DRAFT INITIAL STUDY-MITIGATED NEGATIVE DECLARATION

LOWER DEER CREEK - PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

Prepared for

Nevada County Office of Emergency Services
950 Maidu Avenue, Suite 130
Nevada City, California 95959

Prepared by

VESTRA Resources, Inc
5300 Aviation Drive
Redding, California 96002

MARCH 2026

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1.0 INTRODUCTION

This Initial Study-Mitigated Negative Declaration (IS-MND) describes the environmental impact analysis conducted for the Lower Deer Creek – Penn Valley Hazardous Fuels Reduction Project (Proposed Project). This document was prepared for the Nevada County Office of Emergency Services (OES) utilizing information from several sources, including research, field review of the proposed project area, and consultation with environmental planners and other public agency experts. This Initial Study uses the following terms to describe the level of significance of adverse impacts. These terms are defined as follows:

- **No Impact:** An impact that would result in no adverse changes to the environment.
- **Less-than-Significant Impact:** An impact that is potentially adverse but does not exceed the thresholds of significance as identified in the impact discussions. Less-than-significant impacts do not require mitigation.
- **Less than Significant with Mitigation:** An environmental effect that may cause a substantial adverse change in the environment without mitigation, but which is reduced to a level that is less than significant with mitigation identified in the Initial Study.
- **Potentially Significant Impact:** An environmental effect that may cause a substantial adverse change in the environment, for which additional information is needed regarding the extent of the impact to make a determination, or the impact would cause a substantial adverse change in the environment. A finding of a potentially significant impact would result in the determination to prepare an EIR.

Pursuant to § 21082.1 of CEQA, the lead agency, Nevada County OES, has prepared, reviewed, and analyzed the IS-MND and declares the statements made in this document reflect their independent judgment pursuant to CEQA. Nevada County OES further finds that the proposed project, which includes mitigation measures designed to minimize environmental impacts, will not result in a significant effect on the environment.

1.1 Regulatory Guidance

An Initial Study is prepared to determine if a project may have a significant effect on the environment (14 CCR § 15063(a)), and to determine the appropriate level of environmental review required. 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.

This IS-MND has been prepared to evaluate potential environmental effects that could occur with 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*.)

1.2 Purpose of the Initial Study

Nevada County OES is the sub-grantee of funds allocated under the California Office of Emergency Services to perform this project and, as such, has assumed authority as the lead agency under CEQA. The purpose of this IS-MND is to present to the public and reviewing agencies the potential environmental consequences of implementing the proposed project and to describe the adjustments made to avoid significant effects or reduce impacts 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 comment for a review period of 30 days, as indicated on the *Notice of Intent* (NOI).

CEQA Guidelines §15072 requires Nevada County OES to notify the general public by providing the NOI to the State Clearinghouse for posting, sending the NOI to those who have requested such, and utilizing one of the following procedures:

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

Nevada County OES has posted the NOI and made it available by:

- A local newspaper, The Union
- YubaNet.com
- A physical bulletin board located at the County office

Views and comments are welcome from reviewing agencies or any member of the general public on how the proposed project may affect the environment. Written comments must be postmarked or submitted on or prior to the close of the 30-day public comment period (as indicated on the NOI). Written comments can also be submitted via email, received on or prior to the close of the 30-day public comment period. Comments may be addressed to:

Brittany Beech
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950 Maidu Avenue, Suite 130
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530-265-1515

2.0 PROJECT LOCATION

The project is located within unincorporated areas of western Nevada County. Nevada County is considered a rural community in the Sierra Nevada Mountains. The project area borders the town of Smartsville, in Yuba County, westward and expands north towards Bridgeport, including portions of the South Yuba River State Park. The project area encompasses several census-designated places such as Lake Wildwood, Penn Valley, and the Kentucky Ridge (Rough and Ready) area. These communities range from rural and working landscape communities to traditional suburban homes and high-end subdivisions. A general site location is provided in Figure 1. The project involves hazardous fuel reduction and targeted treatment on public lands and private property within very high-hazard Wildland-Urban Interface (WUI) areas in western Nevada County. The project area location is provided in Figure 2.

