in recent years, all PAAs could be within the dispersal range of a gray wolf. Because of the small project footprint relative to the large home range size of the gray wolf and the fact that gray wolves are highly mobile and capable of avoiding project-related disturbance, it is possible that this species will occur in the project area but highly unlikely that project impacts would impact a wolf. Due to the existing urban development in the area and the

limited extent of the vegetation treatments, the project would not cause further fragmentation of dispersal corridors for wolves. Therefore, impacts to gray wolves will be less than significant.

Spotted bat

Euderma maculatum

The spotted bat is recognized by CDFW as a species of special concern. The spotted bat is distributed throughout the western U.S. as far north as southern British Columbia and as far south as Durango, Mexico. Spotted bat presence is most dependent on the availability of high, sheer cliffs in arid land. Although it has been found hibernating in the colder portions of its range, they have also been found periodically active throughout the winter in the upper Sacramento River drainage. The spotted bat is found in habitats ranging from desert scrub to montane coniferous forest wherever rock cliffs are present. It has been collected most often in the southeast in dry, rough desert terrain with substantial rock cliffs and water nearby. The spotted bat is considered one of North America's rarest mammals.

Known observations on CNDDB exist within the Mt. Shasta PAA and west of the Dunsmuir PAA near Little Castle Creek and North Fork Castle Creek. They have the potential to occur within all PAAs. Typically, hibernation and maternity roosts are found within permanent structures such as rock crevices, caves, bridges, mines, or abandoned buildings. Feeding perches and day roosts are more temporary and trees may be utilized. Most bat species use trees generally in the largest diameter classes available in the habitat as day roosts. Preferred roost trees are most likely to be found in late-successional, old-growth, or multiage stands, particularly those with an abundance of snags.

In general, bats are most sensitive during maternity roosting and winter hibernation. Bats tend to congregate during these periods, so any disturbance could impact numerous bats. Disruption of a maternity roost, which includes mothers and their non-volant young, could cause loss of offspring as non-volant young cannot survive outside of the roost. In winter months, bats undergo a delicate energy balance as they enter a type of hibernation, called torpor. Disturbance to bat winter hibernacula can disrupt torpor and since no food is available this often leads to bat mortality. MM BIO-10 ensures project activities would not disturb tall rock crevices or tunnels that spotted bats might use for maternity and hibernacula roosts. MM BIO-9 for the humane exclusion of bats from trees will be implemented to avoid impacts to bats during the removal of dead or dying trees. Project mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact vulnerable groups of bats.

MM BIO-1 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats, which are the most likely to be selected for bat day roost and foraging habitats. Therefore, impacts to spotted bats will be less than significant with mitigation.

Western mastiff bat

Eumops perotis

The western mastiff bat is recognized by CDFW as a species of special concern. In California, the distribution of western mastiff bats is limited to areas with suitable roosting habitats. Roosts are typically in cliff faces, large boulders, or crevices on tall buildings (Howell 1924). When roosting in rock crevices, mastiff bats need vertical faces tall enough to drop off to take flight. The western mastiff bat roosts in small colonies, though they have been observed also roosting with other bat

species. Available data shows that they mate in spring and give birth to single young in early summer.

Western mastiff bats are terrestrial foragers, and they capture insects in flight and sometimes glean non-flying insects from rocks or canyon walls. They forage for up to seven hours per night, and their foraging range can reach up to 15 miles away from their roost site. While they undergo torpor during winter daytime hours, they wake up to feed nocturnally almost year-round. In cold climates, they may hibernate when temperatures reach below 35 degrees Fahrenheit. Individual bat day roosts are variable, and each bat may switch between different day roost sites.

According to the CNDDB, several individuals were documented within the Dunsmuir PAA near Bush Street Bridge above the Sacramento River during surveys completed in 1993. It is unknown if these individuals were roosting or dispersing between roost and foraging sites. This species was observed the same year approximately 3.5 miles west of the Mt. Shasta and Dunsmuir PAAs in a heavily forested area. They have the potential to occur within all PAAs.

In general, bats are most sensitive to population-wide effects during maternity roosting and winter hibernation. Bats tend to congregate during these periods, so any disturbance could impact numerous bats. Disruption of a maternity roost, which includes mothers and their non-volant young, could cause loss of offspring as non-volant young cannot survive outside of the roost. In winter months, bats undergo a delicate energy balance as they enter a type of hibernation, called torpor. Disturbance to bat winter hibernacula can disrupt torpor and since no food is available this often leads to bat mortality.

MM BIO-10 ensures project activities would not disturb tall rock crevices or tunnels that western mastiff bats might use for maternity and hibernacula roosts. MM BIO-9 for the humane exclusion of bats from these trees will be implemented to avoid impacts to bats during the removal of dead or dying trees. Mitigation measures will prevent direct mortality and limit the chance of habitat modification that could indirectly impact.

MM BIO-1 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats, which are the most likely to be selected for bat day roost habitat. Therefore, impacts to Western mastiff bats will be less than significant.

North American wolverine

Gulo gulo luscus

The North American wolverine is recognized as threatened by the State of California and the Federal Endangered Species Act, as well as a CDFW fully protected species. They are a scarce resident of the North Coast mountains and Sierra Nevada. Habitat distribution in California is poorly known for the North Coast and northern Sierra Nevada. In northern coastal areas, they have been observed in Douglas-fir and mixed conifer habitats, and probably use red fir, lodgepole, wet meadow, and montane riparian habitats. Most sightings in this region range from 1600-4800 feet elevation. In the northern Sierra Nevada, they have been found in mixed conifer, red fir, and lodgepole habitats, and probably use subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Elevations in the northern Sierra Nevada mostly fall in the range of 4300-7300 feet. They den in existing caves, cliffs, hollow logs, cavities in the ground, under rocks,

old beaver lodges, or may dig dens in snow. They prefer areas with extremely low human disturbance.

This species is highly intolerant to other individuals. Although there is much overlap between home ranges, spacing is maintained in time, but not space, thus territorial defense is infrequent. Several females may have home ranges within the range of a single male. Year-round territory size may be as much as 150 square miles, while some hunting ranges may be as much as 800 square miles. Topographic features such as mountains, rivers, and highways do not appear to affect the size and shape of their home range.

Wolverines have extremely low population densities, even in pristine habitats. They may have never been common in California. The most recent sightings near northern California occurred in the Sierra Nevada range in 2018 and the Oregon Cascade Range in 2023. There have been no recent sightings in Siskiyou County.

Current threats to dispersing wolverines as they establish territories, include continued conflict with humans, primarily resulting from habitat loss, degradation, and fragmentation due to land development.

Although unlikely, all PAAs could be within the dispersal range of a wolverine. Because of the small project footprint relative to the large home range size of the wolverine and the fact that wolverines are highly mobile and capable of avoiding project-related disturbance, it is unlikely that project activities would impact a wolverine. Impacts to potential den structures would be avoided by the inclusion of MM BIO-8 for mammal dens. Any potential den structures would be identified before completing project work and would be avoided during the denning season for wolverines, or otherwise would be surveyed to determine the presence of wolverines before treatment within 0.25 miles of the site. Any den structures would be preserved, if feasible if they do not contribute to fuel loads or wildfire hazards. Due to the existing urban developments within all PAAs and the limited extent of the vegetation treatments, the project would not cause further fragmentation of dispersal corridors for wolverines. Therefore, impacts to wolverines will be less than significant.

Oregon snowshoe hare

Lepus americanus klamathensis

The Oregon snowshoe hare is recognized by CDFW as a species of special concern. *L. a. klamathensis* is found in the vicinity of Mt. Shasta, the Trinity Mountains, and possibly the Warner Mountains. In California, they are primarily found in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges, and especially near meadows. Dense cover is preferred, either in understory thickets of montane riparian habitats or in shrubby understories of young conifer habitats. A shallow bowl-like depression (form) is made in dense understory or brush piles. Rarely found in open spaces or mature closed-canopy forests (Conroy et al. 1979).

The nearest known observation of the snowshoe hare recorded in CNDDB is east of the Dunsmuir PAA and within the McCloud PAA. There is potential for the snowshoe hare to occur within the montane riparian habitat and forest edges with dense understory near meadows inside the Dunsmuir and McCloud PAAs.

MM BIO-1 incorporates a non-disturbance wetland buffer which will prevent disturbance to riparian habitats and the edge habitat surrounding meadows, which are the most likely habitats to be utilized by this species for cover or nesting. Therefore, it is unlikely that any individuals will be present within specific treatment areas and loss of habitat would be minimized. The project would not result in mortality or population-level effects, therefore, impacts to the Oregon snowshoe hare would be less than significant.

Sierra Nevada mountain beaver

Aplodontia rufa californica

The Sierra Nevada mountain beaver is recognized by CDFW as a species of special concern. They are found throughout the Cascade, Klamath, and Sierra Nevada Ranges. Mountain beavers occur in dense riparian-deciduous and open, brushy stages of most forest types. Their typical habitat in is montane riparian. They frequent open and intermediate-canopy coverage with a dense understory directly adjacent to water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate. Mountain beavers feed on vegetative parts of plants, mostly thimbleberry, salmonberry, blackberry, dogwood, salal, ferns, lupines, willows, and grasses. Burrows are located in deep soils in dense thickets, preferably near a stream or spring. Nests are often lined with dry vegetation. Nest chambers are situated 0.3 to 1.5 m below the ground surface. Mountain beavers do not concentrate urine and require a large daily intake of water, so most burrows contain water.

MM BIO-1 incorporates a non-disturbance wetland buffer which will prevent disturbance to montane riparian habitats and other habitats with proximity to surface water which are the most likely habitats to be utilized by this species for foraging or burrowing. Therefore, it is unlikely that any individuals will be present within specific treatment areas and loss of habitat would be minimized. The project would not result in mortality or population-level effects, therefore, impacts to the Sierra Nevada mountain beaver would be less than significant with mitigation incorporated.

Franklin's bumble bee

Bombus franklini

The Franklin's bumble bee is recognized as a Candidate Endangered Species by the State of California and is listed as endangered by the Federal Endangered Species Act. This species inhabits undisturbed grassland where it nests underground as well as in structures and grass hummocks (Xerces 2023). Example food plants include lupine (*Lupinus*), California poppy (*Eschscholzia*), horsemint (*Agastache*), mountain penny royal (*Monardella*), and vetch (*Vicia*).

Like all other bumble bees, this species lives in colonies consisting of a queen and her offspring: sterile female workers and males. Queens are responsible for initiating colonies and laying eggs, workers are responsible for most food collection, colony defense, nest construction, and feeding of the young, and males' sole function is to mate with new queens produced at the end of the colony season. Bumble bee colonies depend on floral resources for their nutritional needs; nectar provides carbohydrates for adult flight fuel and basic colony energy needs and pollen provides protein primarily for offspring growth (Xerces 2023). Colonies are annual and only the new, mated queens overwinter.

Queens emerge from hibernation in the early spring and immediately start foraging for pollen and nectar and begin to search for a nest site. Nests are often located underground in abandoned

rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Initially, the queen does all the foraging and care for the colony until the first workers emerge and assist with these duties. Bumble bees collect both nectar and pollen from the plants that they pollinate (Xerces 2023).

The nearest known historical observation on CNDDB is approximately 3.3 miles east of the Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

The project treatments would result in an increase in sunlight availability to the forest floor in areas where shaded fuel breaks and riparian treatments are completed. This could result in greater forb diversity throughout the treated areas which could provide additional foraging habitat for bumblebees.

Mechanical or manual treatment activities could impact special-status bumble bees via direct mortality as larvae may be present and could be killed during treatment activities like the removal of dead or dying trees or the use of heavy machinery in grasslands. Grasslands are unlikely to be treated since the baseline fuel loads in these areas already meet the intended spacing for the project treatments. MM BIO-11 ensures the minimization of disturbance in grasslands and meadows. If a bumble bee colony or indication of nesting bumble bees (such as bees returning to the same location repeatedly) is observed on a tree to be removed, then removal of the tree will follow a Limited Operating Period between May 15 to September 30 (i.e., the flight, colony, and nesting season for the species). Impacts to Franklin's bumble bees and other species of bumble bees will be less than significant.

Western bumble bee

Bombus occidentalis

The western bumble bee is recognized as a Candidate Endangered Species by the Federal Endangered Species Act. Their populations west of the Sierra Nevadas and the Cascades, especially at lower elevations, have disappeared or declined since the 1990s. The lead cause of the decline is likely pests and diseases spread by the commercial bumble bee industry. This species inhabits undisturbed grassland and meadow habitats where it nests underground as well as in structures and grass hummocks (Xerces 2023). They are distributed broadly in northern California and as generalist foragers, are incredibly important pollinators for wild plants and crops.

The nearest known historical observation on CNDDB occurs within the Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

The life history and discussion of possible impacts to western bumble bees will be the same as stated above for Franklin's bumble bees. The impacts to western bumble bees and all other special-status bumble bees will be less than significant.

Suckley's cuckoo bumble bee

Bombus suckleyi

The Suckley's cuckoo bumble bee is recognized as a Candidate Endangered Species by the Federal Endangered Species Act. The Suckley's cuckoo bumble bee is an obligate parasite of other Bombus species, such as the western bumble bee (*Bombus occidentalis).* Female cuckoo bumble bees can reproduce but cannot produce a wax-cast nest or initially feed worker bumble bees. Instead, they must enter an established nest of another species, kill or subdue the queen, lay her eggs, and control the worker bees to feed her offspring. The female offspring, once mated, will overwinter, and start the cycle over again.

The nearest known historical observation on CNDDB occurs within Mt. Shasta PAA. There is potential that bumblebees could occur within all PAAs, especially within meadows or annual grassland habitats where floral diversity occurs. Annual grasslands where the floral diversity has been displaced by non-native plant species with lower nectar availability are less likely to support bumblebees.

Suckley's cuckoo bumble bees will likely be associated with colonies of other bumble bee species. Their habitat is limited by the population of host bumble bee species and are affected by their declines, as well as their own declines due to pesticides and commercial bumble bee infectious diseases. Therefore, less than significant impacts to the western bumblebee and Franklin's bumblebee equates to less than significant impacts to Suckley's cuckoo bumble bee.

Monarch butterfly

Danaus plexippus

The monarch butterfly is a candidate species for listing by the Federal Endangered Species Act. In western North America, the monarch butterfly can be found anywhere during migration, but requires flowering plants for feeding and breeding as well as milkweed for nesting. They overwinter in colonies in coastal California and Mexico in pines or eucalyptus and migrate to the interior valley and mountains during spring through fall. The population is largely declining due to the loss of overwintering habitat and the loss of milkweed due to development, deforestation, and herbicide.

Monarch butterfly larvae are dependent on native milkweed (*Asclepias* spp.) to complete the early development portion of their lifecycles. Monarch caterpillars can only feed on milkweed, so they are essential for reproduction.

Monarch butterflies do not overwinter in interior California. Monarchs may occur in all PAAs during migration, especially where flowering plants are found. Additionally, their caterpillars or cocoons may occur on milkweed plants (*Asclepias* spp.). Removal of these plants may result in direct harm or mortality to eggs or caterpillars. According to the Xerces Society, monarch butterflies are least likely to be reproducing in Siskiyou County between October 31 and April 1. Treatments within proximity to milkweed plants during this time would avoid any potential for harming monarch butterflies, eggs, or caterpillars.

Removal of milkweed from the project area would reduce habitat that is essential to the monarch's life cycle. MM BIO-12 includes avoidance of milkweed plants. Surveys would be completed for milkweed concurrently with the rare plant surveys. If milkweed is found, then avoidance buffers will be implemented. Milkweed is a plant that enjoys full sun exposure and tolerates roadside areas;

therefore, treatments would likely increase the potential habitat for milkweed plants. Impacts to monarch butterflies would be less than significant.

4.3 Nesting Birds

Project activities during the nesting season (February 1 to August 31) that disturb a nesting bird or destroy active nests, could result in impacts to nesting birds. MM BIO-4 ensures that vegetation removal shall occur outside of avian nesting season or preconstruction surveys will determine the presence of active nests within the project area and surrounding 150 feet. If an active nest is found, a non-disturbance buffer shall be established around the nesting site until the nest is determined to be no longer active. If a non-active osprey, bald eagle, or goshawk nest is observed (i.e., any large stick nest), the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by these species. Implementation of the MM BIO-4 would ensure that impacts to nesting birds would be less than significant with mitigation incorporated.

4.4 Rare Natural Communities and Sensitive Habitats

4.4.1 Riparian Corridor

Riparian areas are plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent rivers, streams, lakes, or drainages. Riparian areas have distinctly different vegetative species than upland areas and they rely on and contribute to surface and groundwater processes and nutrient cycle of the stream corridor. Mature riparian trees affect the physical structure of a stream corridor by providing shade, woody debris recruitment, and habitat features for aquatic and terrestrial wildlife.

MM BIO-1 ensures that no work will be conducted within watercourses, wetlands, wet meadows, or riparian areas. These areas will be demarcated before treatment and avoided during project activities. The project design includes the following stream and wetland buffers:

- Ephemeral/Intermittent Streams – 50 feet
- Perennial Streams, rivers, wetlands, ponds, lakes – 75 feet

Exclusion would be measured from the edge of the stream/wetland or the edge of riparian vegetation, whichever is larger. Aquatic resources will be identified during the preliminary site assessments of each eligible parcel and demarcated along the edge of the exclusion zone. All vegetation removed will be chipped or masticated outside of the exclusion zone. Ground-based mechanical equipment may be operated within the exclusion zone only on existing areas of bare, compacted soil, gravel, or pavement (roads or road shoulders). Equipment may cross constructed/maintained stormwater drainage channels only when they are dry. Therefore, there will be no impacts to riparian corridors.

The proposed treatment activities include minimization of unnecessary ground disturbance that could lead to erosion and sedimentation into the nearby waterways. Any tall, heavy vegetation would be felled away from the watercourse so minimal leaf or woody debris is deposited into the aquatic environment, and no damage to the bed, bank, and channel of any stream or river is disturbed.

Because shade trees would largely be preserved, and riparian trees would be avoided by treatments, the vital functions of the riparian corridor to help regulate water temperatures, supply organic matter to soils and channels, and stabilize soils on the streambanks would not be degraded. Impacts to the riparian community would be less than significant. Impacts to special-status species from the proposed treatments within the riparian corridor are discussed above.

4.4.2 CDFW Sensitive Natural Communities

MM BIO-13 is included to ensure avoidance of or to prevent type change for any sensitive natural communities. As part of the preliminary site assessment (PSA) conducted on each eligible parcel, potential habitats for special-status plants with the potential to occur within the treatment area will be identified along with species included in any sensitive natural communities. If potential habitats for sensitive natural communities are identified, surveys of the eligible parcels shall be conducted by a qualified biologist for sensitive natural communities with the potential to occur within the treatment area. Surveys shall comply with survey protocols for plant species listed under the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). If no sensitive natural communities are found, no further measures are necessary. If sensitive natural communities are identified during the botanical surveys, the community will be avoided, if feasible.

The treatment prescription (TP) within upland sensitive natural communities such as green leaf manzanita-pinemat manzanita chaparral may also be modified such that the membership rules of the alliance or association are maintained. For example, if an area at least 1 acre in size with green leaf manzanita (*Arctostaphylos patula),* snowbrush *(Ceanothus velutinus),* and pinemat ceanothus *(Ceanothus prostratus*) existing as co-dominant is identified, a minimum of 60 percent total cover of those dominant species (in roughly equal proportions) will be maintained.

Additionally, MM BIO-1 ensures that no work will be conducted within watercourses, wetlands, wet meadows, or riparian areas. This mitigation measure ensures that sensitive natural communities such as fens, darlingtonia seeps, and the black cottonwood forest and woodland alliance will be avoided by at least a 50-foot buffer.

Therefore, project treatments would not result in the conversion or loss of a sensitive natural community and impacts to sensitive natural communities would be less than significant.

4.5 Critical Habitat

No critical habitat exists within the survey area. Therefore, no project-related impacts to critical habitat will occur.

4.6 Wildlife Corridors and Nursery Sites

A project would have a significant impact if it would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. According to CNDDB, the Dunsmuir PAA is within critical mule deer winter range and parts of the Mt. Shasta and Dunsmuir PAAs are within mule deer fawning

grounds. No other known established wildlife corridors or nursery sites occur within or in the vicinity of the survey area. Project activities will occur in areas with existing human presence and disturbance (adjacent to roadways and residential land uses). Project activities could temporarily deter wildlife movement through the project area. Activities will not occur in any single location for an extended period and opportunities will be available for wildlife to move through adjacent undeveloped areas outside of the active treatment area while treatment activities occur.

The project will include the removal of shrubs, small trees, densely spaced trees, and dead and dying trees within the treatment areas, which could increase dispersal opportunities for wildlife by removing barriers to movement in densely overgrown areas. In general, riparian corridors provide corridors for wildlife dispersal and migration. The project includes buffers around all riparian corridors. Therefore, the project treatments would not result in reduced opportunities for wildlife movement along the riparian corridor.

The purpose of the project is to reduce the potential for wildfire to spread through the community, which also helps to prevent catastrophic wildfires that could degrade wildlife habitat, nursery sites, and dispersal corridors in the forests surrounding the project area. Low-grade and mixed-severity fires can benefit forest ecosystems and the associated wildlife habitat by creating forest edge habitat, opening the canopy to improve understory diversity, and creating snags for nesting/denning and foraging. However, negative impacts on wildlife and their habitat from major wildfires such as those experienced in Siskiyou County and throughout California in recent years are prevalent.

Mule deer

The project site is located within the range of mule deer (*Odocoileus hemionus*). Mule deer inhabit a wide range of habitats. In California, most mule deer herds migrate from the summer range to the winter range. Migration routes can be well over 100 miles in length, functioning as travel corridors and important foraging habitats. During the spring and summer, mule deer select food items available during 'green up' such as herbaceous flowering plants and grasses. During the winter when herbaceous plants die off, mule deer switch to the nutritious buds and leaves of woody vegetation (Sawyer 2011).

Summer range is typically high elevation and utilized for its nutritious green forage and fawning areas. These high-elevation areas are covered in snow during the winter, so before deep snow, deer migrate to lower elevations. Winter ranges are generally at lower elevations and are far less abundant than summer ranges, making them vulnerable to human impacts and often a limiting factor in populations. Deer from different summer ranges may share a common winter range where breeding typically occurs. This mixing of genes in winter ranges contributes to genetically diverse and healthy populations. As knowledge of mule deer migration patterns has increased over many decades, the use of more refined terms such as Critical Winter Range, Key Winter Range, Critical Summer Range, holding area, fawning area, and migration corridor have been defined to describe the landscape for deer.

Critical Winter Range can include corridors essential for movement, staging areas where deer temporarily congregate, habitats containing high-quality winter forage, or other elements important to the survival of deer in winter. Critical Winter Range (CNDDB 2024) for mule deer occurs within the Dunsmuir PAA, as depicted on Figure 11. Impacts to migration would be less than significant due to the short-term duration of the proposed treatment within each parcel.

Additionally, portions of both the Mt. Shasta and Dunsmuir PAAs overlap with known fawning grounds. Fawning areas are often linked to meadow complexes or riparian communities where adequate cover can hide newborn fawns and herbaceous forage can replenish the nutritional demands of lactation (CNDDB 2006).

Direct impacts that could occur to mule deer from the proposed project include injury or mortality of an animal. This can occur due to vehicle collisions or direct contact with falling trees. Project activities will have no direct impacts to adult mule deer because they would likely avoid areas with human presence.

The proposed treatment of dense shrubs and trees within the Critical Winter Range would increase sunlight availability which will increase production of forage such as understory grasses and herbaceous growth that create sources of forage for mule deer. Impacts to Critical Winter Range would be less than significant.

In general, heavy equipment use could significantly disturb mule deer fawns. Fawning grounds are present south and west of Howard within both PAAs. MM BIO-1 ensures no work will occur within meadow complexes or riparian communities which are most commonly used for cover and foraging for newborns and their mothers (CNDDB 2006). Project activities are not likely to significantly impede or reduce fawning opportunities.

Bat maternity roosts
In general, bats may utilize crevices inside of trees for maternity roosts (generally, from March 1 to August 31) and/or winter hibernacula (from November 1 to March 1). Ecological requirements for bat roosts, including maternity roosts, require an appropriate thermal gradient, shelter from predators, and proximity to foraging sites. Trees can provide this habitat inside of large crevices caused by natural limb damage or created by other wildlife. MM BIO-9 and MM BIO-10 ensure trees that exhibit features that are likely to provide bat maternity roost habitat will be avoided if treatments occur during the bat maternity season so that direct impacts to bats and their non-volant young would be avoided.

4.7 Wetlands/Waters of the State

MM BIO-1 ensures that no work will be conducted within watercourses, wetlands, wet meadows, or riparian areas. These areas will be demarcated before treatment and avoided during project activities. The project design includes the following stream and wetland buffers:

- Ephemeral/Intermittent Streams – 50 feet
- Perennial Streams, rivers, wetlands, ponds, lakes – 75 feet

With the implementation of MM BIO-1, no impacts to wetlands will occur.

4.8 Compliance with Habitat and Natural Community Conservation Plans

The project area does not occur within the boundaries of any existing Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs). No impact.

4.9 Compliance with Local Policies and Ordinances

4.9.1 City of Mt. Shasta

The City of Mt. Shasta Tree Ordinance applies to "street trees", which are defined as being located within public rights-of-way, or City-owned areas. The proposed treatments would occur entirely on private property. The project would not impact "street trees" and therefore the ordinance does not apply to the project. No impact.

4.9.2 City of Dunsmuir

The City of Dunsmuir's General Plan Open Space Element contains Goals OC-1 through OC-3. The project impacts pertaining to Goal OC-1 are discussed in Section X- Aesthetics. The project will have no impact on recreation sites or city parks and will therefore comply with Goal OC-2. The project design includes stream and wetland buffers which will prevent impacts to aquatic resources which would avoid impacts to the quality and quantity of the municipal water supply, as well as sustain fishing, recreation, and scenic benefits related to water resources. No impact.

4.9.3 Siskiyou County General Plan

Siskiyou County does not have a tree preservation policy or ordinance.

The Conservation Element of the Siskiyou County General Plan states the objective to "preserve and maintain streams, lakes, and forest open space as a means of providing natural habitat for species of wildlife. The Plan recommends to:

1) Maintain all species of fish and wildlife for their intrinsic and ecological values as well as their direct benefit to people;
2) Provide for diversified recreational use of fish and wildlife;
3) Provide for an economic contribution of fish and wildlife in the best interest of the present and future populations;
4) Provide for scientific and educational use of fish and wildlife;
5) When planning an alteration to the present environment or habitat, consideration should be given to the effects on fish and wildlife;
6) Present land uses which result in siltation or pollution of inland waters should be carefully monitored;
7) Outstanding wildlife habitats and sites that have unusually high value for fish and wildlife should be carefully considered before any development altering this environment is permitted;
8) Encourage development and enhancement of wildlife habitat through careful use of methods;
9) Recognize and encourage the various appropriate and non-appropriate uses of wildlife;
10) Retain and develop access to public areas through riding and hiking trails.

The project will not lead to a loss of diversity, nor does it introduce or encourage inappropriate use of wildlife or their habitat. Considerations given to the potential impacts to fish, wildlife, and their habitat is avoided and mitigated through an environmental review of the project which avoids or minimizes impacts to wildlife, specifically state and federally listed species. The project treatments will not remove or degrade any streams or lakes. Treatments will not occur within parcels that are zoned as "open space" so no impact to forested open space will occur. Therefore, the project will comply with the Siskiyou County General Plan.

5.0 RECOMMENDED MITIGATION MEASURES

The following mitigation measures will be required prior to and during project implementation. Mitigation measures are included to avoid the take of endangered, rare, or threatened plant or animal species and to minimize impacts to other special-status species and sensitive habitats with potential to occur within the project area. A Limited Operating Period (LOP) means that activities are restricted within the stated time period. Recommended LOPs are summarized in Table 6.