The project consists of five roadway segments within the Lower Deer Creek - Penn Valley Project Activity Area (PAA). This includes the southwest portions of Highway 20, a major transportation corridor used by emergency personnel for navigation to and from critical facilities in the Penn Valley area. Other residential roadways have been included to treat and maintain emergency evacuation routes in historically restricted rural areas and densely populated residential communities. There are several critical water resources within and adjacent to the project area, such as wastewater and water treatment facilities in Lake Wildwood, riverine features like Deer Creek and Squirrel Creek, tributaries to the Yuba River, and freshwater ponds. The proposed project area was selected to protect the safety, health, and overall wellness of County residents by providing safe ingress/egress for emergency personnel, improving water quality, managing critical evacuation routes, open space, and recreational features highly valued by the community. The maximum footprint for the project activity area is potentially 1,011 acres, which serves as the basis for this study. The final acreage and total number of parcels anticipated will be less than that of the entire PAA footprint, as landowner participation may vary.

- The first segment includes Bitney Springs Road, Beitler Road, and Pleasant Valley Road, narrow and restricted evacuation routes in rural areas with open space, recreation, and residential agriculture uses;
- The second and third segments include areas surrounding the northwest and southwest sides of Lake Wildwood, with existing and planned single-family residential subdivisions, open space, and limited agricultural use. These segments are particularly vital for targeting high-density fuels between residential subdivisions and protecting critical water treatment facilities in the Lake Wildwood community;
- The fourth segment includes the southern area of Penn Valley, with commercial highways, public lands, open space, and residential agricultural land uses;
- The fifth segment includes Mooney Flat Road, which has very limited development for large open space and agricultural use. This segment overlaps with Deer Creek and several recreational trails and wildlife preservation areas, with notable natural resource features.

The locations of the PAA road segments are included in Figure 3.

The total acreage and final number of parcels included in the project will be determined based on landowner participation and the environmental, operational, or physical constraints of each PAA road segment. The approximate treatment percentage for each segment within the PAA is included in Table 1.

Table 1
PROJECT ACTIVITY AREA (PAA) SUMMARY

Road Segment	Estimated Percent of Project
Bitney Springs	40%
Lake Wildwood North	10%
Lake Wildwood South	10%
Lower Penn Valley	20%
Mooney Flat	20%

Action-specific restrictions that have been established to minimize environmental impacts and meet targeted natural resource protection goals include:

1) No work in areas with slopes greater than 65 percent;
2) No work in areas with highly erosive soils with slopes greater than 50 percent;
3) No pile burning activities or use of staging areas for slash, logs, and chips;
4) Maintenance of a 75-foot setback from perennial streams and wetlands at all times;
5) Maintenance of a 50-foot setback from intermittent and ephemeral streams at all times;
6) Identification of special treatment zones for known biological and cultural resources within the project area and complete avoidance to the fullest extent practicable;
7) Development of site-specific treatment prescriptions for each individual parcel before implementation

2.1 Background and Need for the Project

Nevada County OES has been awarded a hazard mitigation grant by the California Governor's Office of Emergency Services (CalOES) to manage hazardous vegetation under the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP). The grant will be used to perform targeted fuel reduction treatments in select locations around the communities of Lake Wildwood, Penn Valley, and Rough and Ready.

The southwestern unincorporated area of Nevada County has seen a rise in development within very high Fire Hazard Severity Zones (FHSZ), which, as a result, increases the potential risk of exposure to wildfire hazards. County planning initiatives have been developed to target fire-resiliency objectives and risk-reduction best practices. A series of planning efforts have been conducted, including updates to the Community Wildfire Protection Plan (CWPP), the Local Hazard Mitigation Plan, public outreach surveys, and completion of a Qualitative Wildfire Risk Assessment (QWRA) that includes the project planning area. The goal was to prioritize the places and resources most important to the residents of the communities served and to protect what is most valued for wildfire preparedness and risk reduction strategies.