Table 6
RECOMMENDED LIMITED OPERATING PERIODS

Mitigation Measure	Species	LOP Time Period	Location Where LOP may be Needed
MM BIO-4	Nesting birds and raptors	February 1 – August 31	Wherever nesting habitat is present
MM BIO-5	Northern spotted owl	February 1 – August 15	Within Montane-Hardwood Conifer, Montane Hardwood, Sierran Mixed Conifer, and Riparian habitats
MM BIO-8	Bats	November 1 – August 31	Wherever roosting habitat is present
MM BIO-11 (smoke only)	Bumblebee	October 1 – March 1	Meadow and Annual Grassland habitats
MM BIO-11 (vegetation removal & herbicide application)	Bumblebee	March 1 – October 1	Meadow and Annual Grassland habitats
MM BIO-12	Monarch butterfly	May 1 - October 31	Wherever milkweed is present

Mitigation Measure BIO-1: Riparian and Wetland Identification and Exclusion (All PAAs)
During the preliminary site assessment of each eligible parcel, eligible parcels will be surveyed for aquatic resources. The treatment prescription (TP) will exclude activities within 75 feet of perennial streams and wetlands (including vernal pools) as well as a 50-feet from ephemeral and intermittent streams. The exclusion area will be marked with flagging. Biomass removal, herbicide application, equipment staging, operation of mechanical equipment, and onsite disposal of removed biomass shall not occur within the marked buffers.

Mitigation Measure BIO-2: Pre-Treatment Botanical Surveys (All PAAs)
During the preliminary site assessment, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for special-status plants. If habitat types for special-status plants are identified, protocol-level surveys of the parcels shall be conducted by a qualified biologist. Surveys shall comply with survey protocols for plant species listed under the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). If no special-status plants are found, no further measures pertaining to special-status plants are necessary. If special-status plant species are identified during the botanical surveys, treatment will exclude activities within 15 feet of the individual and exclusionary fencing or high-visibility flagging will be placed around the plants prior to operations on the parcel to demarcate the avoidance area.

Mitigation Measure BIO-3: Surveys for Western Pond Turtle (All PAAs)
During the Preliminary Site Assessment of each eligible parcel, work areas within 150 feet of flowing watercourses will be evaluated to determine if suitable nesting habitat for WPT is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland habitat is identified, no more than two days prior to the start of ground-disturbing activities that occur during WPT nesting season (May 1 – August 1), focused surveys for turtle nests will be completed by a qualified biologist. If a WPT of their nest is found, CDFW will be notified. If an adult individual is observed within the survey area, then the animal shall be avoided until it is no longer in harm's way, or it may be relocated by a qualified biologist if an area offsite that has appropriate habitat for the species is available. If relocating, the animal should be moved to a nearby area with habitat similar to the environment in which it was found.

If a nest, eggs, hatchlings, or an aestivating adult are observed within the survey area, then an avoidance buffer of 50 to 100 feet shall be applied to heavy equipment access, ground-disturbing activities, and herbicide application until the nest is no longer active. The qualified biologist shall consider the topography and vegetation onsite, as well as the treatments proposed onsite and the potential for disturbance when determining the buffer distance. Additionally, to avoid impacts to hatchlings' dispersal from the nest site, no woody debris or other barrier shall be placed between the nest site and the nearest body of water.

Mitigation Measure BIO-4: Raptors, Migratory Birds, and Special-Status Birds (All PAAs)
Vegetation removal shall occur outside of avian nesting season (February 1 through August 31) to the greatest extent feasible to avoid impacts to nesting birds. If vegetation or other avian nesting habitat must be disturbed during the nesting season, then a qualified biologist shall conduct preconstruction surveys within the project area and surrounding 150 feet (wherever access is feasible) no more than seven days prior to the start of activities. If an active nest is found, a non-disturbance buffer shall be established around the nesting site, with the buffer distance to be determined by the biologist based on the bird species and the nest and site conditions. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume. If an active nest is found at any time during implementation, the Qualified Biologist or CDFW shall be notified, and an appropriate buffer shall be implemented. The buffer shall remain in place until the nest is determined to be no longer active by the biologist. If an active raptor, osprey, or bald eagle nest is observed onsite at any time, then the appropriate buffer (250-500 feet for raptors, 300 feet for osprey, and up to 0.5 miles for bald eagle) shall be established, with the buffer distance to be determined by the biologist or CDFW based on the bird species and the nest and site conditions. If a non-active osprey, bald eagle, or goshawk nest is observed (i.e., any large stick nest), the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by these species.

Mitigation Measure BIO-5: NSO NRF Habitat Determination (All PAAs)
Areas with suitable NRF habitat, within each eligible parcel, shall be classified to the appropriate functional habitat type according to the minimum structural parameters listed in Table 5 (over a scale of 20 acres) using existing NSO habitat data sets or during Preliminary Site Assessments.

Mitigation Measure BIO-6: NSO Surveys and Limited Operating Periods (All PAAs)
If NSO surveys have not been completed or obtained, and surveys are planned, conduct them according to the 2012 NSO Survey Protocol. Seasonal restrictions described below for 'Surveyed Landscape' shall be followed. If surveys are not planned or feasible, assume occupancy based on the presence of suitable NRF habitat; adhere *to* the guidance and seasonal restrictions described below for operating in an 'Un-surveyed Landscape'.

- As an option to the full 6-visit protocol surveys described in the 2012 NSO Survey Protocol, three surveys can be conducted in the year of action implementation. If no NSOs are detected within 0.25 mile of the proposed activities, activities may proceed that year without seasonal restrictions.

Surveyed Landscape. If surveys are completed or are current for the Action Area (based on surveys conducted by the applicant/project proponent, or other data provided from other landowners or agencies):

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile (or 1,320 feet) of a nest site between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle back-up alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.

- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 miles (or 1,320 feet) of a nest site between February l and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise levels described above are not exceeded during the critical breeding period of February 1-July 9.

Un-surveyed Landscape. If surveys have not been completed and cannot be done, assume occupancy in the Action Area/portion of it based on the presence of suitable NRF habitat.

- Do not conduct activities that result in loud and continuous noise above ambient levels within 0.25 mile (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and July 9.
    - This includes activities that generate sound levels 20 or more decibels above ambient sound levels or activities that generate maximum sound levels above 90 decibels, excluding vehicle back-up alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.

- Do not conduct any suitable habitat modification or smoke-generating activities within 0.25 mile (or 1,320 feet) of un-surveyed suitable NRF habitat between February 1 and September 15.
    - Suitable habitat includes NSO NRF habitat. Modification includes cutting and removal of large trees, down logs or snags. Tree or limb trimming or pruning, brush trimming or removal, and hazard tree felling may occur as long as the noise

levels described above are not exceeded during the critical breeding period of February 1-July 9.

Mitigation Measure BIO-7: NSO NRF Habitat Treatment (All PAAs)

- Within all suitable NRF habitat:
  - Avoid removing or damaging known nest trees and associated screen trees unless they are a confirmed safety hazard per the guidance documents from the implementing agency or another agency with jurisdiction in the Action Area.
  - Avoid removing or damaging trees or snags with potential nesting platforms and associated screen trees. These include trees with large, flattened tops, large broken-topped trees, trees with decadence such as large cavities, mistletoe broom structures, cat faces, or large limbs; or large snags with these similar characteristics).
  - Avoid removing large (20" diameter at breast height or larger) snags, unless they are a confirmed safety hazard per the implementing agency's guidance documents.
  - Equipment must be in good working order with standard noise abatement devices attached if applicable.

- Within Nesting/Roosting Habitat:
  - Treatments/activities that reduce suitable habitat elements to the degree that the habitat does not function in the capacity that existed pre-treatment are considered a 'downgrade' effect (e.g., downgrade from nesting/roosting to foraging); but the treatment/activity does not remove suitable habitat function entirely. Removal of habitat function occurs when treatment activities reduce habitat elements to the degree that the habitat no longer functions as suitable habitat. Project activities will not downgrade or remove the function of suitable nesting/roosting habitat as defined by the parameters in Table 5.
    - While habitat elements may be removed, such as individual large trees or snags if they are a confirmed safety hazard, from nesting/roosting habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat.
    - If the proposed project will remove or downgrade nesting/roosting habitat function, ESA consultation is warranted.

- Within suitable foraging habitat in NSO cores (0.5-mile radius, or 500-acre area, around an Activity Center) and within suitable foraging habitat in NSO home ranges (1.3-mile radius, including core, or 3,398-acre area around an Activity Center):
  - Avoid downgrading or removing suitable foraging habitat function as defined by parameters in Table 5.
  - While habitat elements may be removed, such as individual trees, shrubs, down logs and snags, from foraging habitat, the treatment must not be so extensive as to downgrade or remove the overall function of the habitat in an NSO core or home range below the recommended habitat levels for supporting survival, reproduction and occupancy (USDI-FWS 2009). This level is a combination of 400 acres of suitable NRF habitat in the core. For the home range, the level is 40 percent suitable NRF (approximately 1,336 acres).

- If the proposed project will remove or downgrade suitable foraging habitat function in a core and home range to below the recommended levels, ESA consultation is warranted.

Mitigation Measure BIO-8: Mammal Den Surveys (All PAAs)
During the Preliminary Site Assessment of each eligible parcel, the project area will be evaluated for suitable mammal den habitat. If potential den habitat for ringtail (*Bassariscus astutus*), fisher (*Pekania pennaniti*), gray wolf (*Canis lupis*), Oregon snowshoe hare (*Lepus americanus klamathensis*), wolverine (*Gulo gulo luscus*) is identified, pretreatment surveys shall be completed within three days prior to ground disturbing activities to determine if any terrestrial mammal den structures are present within the work area. If potential dens are located within the work area and cannot be avoided during project activities, a qualified biologist will determine if the dens are occupied. If occupied dens are present within the work area, their disturbance and destruction will be avoided by stopping operations until an appropriate buffer approved by CDFW or USFWS.

Mitigation Measure BIO-9: Bat Roost Humane Exclusion (All PAAs)
During the Preliminary Site Assessment of eligible parcels, trees with maternity roost structures (i.e. cavities in the trunk or branches, woodpecker holes, loose bark, cracks) will be identified. If no trees with maternity roost structures are identified, no further measures are necessary. If removal of trees identified to have bat roost structure occurs from September 1 to October 30, no measures for special-status bats are required.

If removal of trees identified to have bat roost structure potential will occur during the bat maternity season, when young are non-volant (March 1- August 31), or during the bat hibernacula (November 1-March 1), when bats have limited ability to safely relocate roosts, humane exclusions should be implemented which consist of a two-day removal process by which the non-habitat trees and brush are removed along with smaller tree limbs on the first day, and the remainder of the tree limbs and the tree trunk on the second day.

Mitigation Measure BIO-10: Bat Roost Habitat Avoidance (All PAAs)
During the Preliminary Site Assessment of each eligible parcel the presence of caves or bridges within the treatment area will be noted. If no caves or bridges are located within the project area, no further measures are necessary. If present within 50 feet of project activities, caves and bridges in the project area will be assessed during the Preliminary Site Assessment for potential bat roost structures (crevice roosts tend to be approximately 3/4 to 1 1/2 inches across and at least 18 inches deep. In most cases, they run from one side of the bridge to the other, and between three and several hundred meters above ground). If found, a qualified biologist will assess the structure for signs of bat presence (i.e., guano, insect pieces, etc.). If no roost is present, then no buffer is needed. If a roost is present, then a 50-foot non-disturbance buffer shall be implemented around the roost structure to prevent changes to the thermal stability and protective cover surrounding the roost structure that could result from tree removal.

Mitigation Measure BIO-11: Bumble Bee Avoidance (All PAAs)
If feasible, all ground-based mechanical equipment will be excluded from meadows or annual grasslands. If ground-based mechanical equipment must use annual grassland for access to a treatment area, a dedicated access route will be established, to minimized disturbance. If suitable habitat for special-status bumble bees is identified, outside of the non-disturbance wetland buffers implemented for MM BIO-1, during the preliminary site assessments (e.g., forest meadow or

grassland habitat containing sufficient floral resources), then the following measures will be implemented, as feasible:

- Prescribed burning within suitable habitat for special-status bumble bees will occur from October 1st through March 1st, to avoid the bumble bee flight season.
- 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).
- Removal or herbicide treatment of flowering native plants within occupied or suitable habitat will not occur during the flight season (March 1st through October 1st), to the extent feasible.

Mitigation Measure BIO-12: Monarch Avoidance (All PAAs)
During the Preliminary Site Assessment of each eligible parcel the presence of native milkweed (*Asclepias spp.*) will be determined. If milkweed is identified onsite, and treatments occur between May 1 - October 31, then a qualified biologist will inspect the plant for monarchs and their eggs or caterpillars. If monarch eggs or caterpillars are present, the plant will be avoided by implementing a 25-foot buffer. If no monarch eggs or caterpillars are present, treatment may proceed. Herbicide treatment or removal of native milkweed (*Asclepias spp.*) will be avoided if feasible.

Mitigation Measure BIO-13: Sensitive Natural Communities Surveys (All PAAs)
During the preliminary site assessment, each eligible parcel will be evaluated for the presence and condition of habitat types appropriate for regionally occurring sensitive natural communities. If appropriate habitat types for sensitive natural communities are identified, measures found in the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) will be implemented by a qualified biologist or RPF during treatment. If no sensitive natural communities are found, no further measures pertaining sensitive natural communities are necessary. If sensitive natural communities are identified during the surveys, treatment will exclude activities within the sensitive natural communities and exclusionary fencing, or high-visibility flagging will be placed to demarcate the avoidance area. If avoidance is not feasible, the treatment prescription within upland sensitive natural communities will be modified such that the CNPS membership rules of the alliance or association are maintained at the appropriate spatial scale.

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Figures

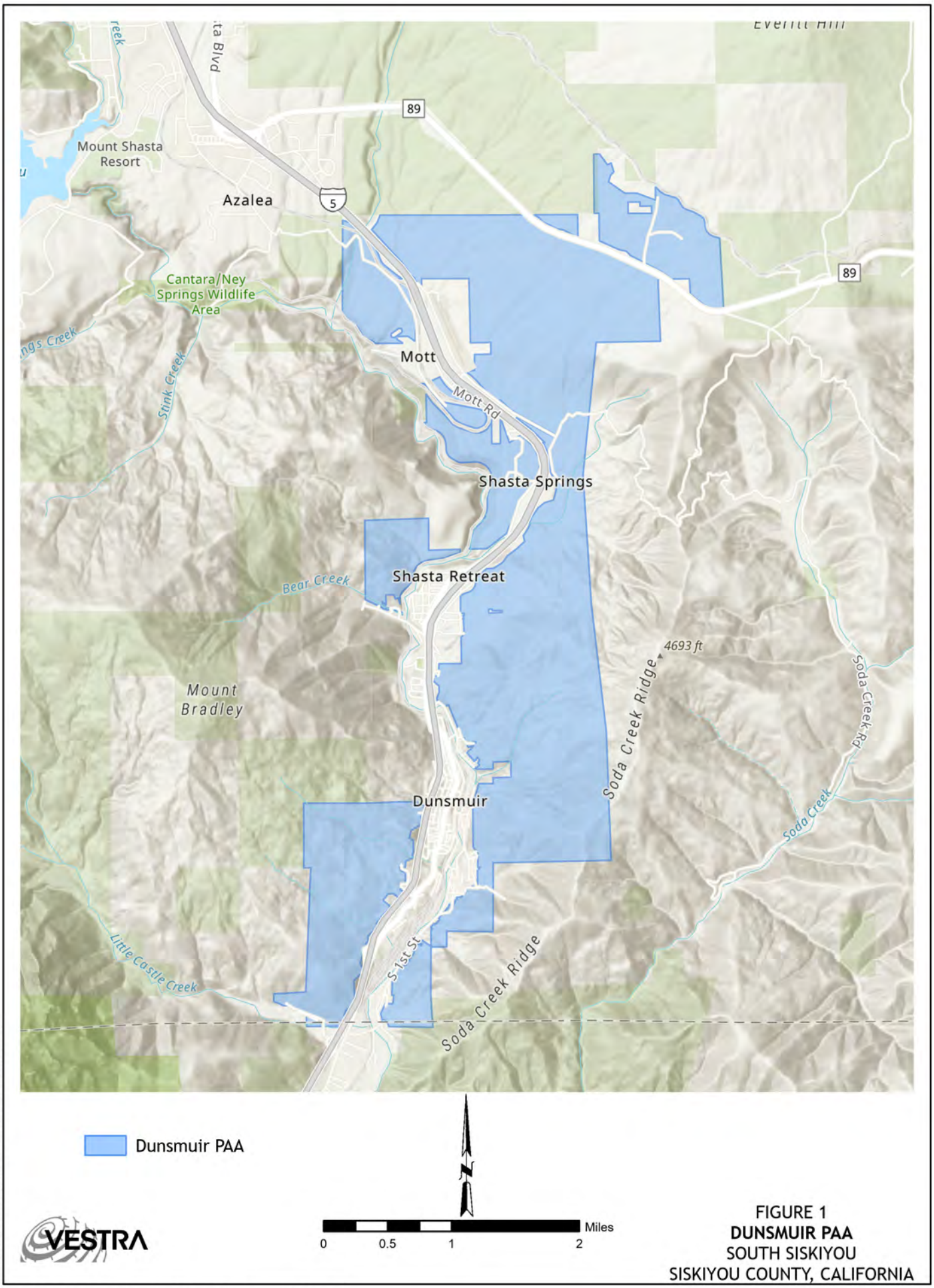

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FIGURE 1
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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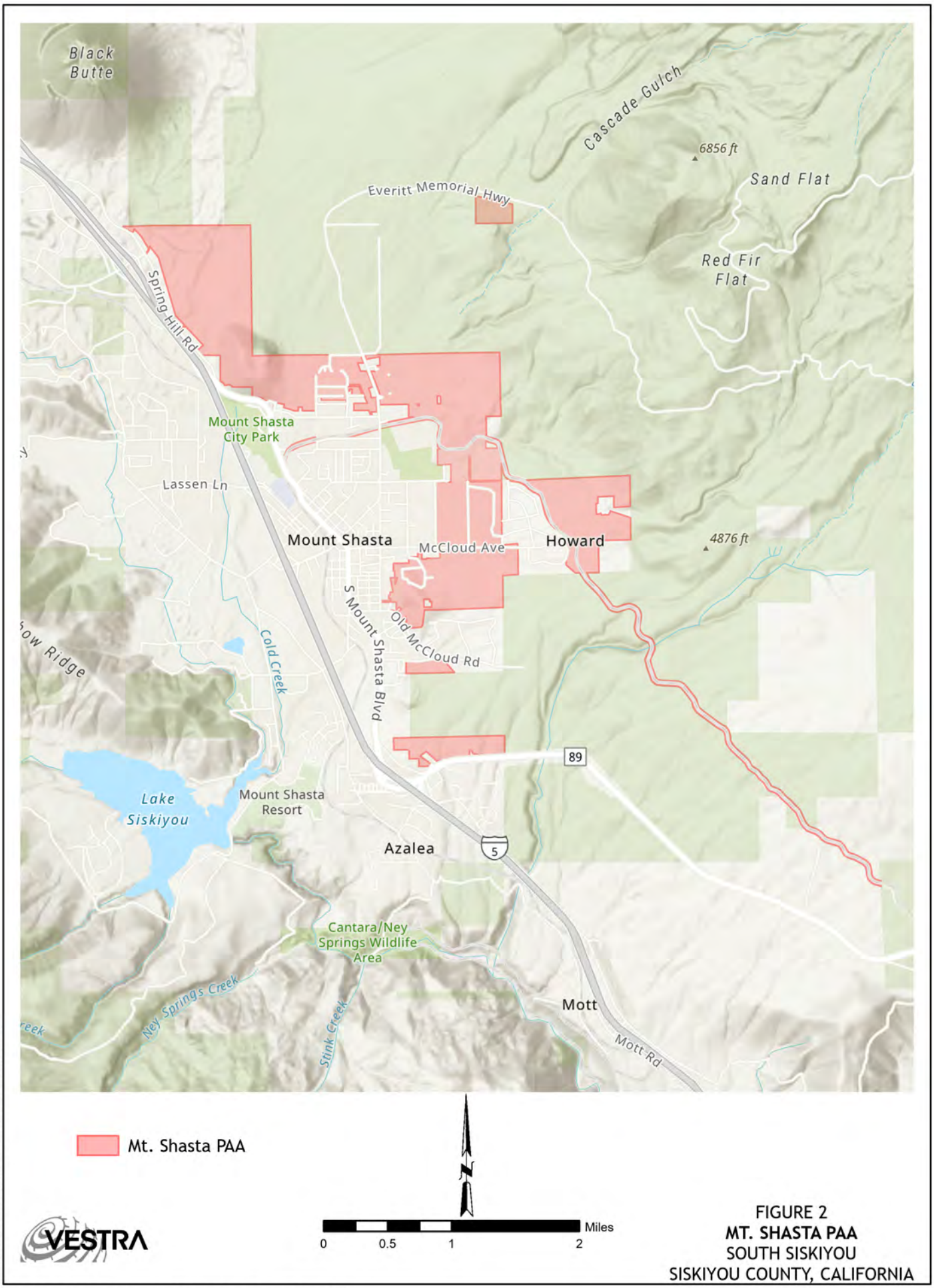

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FIGURE 2
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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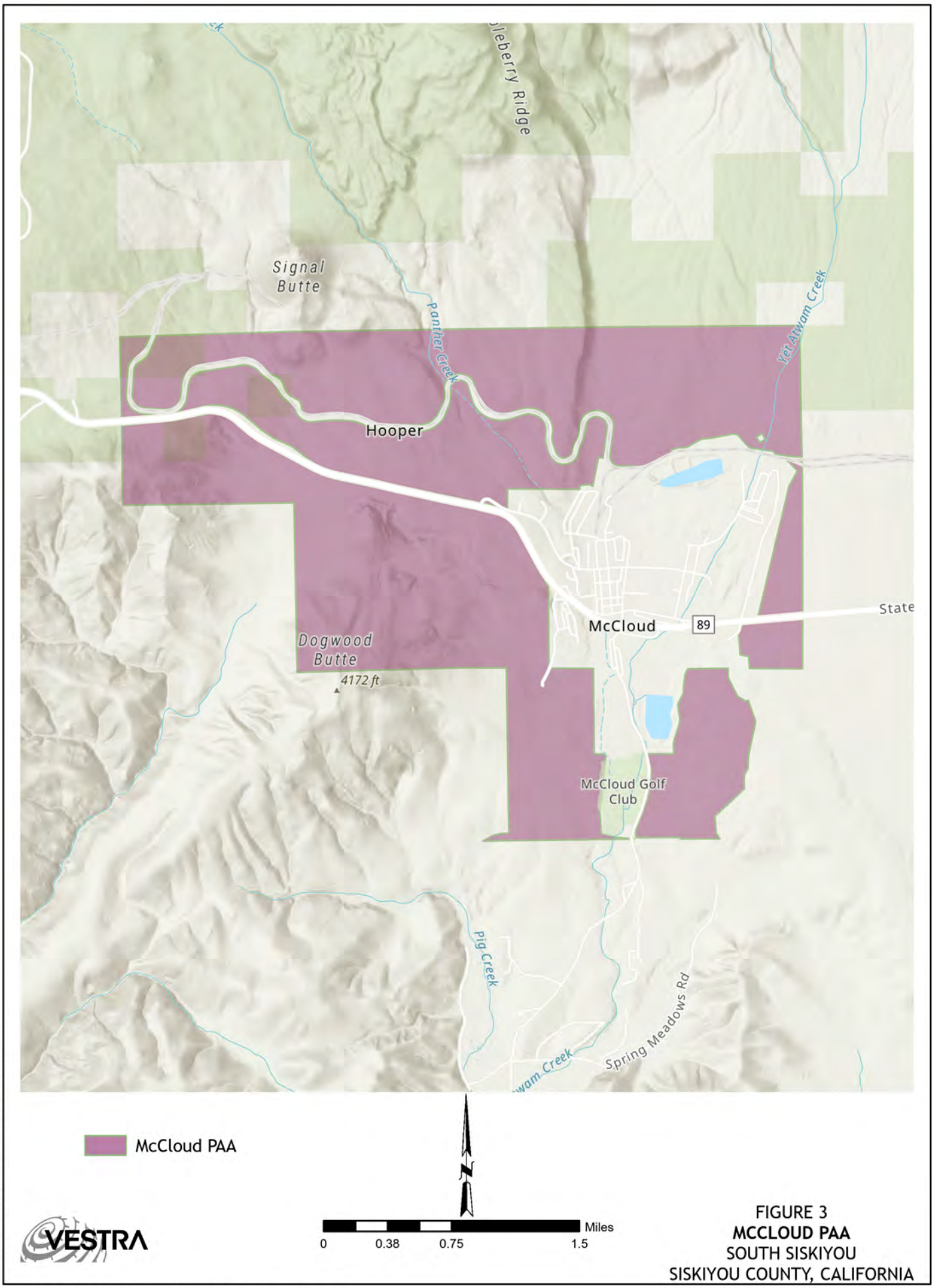

FIGURE 3
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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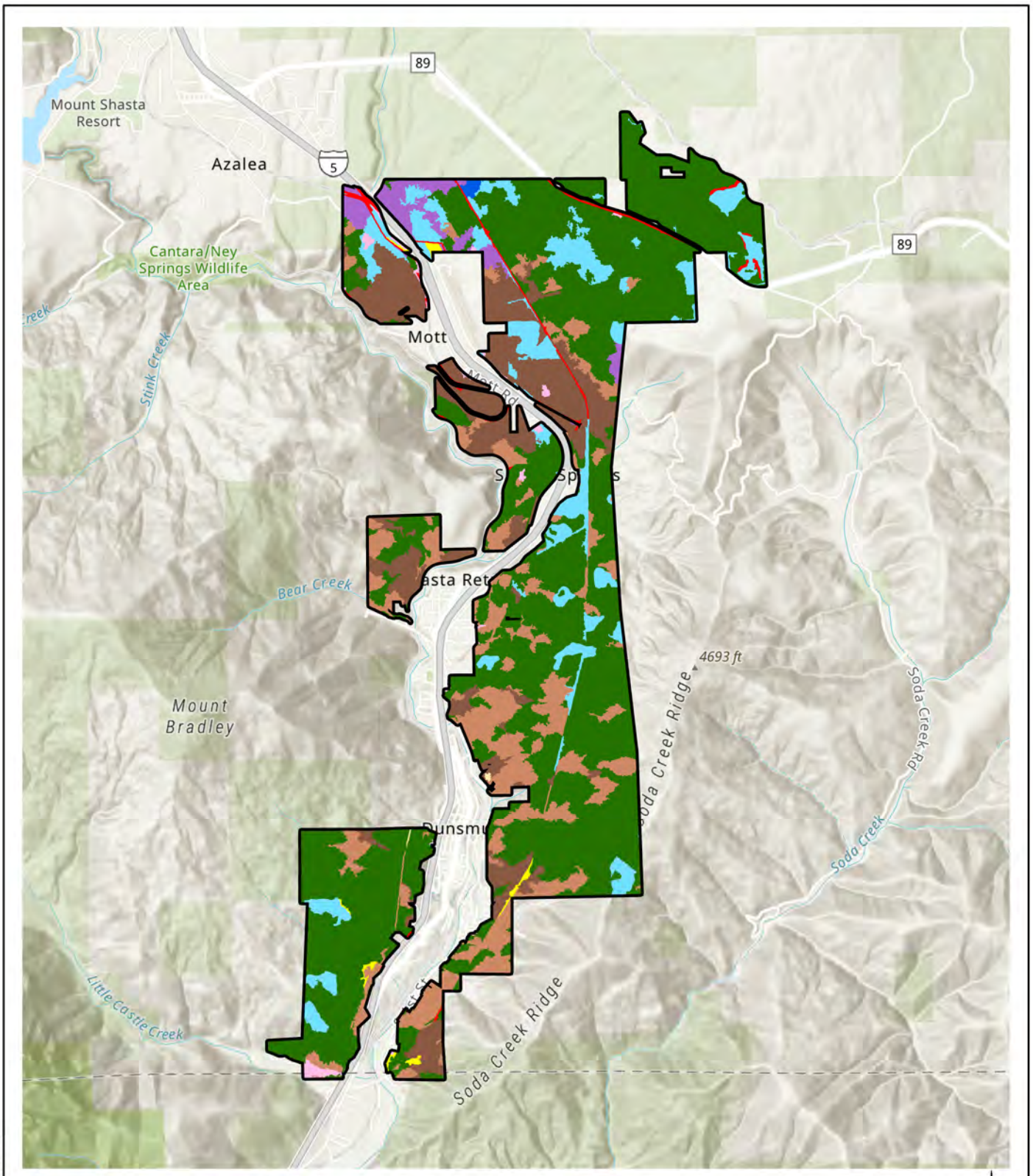