Results from the QWRA were used to identify high-value resources and assets at risk and prioritize potential vegetation treatment areas. The identified primary high-value resources and assets at risk in order of importance include: 1) community lifelines, such as police and fire stations, schools, emergency operations centers, and infrastructure such as roads, bridges and utilities that provide water, electricity, and communications; 2) community health, such as wildfire smoke potential, soil vulnerability, hospital and shelter facilities, hazardous waste sites, and solid waste sites; and 3) natural resources, such as outdoor recreation resources, watersheds, oak woodlands, and climate resilient areas (CWPP 2024).

The geographic scope of the project was determined by prioritizing the areas where fire prevention activities would have the greatest impact on community safety, health, and wellness. Evacuation route improvement was the highest-ranked risk reduction strategy identified, with roadside vegetation removal the top priority. Project Priority Areas for treatment were developed with input from residents and local governments, regional and State agency partners, and a steering committee of fire protection districts, water districts, city managers, and Firewise communities. Project selection criteria were based on operational needs, communities most at risk, fire history, and ignition vulnerability.

2.2 Project Objectives

The objective of this project is to reduce hazardous fuels along critical transportation routes for residential evacuation and safe ingress and egress for emergency personnel, protection of critical community lifelines, and the reduction of threats to community health and natural resources within WUI areas of western Nevada County. Hazardous fuels reduction and roadside treatment will reduce the continuity of fuels outside of defensible space zones by potentially preventing surface fires from becoming high-intensity, high-severity crown fires. The reduction of ladder and surface fuels, as well as tree crown density through the spacing of trees and shrubs vertically and horizontally, is the primary technique used. 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.

Fuel treatments will be targeted to reduce fire intensity for vulnerable communities. Reducing the probability of wildfires will reduce loss of life and personal injury; increase effective ingress and egress; protect critical facilities, essential services, and infrastructure; ensure continuity of government operations; and protect public and private property. These fuel treatments not only protect structures and evacuation routes but can also help protect the surrounding wildlands from human-caused fires commonly initiated in dense residential areas. Ecological benefits include control of invasive species, improvement of wildlife habitat and rangeland, and protection of wetlands and riparian corridors.

The goals identified for this project include:

- Reduce the number and intensity of wildfires and suppression costs
- Reduce the health and safety risks to firefighters and first responders
- Reduce the potential for damage from flooding, siltation, and landslides
- Increase public safety and protect critical infrastructure
- Improve ingress and egress for emergency personnel and evacuation routes

- Improve water quality and protect susceptible watersheds
- Improve soil productivity and reduce threats of erosion
- Improve wildlife habitat and rangeland
- Protect sensitive woodlands through fire management and regeneration
- Reestablish and maintain desired plant communities

Other benefits include the following:

- Protection of historic, archeological, and tribal cultural resources
- Protection of ecosystem services such as water quality, flood control, green infrastructure, wildlife habitat, soil structure, and carbon sequestration
- Provision of a safer working environment for firefighters by reducing fire severity, intensity, and rate of spread, allowing effective combat for catastrophic wildfires

2.3 Project Start Date

Summer of 2027

2.4 Project Description

The proposed action consists of removal of ground and ladder fuels at variable distances from each side of the PAA roadway centerlines, thinning of trees and brush to reduce crown closure, removal of dead and dying trees less than 14 inches diameter breast height (DBH) along serviceable roadways or within landscape areas, and application of herbicide to control the future regrowth of unwanted vegetation for maintenance of an understory canopy without fire-prone fuels.

Work will focus on improving forest health, vegetation management, forest undergrowth maintenance, and biomass utilization. Treatment will reduce 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, living trees 14 inches DBH and under will be spaced to a distance of greater than 30 feet. These fuel reduction treatments will allow roadways to serve as areas where fire intensity decreases and act as strategic locations to deploy firefighting resources in the event of fire, hampering fire's ability to jump roadways. Both mechanized and manual techniques will be deployed for the removal of fuels. Fuel reduction, biomass use, herbicide treatment, and erosion control activities are described in greater detail below.

The Registered Professional Forester (RPF) will establish hazardous fuel reduction techniques appropriate for each parcel, either manual treatment with chipping or mechanical treatment, such as mastication. 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 considerations to be protected. An individual Treatment Prescription (TP) will be developed for each parcel based on the PSA. TPs will identify, buffer, and exclude any sensitive corridors such as watercourses, riparian areas, and critical habitats present. Commercial-sized trees will not be included in the thinning operations.