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SOURCE: USFS CALVEG 2021

FIGURE 4
HABITAT TYPES
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SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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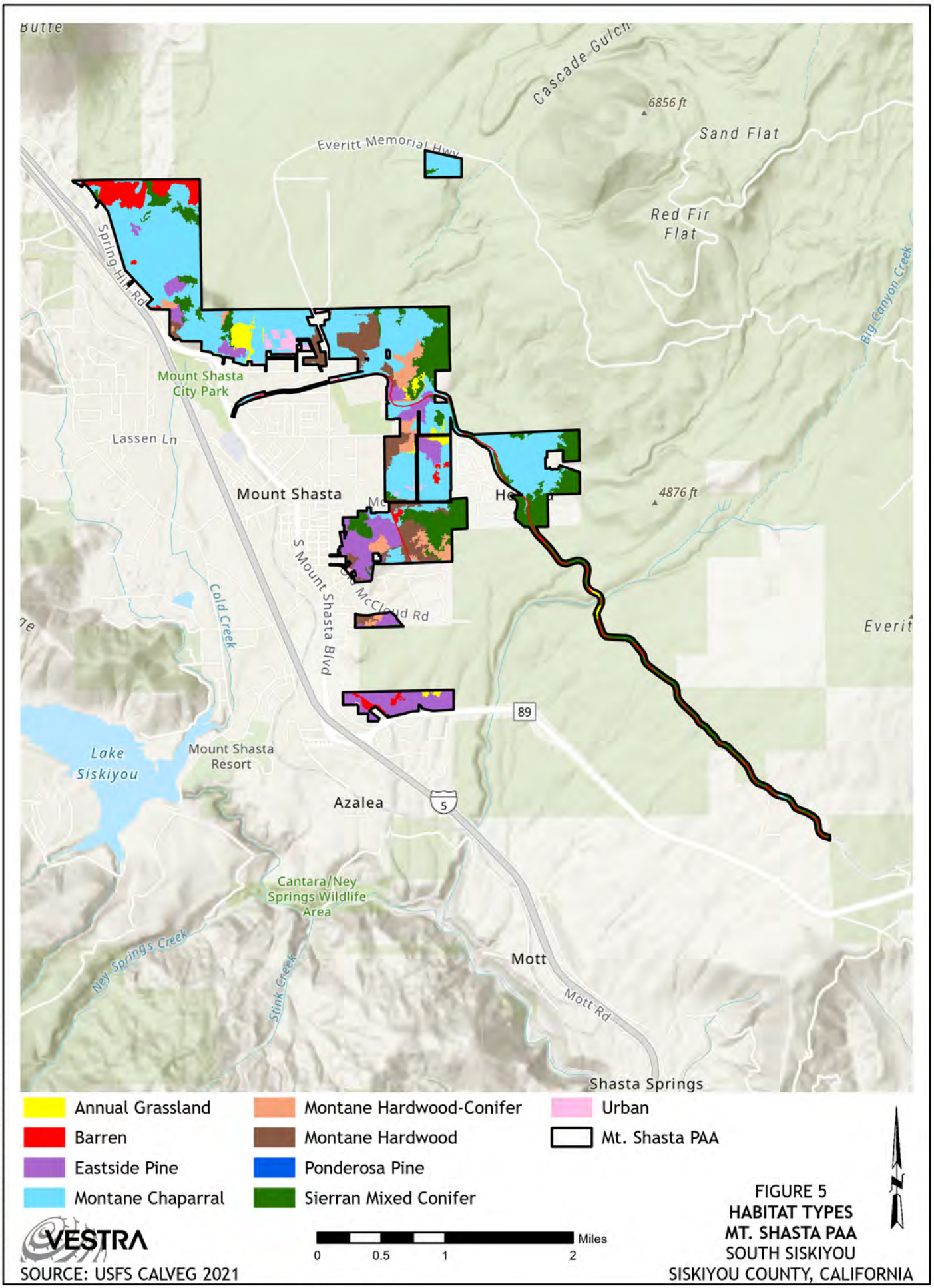

FIGURE 5
HABITAT TYPES
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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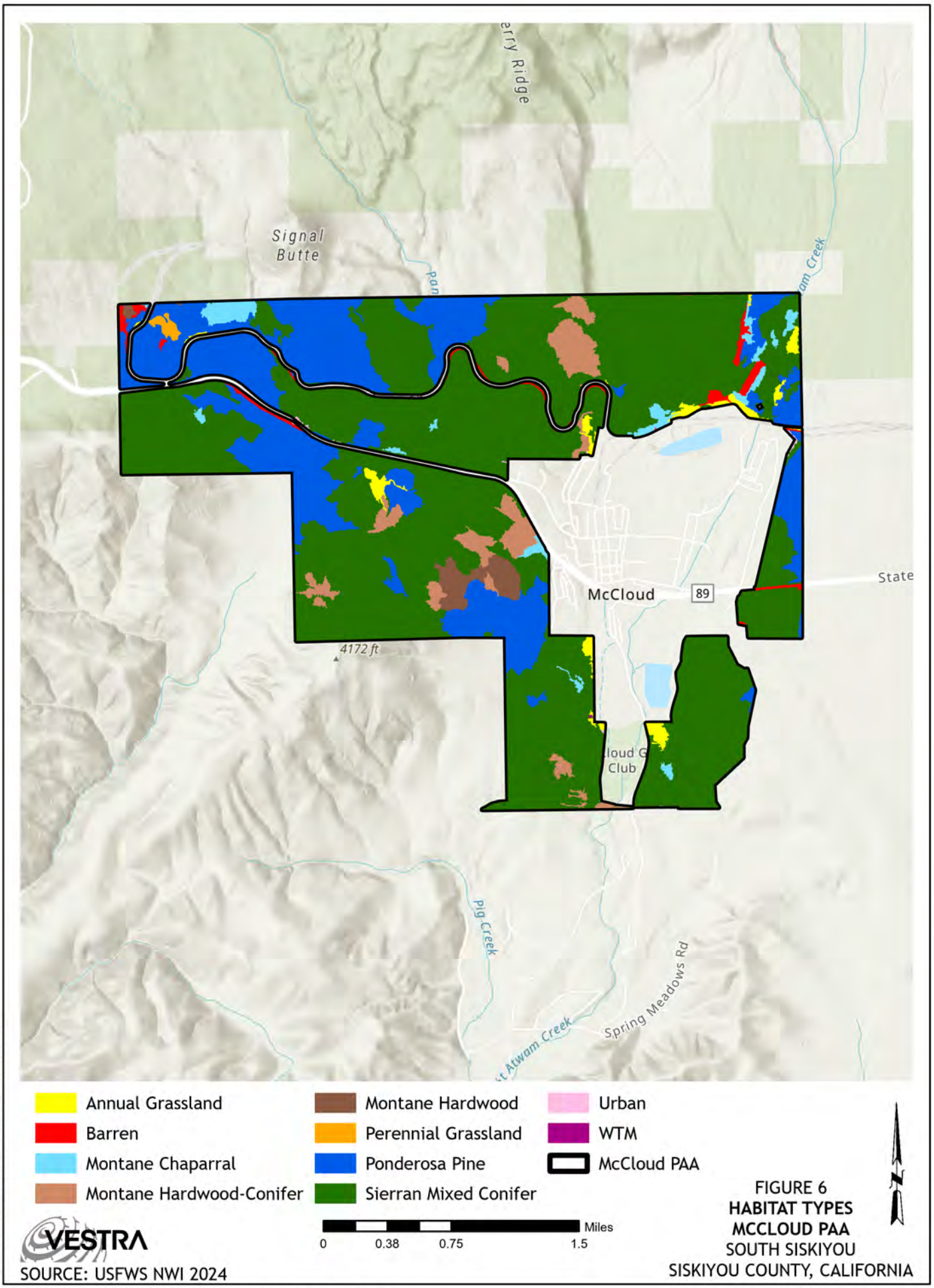

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SOURCE: USFWS NWI 2024

FIGURE 6
HABITAT TYPES
MCCLOUD PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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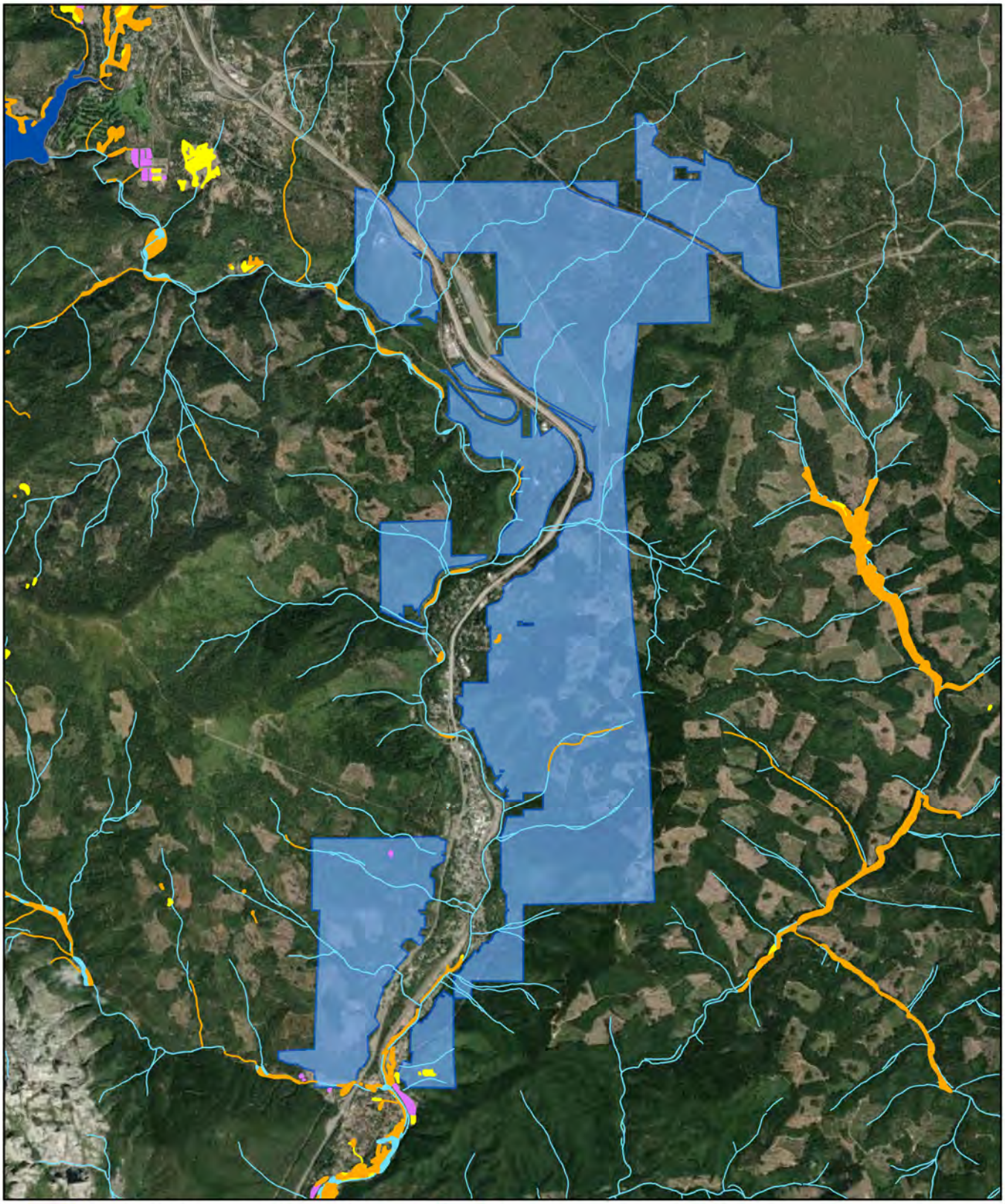

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SOURCE: USFWS NWI 2024

FIGURE 7
NATIONAL WETLANDS INVENTORY
DUNSMUIR PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

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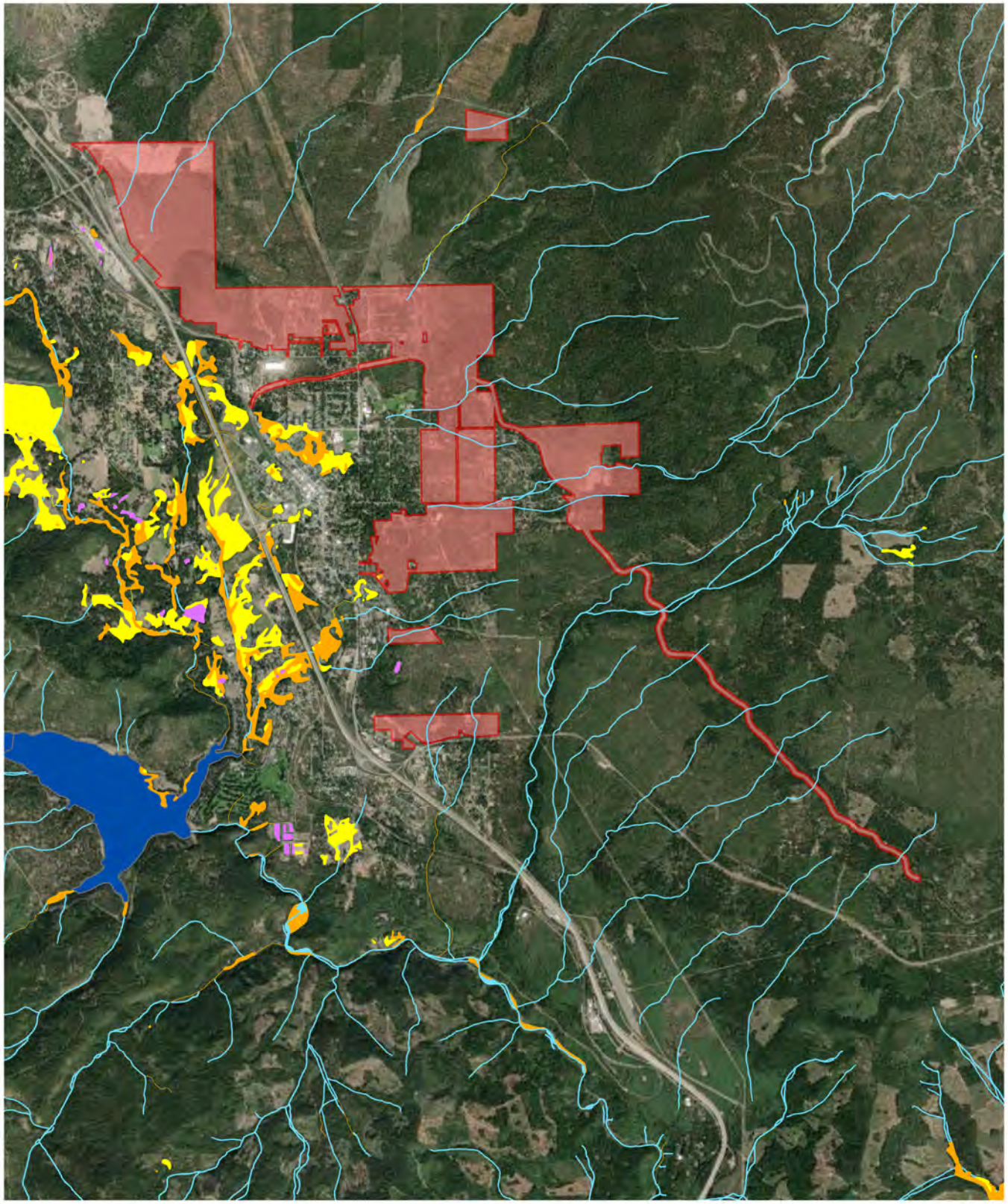


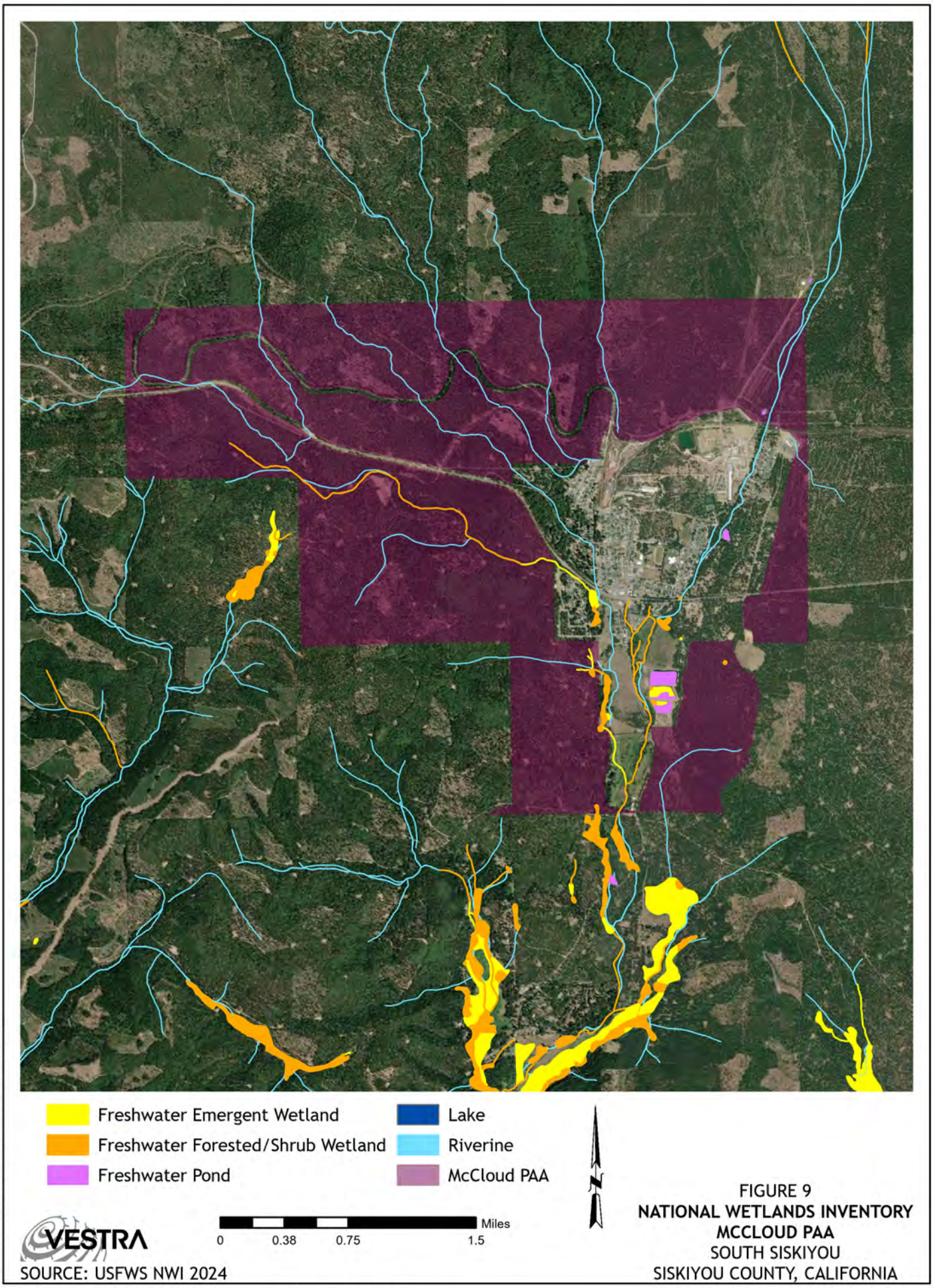
VESTRA

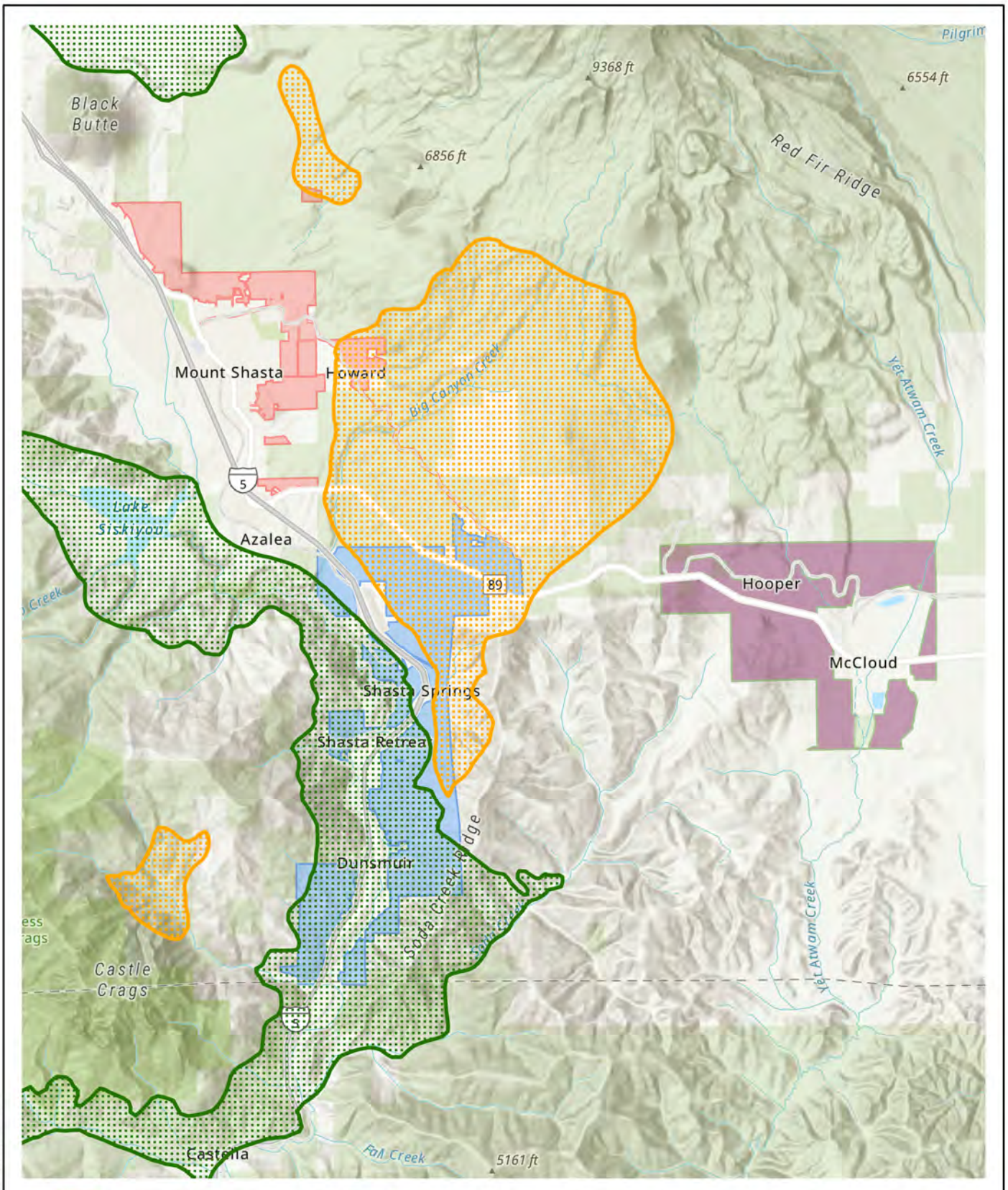
SOURCE: USFWS NWI 2024

FIGURE 8
NATIONAL WETLANDS INVENTORY
MT. SHASTA PAA
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

P:\GIS\72458\ProProjects\JDW\BioReport\BioReport.aprx

P:\GIS\72458\Figures\CEQA\72458_MtShastaPAA_Wetlands.pdf





VESTRA

SOURCE: CDFW BIOS 2024

FIGURE 10
MULE DEER RANGE
DUNSMUIR, MCCLOUD,
AND MT. SHASTA PAAs
SOUTH SISKIYOU
SISKIYOU COUNTY, CALIFORNIA

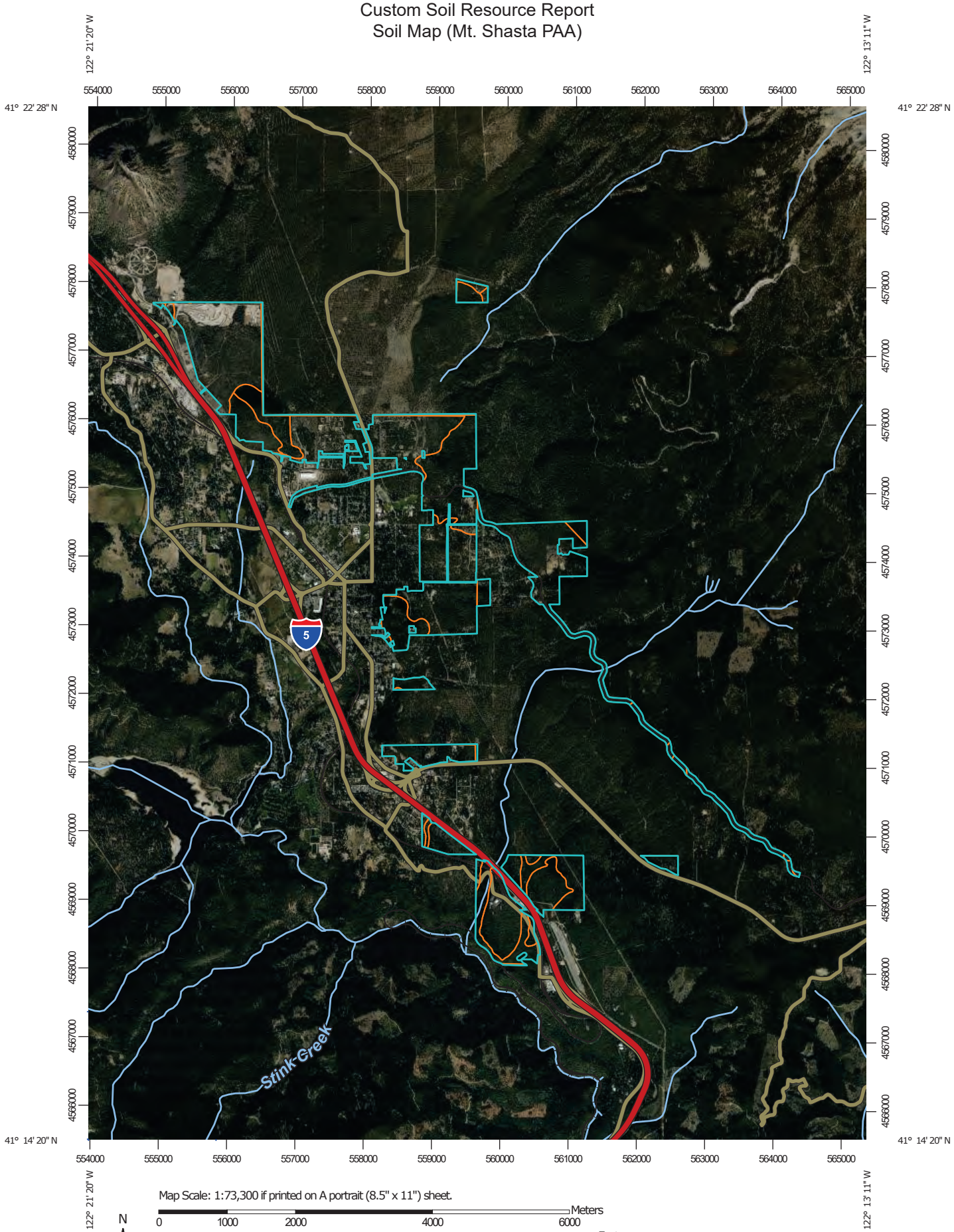
P:\GIS\72458\ProProjects\JDW\BioReport\BioReport.aprx