3.0 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, and track equipment with masticator heads. 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 considerations, and similar limitations that do not apply to the manual technique. As mentioned previously, no treatment will occur on slopes 65 percent or greater or when site conditions limit treatment to handwork. The RPF will determine which technique or combination of techniques will be appropriate for each road segment within the PAA.

Descriptions of mechanical and manual treatment techniques follow.

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)
- Bucket and boom
- Chipping and grinding

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

- Removing trees and undesirable species with chainsaws, loppers, pruners
- Pulling, trimming, and thinning of undesired plants

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

3.1 Biomass Disposal

Biomass waste generated during treatment activities is anticipated to include:

- Woody debris up to 14 inches DBH or vegetation present at an undesired density as determined by the RPF
- Green plant material from thinning and brush residuals
- Cut shrubs, branches, and saplings
- Branches and logs from dead or diseased trees

Biomass waste will be disposed of as follows.

Disposal
Some residual biomasses from treatment activities will be left in place for habitat, erosion control, or other purposes. Biomass that is of a size and constitution suitable for chipping will 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. Such biomass will be handled in the following manner:

- Green waste will be cut and/or chipped.
- 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 the chipped material be spread to a depth greater than 4 inches. Chip placement in and around heritage trees will be limited to 2 inches.
- Green waste from branches and logs from dead or mortally diseased trees, particularly those that might be infected with sudden oak death, will not be chipped but will be left to decompose in place help prevent the spread of disease.

Key points for the above parameters include spreading chips to a depth of no more than 4 inches and avoiding piling around remaining trees.

3.2 Herbicide Treatment

Treatment areas may need some level of pre-treatment or post-treatment with herbicide prior to or post biomass disposal. 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 the PCA during periods of the year when species are most susceptible to herbicide modes of action and will promote restoration of native or desired plant communities. These treatments reduce the potential for accumulating excessive fuel loads and increased wildfire hazards.

The use of cut-stump herbicide treatment is allowed on and around residential properties. Applicators must use caution where non-target vegetation may be affected through root-to-root contact. Due to the nature of the project, all work will be conducted by a licensed pest control business under the supervision of a Qualified Applicator's License (QAL).

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

Only the following herbicides will be used for pre- and post-treatment applications:

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 with a half-life in water of 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.

3.3 Site Restoration

Effective erosion control measures provide protection of disturbed soil through placement of a protective barrier that reduces rainfall impact, increases water infiltration, and slows runoff. Erosion control measures will be deployed consistently to ensure risks, such as slope destabilization, do not occur, and impacts from disturbed soils are minimized to the fullest extent practicable. Wood chips, slash packing, and other erosion control or slope stabilization techniques will be used in conjunction, where minimized disturbance could impose an increased risk of erosion or slope destabilization. The measures and techniques 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
- Timeframe (proximity to the rainy season)
- Proximity of the disturbance to a watercourse or cultural resource

3.4 Project Schedule

Project activities will be limited to the hours of 8:00 a.m. to 7:00 p.m. on weekdays and Saturdays. No work will occur on Sundays.

3.5 Best Management Practices

Best Management Practices (BMPs) from the *FEMA Programmatic Environmental Assessment, Recurring Actions in Arizona, California, and Nevada* (December 2014) (PEA), are included, by reference, where applicable. The BMPs included in FEMA's PEA document that apply 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 and the Forest Practice Rules during project implementation.

4.0 ENVIRONMENTAL SETTING OF THE PROJECT REGION

The project area evaluated in this document includes 1,011 acres, as shown in Figure 1. The total number of parcels that receive treatment will depend on landowner participation and environmental, operational, or physical limitations.

4.1 Description of the Local Environment

The PAA includes parcels along five roadway segments: Bitney Springs, Lake Wildwood North, Lake Wildwood South, Mooney Flat, and Penn Valley within unincorporated western Nevada County. Each PAA segment contains terrain that is characterized as a combination of lower and middle rolling western foothills of the Sierra Nevada Range. This area, extending from the Yuba County border to just west of Grass Valley, is generally comprised of metavolcanic and granitic formations with pre-Quaternary faults in the most southern portion. These segments fall within moderate, high to very high WUI areas, as depicted in Figure 4.