P:\GIS\72458\Figures\CEQA\72458_MuleDeerRange.pdf

Appendix A

NRCS Soil Reports

Custom Soil Resource Report
Soil Map (Mt. Shasta PAA)



Map Scale: 1:73,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 1000 2000 4000 6000

Feet
0 3500 7000 14000 21000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Intermountain Area, Parts of Lassen, Modoc, Shasta, and Siskiyou Counties, California
Survey Area Data: Version 19, Aug 28, 2024

Soil Survey Area: Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California
Survey Area Data: Version 15, Aug 28, 2024

Soil Survey Area: Siskiyou County, California, Central Part
Survey Area Data: Version 17, Aug 28, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

MAP LEGEND

MAP INFORMATION

Date(s) aerial images were photographed: Oct 12, 2022—Oct 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Mt. Shasta PAA)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
259	Neer-Ponto complex, 2 to 30 percent slopes	34.2	1.3%
309	Shasta loamy sand, 0 to 5 percent slopes	3.0	0.1%
Subtotals for Soil Survey Area		**37.1**	**1.5%**
Totals for Area of Interest		**2,544.1**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102sc	Asta gravelly sandy loam, 15 to 50 percent slopes	1.8	0.1%
125sc	Deetz gravelly loamy sand, 0 to 5 percent slopes	7.4	0.3%
126sc	Deetz gravelly loamy sand, 5 to 15 percent slopes	5.6	0.2%
196sc	Neer-Ponto stony sandy loams, 15 to 50 percent slopes	19.9	0.8%
197sc	Neer-Ponto complex, 15 to 50 percent slopes	0.7	0.0%
209sc	Ponto-Neer complex, 2 to 15 percent slopes	282.1	11.1%
279	Sadie family, deep, 0 to 35 percent slopes.	4.1	0.2%
331	Washougal family, 20 to 40 percent slopes.	7.6	0.3%
332	Washougal family, 40 to 80 percent slopes.	14.4	0.6%
333	Washougal-Germany, deep families complex, 20 to 40 percent slopes.	3.3	0.1%
335	Washougal family-Rock outcrop association, 40 to 60 percent slopes.	21.6	0.8%
Subtotals for Soil Survey Area		**368.6**	**14.5%**
Totals for Area of Interest		**2,544.1**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Asta gravelly sandy loam, 15 to 50 percent slopes	148.5	5.8%
125	Deetz gravelly loamy sand, 0 to 5 percent slopes	366.1	14.4%
126	Deetz gravelly loamy sand, 5 to 15 percent slopes	359.8	14.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
127	Deetz stony loamy sand, 2 to 15 percent slopes	2.2	0.1%
128	Deetz stony loamy sand, 15 to 30 percent slopes	5.1	0.2%
138	Diyou loam, peat substratum	0.1	0.0%
196	Neer-Ponto stony sandy loams, 15 to 50 percent slopes complex	273.9	10.8%
197	Neer-Ponto complex, 15 to 50 percent slopes	235.5	9.3%
208	Ponto sandy loam, 5 to 15 percent slopes	0.6	0.0%
209	Ponto-Neer complex, 2 to 15 percent slopes	746.4	29.3%
Subtotals for Soil Survey Area		**2,138.3**	**84.1%**
Totals for Area of Interest		**2,544.1**	**100.0%**

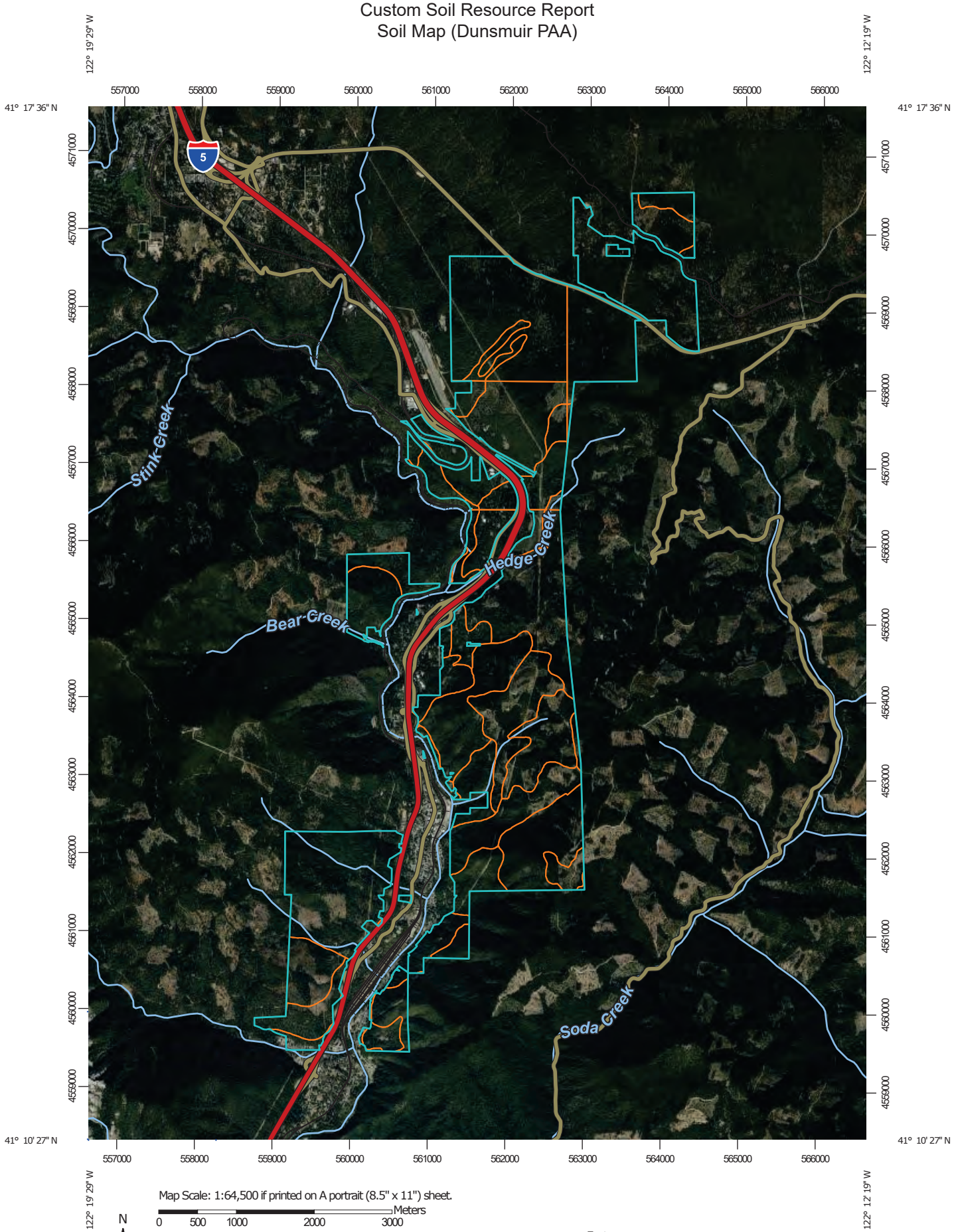
Map Unit Descriptions (Mt. Shasta PAA)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

Custom Soil Resource Report
Soil Map (Dunsmuir PAA)



Map Unit Legend (Dunsmuir PAA)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
164	Etsel-Neuns complex, 50 to 75 percent slopes	0.1	0.0%
216	Kettlebelly, dry-Neuns complex, 15 to 30 percent slopes	209.4	4.3%
217	Kettlebelly, dry-Neuns complex, 30 to 50 percent slopes	695.7	14.4%
223	Kindig-Neuns complex, 15 to 30 percent slopes	55.4	1.1%
224	Kindig-Neuns complex, 30 to 50 percent slopes	304.1	6.3%
257	Neer gravelly sandy loam, 50 to 75 percent slopes	27.9	0.6%
259	Neer-Ponto complex, 2 to 30 percent slopes	674.8	14.0%
260	Neer-Ponto complex, 30 to 50 percent slopes	4.2	0.1%
262	Neuns-Kettlebelly, dry, complex, 50 to 75 percent slopes	247.9	5.1%
263	Neuns-Kindig complex, 50 to 75 percent slopes	412.6	8.6%
286	Ponto sandy loam, 2 to 15 percent slopes	109.8	2.3%
291	Revit fine sandy loam, 2 to 30 percent slopes	41.7	0.9%
309	Shasta loamy sand, 0 to 5 percent slopes	5.4	0.1%
315	Stoner gravelly sandy loam, 2 to 15 percent slopes	17.4	0.4%
Subtotals for Soil Survey Area		**2,806.3**	**58.2%**
Totals for Area of Interest		**4,818.5**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Atter family, 0 to 20 percent slopes.	23.2	0.5%
50	Dunsmuir family, 15 to 40 percent slopes.	518.8	10.8%
53	Dunsmuir-Ishi Pishi, deep families complex, 20 to 40 percent slopes.	116.9	2.4%
148	Ishi Pishi family-Ishi Pishi family, deep complex, 35 to 70 percent slopes.	94.0	1.9%
196sc	Neer-Ponto stony sandy loams, 15 to 50 percent slopes	362.4	7.5%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
197sc	Neer-Ponto complex, 15 to 50 percent slopes	27.0	0.6%
217im	Kettlebelly, dry-Neuns complex, 30 to 50 percent slopes	8.1	0.2%
228	Neuns family, deep-Neuns family complex, 40 to 70 percent slopes.	122.0	2.5%
257im	Neer gravelly sandy loam, 50 to 75 percent slopes	9.7	0.2%
260im	Neer-Ponto complex, 30 to 50 percent slopes	29.3	0.6%
283	Sadie, deep-Neer families complex, 50 to 80 percent slopes.	39.2	0.8%
286im	Ponto sandy loam, 2 to 15 percent slopes	106.7	2.2%
Subtotals for Soil Survey Area		**1,457.1**	**30.2%**
Totals for Area of Interest		**4,818.5**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
196	Neer-Ponto stony sandy loams, 15 to 50 percent slopes complex	514.6	10.7%
197	Neer-Ponto complex, 15 to 50 percent slopes	40.4	0.8%
Subtotals for Soil Survey Area		**555.0**	**11.5%**
Totals for Area of Interest		**4,818.5**	**100.0%**

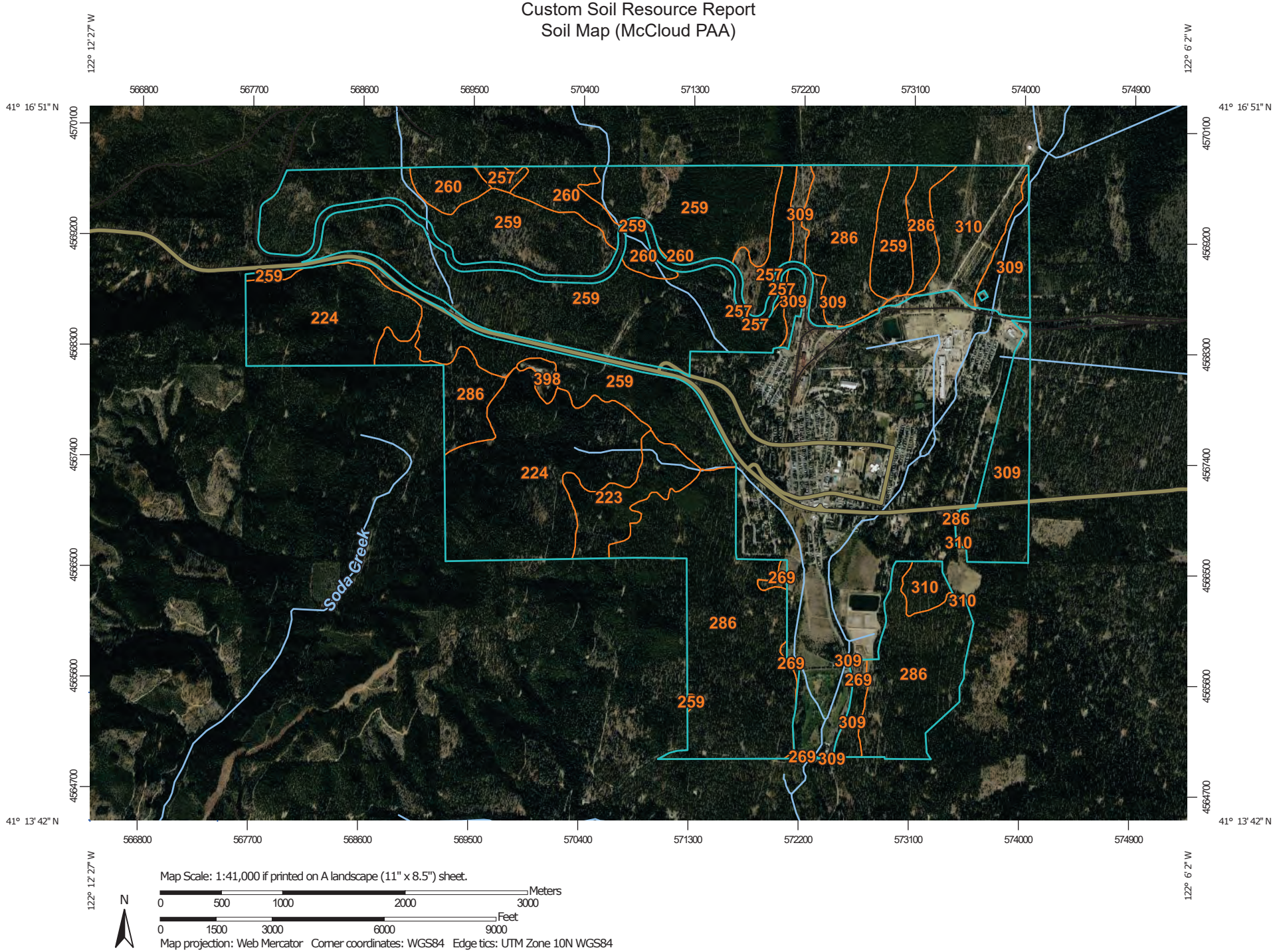
Map Unit Descriptions (Dunsmuir PAA)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called

Custom Soil Resource Report
Soil Map (McCloud PAA)