The topography strongly affects temperature and rainfall distributions throughout the area. Annual precipitation ranges from 35 to 70 inches in the Sierra Nevada, with mild winters that reach 30 to 55 degrees Fahrenheit, resulting in some snowfall. Daily high temperatures in the summer months reach 95 to 100 degrees Fahrenheit, with a prolonged growing season from mid-March to early November. General shallow soils, moderate precipitation, and a prolonged warm season increase vegetation growth rates, making this region particularly susceptible to overgrowth.

Elevations within the project range from 200 to 3600 feet above mean sea level (MSL), with topography sloping from east to west (USGS 2025). Slopes within the project range from nearly level, rolling, to steep (2 percent to 75 percent), with an average of 15 to 50 percent slope. Dominant soil types within the project area are Boomer, hard bedrock – rock outcrop complex, 5 to 30 percent slopes; Boomer, hard bedrock – rock outcrop complex, 15 to 60 percent slopes; Secca-Rock outcrop complex, 2 to 50 percent slope; and Trabuco loam, 5 to 15 percent slopes. Topography and soil types throughout the project area are shown in Figure 5.

The PAA is located within portions of the Woods Creek – Yuba River, Shady Creek – South Yuba River, Slacks Ravine – Deer Creek, and Squirrel Creek 12-digit HUC watersheds (HUCs 180201251002, 180201250704, 180201250804, and 180201250803) (USGS 2025). The PAA contains mapped Special Flood Hazard Areas (SFHA) such as Zone A, AE, and floodway areas. FEMA flood map designations within and in proximity to the project area are shown in Figure 6.

Class I watercourses within the project area include Lake Wildwood, the Yuba River, and the Englebright Reservoir. The Yuba River feeds into Deer Creek, which is dammed at Lake Wildwood and runs throughout the project area. Multiple Class II, III, and IV conveyances, such as unnamed seasonal creeks, rivers, and freshwater ponds, are located within the PAA boundary. Riparian corridors along these watercourses provide important year-round and migratory wildlife habitats and allow for linkages across wider areas of the County. Many of the rivers in the County supply both drinking water and hydroelectricity. These hydrologic features are dependent on winter rain and snowfall, with the Sierra snowpack as the primary source of water throughout the watersheds. Waterbodies like Lake

Wildwood provide flood control, water storage, recreational value, and support wildlife habitats. Watershed boundaries are shown in Figure 7.

Habitat types within the project area include a mix of man-made development, historically disturbed areas, and natural habitats, including Annual Grassland, Blue Oak-Foothill Pine, Blue Oak Woodland, Mixed Chaparral, Montane Chaparral, Montane-Hardwood Conifer, Montane Hardwood, Perennial Grassland, Ponderosa Pine, Valley Oak Woodland, Barren, and Aquatic. California Wildlife Habitat Relationships (CWHR) vegetation types of the PAA are shown in Figure 8. Some of these areas have experienced rapid residential growth in recent years, resulting in the alteration and introduction of roadways, increased noise, and lighting. In higher elevations, logging, mining, and the development of rural subdivisions have also altered habitats over time. Detailed habitat characterization and anticipated project impacts are included in the Biological Resources Assessment (BRA), included in Attachment B.

Due to the geographic extent of the project area and ranges in elevation, climate, and soil, vegetation types and existing conditions are variable throughout. In general, areas to receive treatment within the PAA segments include parcels with dense vegetation that are consecutively present, as these conditions contribute to crown fires.

4.2 Special-Status Plant Species

Special-status plant species include plants that are (1) designated as rare by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (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 the California Natural Diversity Database (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 five-mile radius search of 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 within or in the immediate vicinity of the project area to assess the potential for occurrence. Special-status species that were determined to have no potential to occur in the project area due to a lack of habitat onsite are not discussed further.

Special-status plant species that have the potential to occur within the project site include:

- Pine Hill flannelbush (*Calystegia stebbinsii)*
- Stebbins' morning-glory (*Calycadenia spicata)*
- Spiked western rosinweed (*Sidalcea stipularis)*
- Scadden Flat checkerbloom (*Lewisia cantelovii)*
- Cantelow's lewisia (*Lathyrus sulphureus* var. *argillaceus)*
- Dubious pea (*Downingia pusilla)*
- Dwarf downingia (*Carex xerophila)*

- Chaparral sedge (*Carex xerophila)*
- Finger rush (*Juncus digitatus)*
- Brownish beaked rush (*Rhynchospora capitellata)*
- Butte County fritillary (*Fritillaria eastwoodiae)*

Project impacts to special-status plant species determined to potentially occur within the project area are discussed in the BRA in Attachment B.

4.3 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 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), and a five-mile radius query of the CNDDB.

The habitat and ecological requirements of each special-status species were evaluated in the BRA prepared for the project 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:

- Bald eagle *(Haliaeetus leucocephalus)*
- California black rail *(Laterallus jamaicensis coturniculus)*
- California spotted owl *(Strix occidentalis occidentalis)*
- California condor *(Gymnogyps californianus)*
- Yellow-breasted chat (*Icteria virens)*
- Gray wolf (*Canis lupis)*
- Ringtail (*Bassariscus astutus)*
- Townsend's big-eared bat (*Corynorhinus townsendii)*
- Western red bat (*Lasiurus frantzii)*
- California red-legged frog (*Rana draytonii)*
- Coast (Blainville's) horned lizard (*Phrynosoma blainvillii)*
- Foothill yellow-legged frog (*Rana boylii)*
- Northwestern pond turtle (*Actinemys marmorata)*
- Western spadefoot (*Spea hammondi)*
- Chinook salmon (*Oncorhynchus tshawytscha)*
- Steelhead *(Oncorhynchus mykiss irideus)*
- Crotch's bumble bee (*Bombus crotchii)*
- Monarch butterfly (*Danaus Plexippus)*
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)*
- Vernal pool fairy shrimp (*Branchinecta lynchi)*

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.

4.4 Historic and Cultural Resources

Nevada County is rich in natural resources, historic locations, and cultural resources, with a variety of precolonial and historic sites occurring in the project area. Before the California Gold Rush, the region was primarily inhabited by Nisenan and Maidu Native Americans. After gold was discovered, miners settled along streams and creeks of the Nevada County region searching for placer gold. In 1850, a ledge of hard-rock gold was discovered in Grass Valley, which gave rise to an underground gold mining industry and the use of hydraulic mining. In the mid-twentieth century, several once-thriving mining facilities ceased operations and closed their doors because of lawsuits against the practice. Several large, now-abandoned hydraulic mines within the area serve as historic State Parks in tribute to one of the richest hard-rock gold mining operations in California.

In December 2025, a California Historical Resources Information System (CHRIS) search was completed by Alta Archaeological Consulting (ALTA) for archeological and historic records and reports within a quarter-mile radius of the Area of Potential Effect (APE). The records search results revealed that prehistoric sites have been previously recorded, including bedrock mortars, pestles, basalt flakes and core, structural features, and buildings associated with habitation, agriculture and ranching, milling features, and special use sites such as mining quarries and orchards within the APE. In January 2026, ALTA contacted the Native American Heritage Commission (NAHC) to request a Sacred Lands File search for Native American cultural resources within the project area and to obtain a contact list for Native American tribes with ancestral jurisdiction of the geographical area. The Sacred Lands File search returned a positive result, indicating known tribal cultural resources within the APE, and a list of tribal entities was provided for consultation.

Archaeological pedestrian surveys will be conducted prior to ground-disturbing activities. The results of the records search, pedestrian surveys, Sacred Lands file search, and Native American consultation efforts to establish impacts have been documented in a Cultural Resource Inventory (CRI) Report and provided to Nevada County OES under separate cover. All management recommendations included in the Cultural Resources section will be implemented to avoid impacts to the greatest extent practicable.