Map Unit Legend (McCloud PAA)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
223	Kindig-Neuns complex, 15 to 30 percent slopes	112.6	2.9%
224	Kindig-Neuns complex, 30 to 50 percent slopes	648.8	17.0%
257	Neer gravelly sandy loam, 50 to 75 percent slopes	75.8	2.0%
259	Neer-Ponto complex, 2 to 30 percent slopes	1,328.0	34.8%
260	Neer-Ponto complex, 30 to 50 percent slopes	132.3	3.5%
269	Odas loam, 0 to 2 percent slopes	19.0	0.5%
286	Ponto sandy loam, 2 to 15 percent slopes	1,002.0	26.2%
309	Shasta loamy sand, 0 to 5 percent slopes	298.1	7.8%
310	Shastina loam, 0 to 5 percent slopes	186.7	4.9%
398	Gravel pits	15.7	0.4%
Totals for Area of Interest		**3,819.1**	**100.0%**

Map Unit Descriptions (McCloud PAA)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different

Appendix B

CNDDB Occurrences

CNDDB Occurrences with 5 Miles of Dunsmuir PAA					CNDDB Reviewed on January 9, 2025
COMMON NAME	**SCIENTIFIC NAME**	**ESA**	**CESA**	**CRPR**	**CDFW**
Aleppo avens	Geum aleppicum	None	None	2B.2	
American goshawk	Accipiter atricapillus	None	None		SSC
American peregrine falcon	Falco peregrinus anatum	Delisted	Delisted		
Baker's globe mallow	Iliamna bakeri	None	None	4.2	
bank swallow	Riparia riparia	None	Threatened		
bilobed rhyacophilan caddisfly	Rhyacophila mosana	None	None		
black swift	Cypseloides niger	None	None		SSC
broad-nerved hump moss	Meesia uliginosa	None	None	2B.2	
Cascade grass-of-Parnassus	Parnassia cirrata var. intermedia	None	None	2B.2	
Cascades frog	Rana cascadae	None	Candidate Endangered		SSC
Castle Crags harebell	Campanula shetleri	None	None	1B.3	
Castle Crags ivesia	Ivesia longibracteata	None	None	1B.3	
Castle Crags rhyacophilan caddisfly	Rhyacophila lineata	None	None		
confusion caddisfly	Cryptochia shasta	None	None		
cylindrical trichodon	Trichodon cylindricus	None	None	2B.2	
Fen	Fen	None	None		
Fisher	Pekania pennanti	None	None		SSC
foothill yellow-legged frog - north coast DPS	Rana boylii pop. 1	None	None		SSC
Franklin's bumble bee	Bombus franklini	Endangered	Candidate Endangered		
Gasquet rose	Rosa gymnocarpa var. serpentina	None	None	1B.3	
gray-headed pika	Ochotona princeps schisticeps	None	None		
great blue heron	Ardea herodias	None	None		
Jepson's dodder	Cuscuta jepsonii	None	None	1B.2	
Klamath fawn lily	Erythronium klamathense	None	None	2B.2	
little-leaved huckleberry	Vaccinium scoparium	None	None	2B.2	
long-eared myotis	Myotis evotis	None	None		
marsh skullcap	Scutellaria galericulata	None	None	2B.2	
Natural Bridge megomphix	Megomphix californicus	None	None		
North American porcupine	Erethizon dorsatum	None	None		
northern adder's-tongue	Ophioglossum pusillum	None	None	2B.2	
northwestern moonwort	Botrychium pinnatum	None	None	2B.3	
obscure bumble bee	Bombus caliginosus	None	None		
Oregon fireweed	Epilobium oreganum	None	None	1B.2	
Oregon snowshoe hare	Lepus americanus klamathensis	None	None		SSC
osprey	Pandion haliaetus	None	None		WL

Pacific fuzzwort	Ptilidium californicum	None	None	4.3	
Pacific marten	Martes caurina	None	None		
Pacific tailed frog	Ascaphus truei	None	None		SSC
pyrola-leaved buckwheat	Eriogonum pyrolifolium var. pyrolifolium	None	None	2B.3	
rattlesnake fern	Botrypus virginianus	None	None	2B.2	
Rocky Mountain spike-moss	Selaginella scopulorum	None	None	2B.3	
Shasta chaenactis	Chaenactis suffrutescens	None	None	1B.3	
Sierra Nevada red fox - southern Cascades DPS	Vulpes vulpes necator pop. 1	None	Threatened		
silver-haired bat	Lasionycteris noctivagans	None	None		
Siskiyou clover	Trifolium siskiyouense	None	None	1B.1	
Siskiyou fireweed	Epilobium siskiyouense	None	None	1B.3	
southern long-toed salamander	Ambystoma macrodactylum sigillatum	None	None		SSC
spotted bat	Euderma maculatum	None	None		SSC
subalpine aster	Eurybia merita	None	None	2B.3	
Suckley's cuckoo bumble bee	Bombus suckleyi	None	Candidate Endangered		
thread-leaved beardtongue	Penstemon filiformis	None	None	4.2	
three-ranked hump moss	Meesia triquetra	None	None	4.2	
Waldo daisy	Erigeron bloomeri var. nudatus	None	None	2B.3	
western bumble bee	Bombus occidentalis	None	Candidate Endangered		
western mastiff bat	Eumops perotis californicus	None	None		SSC
western yellow-billed cuckoo	Coccyzus americanus occidentalis	Threatened	Endangered		
Wilkin's harebell	Smithiastrum wilkinsianum	None	None	1B.2	
willow flycatcher	Empidonax traillii	None	Endangered		
wolverine	Gulo gulo	Threatened	Threatened		FP
woodnymph	Moneses uniflora	None	None	2B.2	
woolly balsamroot	Balsamorhiza lanata	None	None	1B.2	

CNDDB Occurrences with 5 Miles of McCloud PAA				CNDDB Reviewed on January 9, 2025	
COMMON NAME	**SCIENTIFIC NAME**	**ESA**	**CESA**	**CRPR**	**CDFW**
Aleppo avens	Geum aleppicum	None	None	2B.2	
American goshawk	Accipiter atricapillus	None	None		SSC
American peregrine falcon	Falco peregrinus anatum	Delisted	Delisted		
black-backed woodpecker	Picoides arcticus	None	None		
black swift	Cypseloides niger	None	None		SSC
bull trout	Salvelinus confluentus	Threatened	Endangered		
Cascades frog	Rana cascadae	None	Candidate Endangered		SSC
Fisher	Pekania pennanti	None	None		SSC
Franklin's bumble bee	Bombus franklini	Endangered	Candidate Endangered		
gray-headed pika	Ochotona princeps schisticeps	None	None		
Jepson's dodder	Cuscuta jepsonii	None	None	1B.2	
long-eared myotis	Myotis evotis	None	None		
Lower McCloud River/Canyon River	Lower McCloud River/Canyon River	None	None		
Natural Bridge megomphix	Megomphix californicus	None	None		
North American porcupine	Erethizon dorsatum	None	None		
northwestern moonwort	Botrychium pinnatum	None	None	2B.3	
obscure bumble bee	Bombus caliginosus	None	None		
Oregon fireweed	Epilobium oreganum	None	None	1B.2	
Oregon snowshoe hare	Lepus americanus klamathensis	None	None		SSC
osprey	Pandion haliaetus	None	None		WL
Pacific fuzzwort	Ptilidium californicum	None	None	4.3	
Pacific marten	Martes caurina	None	None		
Pacific tailed frog	Ascaphus truei	None	None		SSC
pyrola-leaved buckwheat	Eriogonum pyrolifolium var. pyrolifolium	None	None	2B.3	
rattlesnake fern	Botrypus virginianus	None	None	2B.2	
Scott Mountain howellanthus	Howellanthus dalesianus	None	None	4.3	
Shasta chaenactis	Chaenactis suffrutescens	None	None	1B.3	
Sierra Nevada mountain beaver	Aplodontia rufa californica	None	None		SSC
Sierra Nevada red fox - southern Cascades DPS	Vulpes vulpes necator pop. 1	None	Threatened		
silver-haired bat	Lasionycteris noctivagans	None	None		
southern long-toed salamander	Ambystoma macrodactylum sigillatum	None	None		SSC
subalpine aster	Eurybia merita	None	None	2B.3	
tricolored blackbird	Agelaius tricolor	None	Threatened		SSC
Wilkin's harebell	Smithiastrum wilkinsianum	None	None	1B.2	
willow flycatcher	Empidonax traillii	None	Endangered		

CNDDB Occurrences with 5 Miles of Mt. Shasta PAA				CNDDB Reviewed on December 16, 2024	
COMMON NAME	**SCIENTIFIC NAME**	**ESA**	**CESA**	**CRPR**	**CDFW**
Aleppo avens	Geum aleppicum	None	None	2B.2	
American goshawk	Accipiter atricapillus	None	None		SSC
American peregrine falcon	Falco peregrinus anatum	Delisted	Delisted		
Baker's globe mallow	Iliamna bakeri	None	None	4.2	
bald eagle	Haliaeetus leucocephalus	Delisted	Endangered		FP
bank swallow	Riparia riparia	None	Threatened		
black swift	Cypseloides niger	None	None		SSC
broad-nerved hump moss	Meesia uliginosa	None	None	2B.2	
Cascade alpine campion	Silene suksdorfii	None	None	2B.3	
Cascade grass-of-Parnassus	Parnassia cirrata var. intermedia	None	None	2B.2	
Cascades frog	Rana cascadae	None	Candidate Endangered		SSC
Fen	Fen	None	None		
Fisher	Pekania pennanti	None	None		SSC
foothill yellow-legged frog - north coast DPS	Rana boylii pop. 1	None	None		SSC
Franklin's bumble bee	Bombus franklini	Endangered	Candidate Endangered		
Gasquet rose	Rosa gymnocarpa var. serpentina	None	None	1B.3	
gray-headed pika	Ochotona princeps schisticeps	None	None		
great blue heron	Ardea herodias	None	None		
Jepson's dodder	Cuscuta jepsonii	None	None	1B.2	
Klamath fawn lily	Erythronium klamathense	None	None	2B.2	
little hulsea	Hulsea nana	None	None	2B.3	
long-eared myotis	Myotis evotis	None	None		
marsh skullcap	Scutellaria galericulata	None	None	2B.2	
Mt. Shasta sky pilot	Polemonium pulcherrimum var. shastense	None	None	1B.2	
Natural Bridge megomphix	Megomphix californicus	None	None		
North American porcupine	Erethizon dorsatum	None	None		
northern adder's-tongue	Ophioglossum pusillum	None	None	2B.2	
northwestern moonwort	Botrychium pinnatum	None	None	2B.3	
obscure bumble bee	Bombus caliginosus	None	None		
Oregon fireweed	Epilobium oreganum	None	None	1B.2	
Oregon snowshoe hare	Lepus americanus klamathensis	None	None		SSC
osprey	Pandion haliaetus	None	None		WL
Pacific fuzzwort	Ptilidium californicum	None	None	4.3	
Pacific marten	Martes caurina	None	None		
Pacific tailed frog	Ascaphus truei	None	None		SSC
pallid bird's-beak	Cordylanthus tenuis ssp. pallescens	None	None	1B.2	
pumice moonwort	Botrychium pumicola	None	None	2B.2	

pyrola-leaved buckwheat	Eriogonum pyrolifolium var. pyrolifolium	None	None	2B.3	
rattlesnake fern	Botrypus virginianus	None	None	2B.2	
rosy orthocarpus	Orthocarpus bracteosus	None	None	2B.1	
Shasta chaenactis	Chaenactis suffrutescens	None	None	1B.3	
Sierra Nevada red fox - southern Cascades DPS	Vulpes vulpes necator pop. 1	None	Threatened		
silver-haired bat	Lasionycteris noctivagans	None	None		
Siskiyou clover	Trifolium siskiyouense	None	None	1B.1	
snow fleabane daisy	Erigeron nivalis	None	None	2B.3	
southern long-toed salamander	Ambystoma macrodactylum sigillatum	None	None		SSC
spotted bat	Euderma maculatum	None	None		SSC
subalpine aster	Eurybia merita	None	None	2B.3	
Suckley's cuckoo bumble bee	Bombus suckleyi	None	Candidate Endangered		
thread-leaved beardtongue	Penstemon filiformis	None	None	4.2	
three-ranked hump moss	Meesia triquetra	None	None	4.2	
Trinity buckwheat	Eriogonum alpinum	None	Endangered	1B.2	
Waldo daisy	Erigeron bloomeri var. nudatus	None	None	2B.3	
western bumble bee	Bombus occidentalis	None	Candidate Endangered		
western mastiff bat	Eumops perotis californicus	None	None		SSC
western yellow-billed cuckoo	Coccyzus americanus occidentalis	Threatened	Endangered		
Wilkin's harebell	Smithiastrum wilkinsianum	None	None	1B.2	
woodnymph	Moneses uniflora	None	None	2B.2	
woolly balsamroot	Balsamorhiza lanata	None	None	1B.2	
yellow rail	Coturnicops noveboracensis	None	None		SSC

Appendix C

U.S. Fish & Wildlife Service Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
Phone: (530) 842-5763 Fax: (530) 842-4517

In Reply Refer To: 01/09/2025 22:18:21 UTC
Project Code: 2025-0039946
Project Name: South Siskiyou Fuels Reduction Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
(530) 842-5763

PROJECT SUMMARY

Project Code: 2025-0039946
Project Name: South Siskiyou Fuels Reduction Project
Project Type: Timber Harvest
Project Description: Fuels Reduction in Mt. Shasta, McCloud, and Dunsmuir
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.27051325,-122.13399911402325,14z

Counties: Shasta and Siskiyou counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

MAMMALS

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Species may be present based on transient occurrence as it moves through or too suitable habitat. Effects should be considered to species and projects should consult with the Service, however, depending on the project, consultation may not be necessary. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened

BIRDS

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

INSECTS

NAME	STATUS
Franklin's Bumble Bee *Bombus franklini* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7022	Endangered
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Vestra Resources Inc
Name: Lucas Murtha
Address: 5300 Aviation Drive
City: Redding
State: CA
Zip: 96002
Email lmurtha@vestra.com
Phone: 5302232585