4.5 Land Use and Zoning

Land use in Nevada County includes forest, rangeland, developed urban areas, and agriculture. Land use and zoning designations vary throughout the project site. Parcels within the Bitney Springs road segment are zoned General Agricultural, Residential Agricultural, Public, and Open Space. The parcels within the north and south Lake Wildwood road segments are zoned Planned Development (Single Family), General Agricultural, Residential Agricultural Subdivision, Single-Family Residential, Neighborhood Commercial, and Open Space. Parcels within the Mooney Flat road segment are zoned Agricultural Exclusive, General Agricultural, and Open Space. Lastly, parcels within the Lower Penn Valley road segment are zoned General Agricultural, Residential Agricultural Subdivision, General Agricultural Subdivision, and Light Industrial. Land use and zoning designations within the PAA are shown in Figure 9.

Residential land use is the predominant type of development, with single-family units and subdivision dwellings in Lake Wildwood to South Grass Valley being the most considerable. Lake Wildwood, originally developed in 1970, was started as a second-home development and has since evolved into a residential community with more than 3,000 single-family permanent residences (General Plan). Additional improvements include a new sewage collection system and treatment plant that provides containment, a golf course, and a school, all of which adjoin the Lake Wildwood development. There has been and continues to be a considerable amount of growth in the unincorporated areas of the County over the last 30 to 50 years (General Plan). Eroding soils, siltation, and streambed alteration as a result of new subdivision development have significantly contributed to reduced water quality in the western region. Land use, development, and population trends that have contributed to increasing water contamination are discussed further in Hydrology and Water Quality.

Agricultural land use, although less than one percent of the overall zoning designation throughout the County, is the second largest land use within the project area in the western unincorporated areas. While cattle ranching remains the primary, vineyards and wineries are steadily increasing in the landscape. The popularity of local agriculture has increased opportunities, such as certified farmers' markets and agritourism. Agricultural land use serves a wide range of activities for these communities, including entertainment, outdoor recreation, and educational programs that thrive with local support (Hazard Mitigation Plan).

Public land covers a significant portion of the County's total land area and the proposed project area. The Spencerville Wildlife and Recreation Area comprises over 11,900 acres in western Nevada County and Yuba County. The South Yuba River State Park also contributes another 11,000 acres from Malakoff Diggings to Bridgeport. State lands are included in treatment areas to protect valuable natural resources and foster healthy ecological conditions. Other popular public lands used by County residents include the Tahoe National Forest, owned by the U.S Forest Service, and over 20,000 acres of public access and recreation areas owned by the Bureau of Land Management (General Plan).

A small portion of commercial and industrial development can be found exclusively within the Penn Valley area, primarily at the Village Center. Little established urban development is included in the project footprint.

4.6 Population and Demographics

A total of four census tracts encompass the population of the entire project area, which includes approximately 20,000 people. In December 2025, demographic factors such as age, health status, income, ethnicity, race, and sex were evaluated from each of the four census tracts in an Environmental Justice Analysis (EJA) completed by VESTRA Resources, Inc. Additional population vulnerability indicators, such as geographic, economic, and human health risk factors, were also collected and evaluated in the EJA (see Attachment C). The results of each index were averaged and ranked by significance to generate baseline statistical population vulnerability values within quarter-mile, half-mile, and one-mile radii of the project area. Indicators excluded from the analysis did not yield a value greater than the 65th percentile of the total population matrix and were not evaluated further. The results of the EJA found the following population trends:

- A single socioeconomic indicator displayed a trend of above-average populations over the age of 64, and over half of the census areas were considered transportation-disadvantaged.
- Considerable low-income areas with unmet housing needs within the project area and a potential for disproportionate environmental pollution exposure for individuals over the age of 65.
- Residential populations within the project area displayed a trend of above-average exposure to ozone pollution and a trend of above-average risk for health disparities, such as asthma.

Project activities will generate an increase in particulate matter exposure, which can further aggravate asthma, compromised immune systems, or existing complex cardiac and/or respiratory conditions.

Wildfire hazard reduction techniques within critical evacuation service routes used by medical personnel will help improve response times during medical emergencies, which are often used by such vulnerable communities. The detrimental effects of exposure to deadly wildfires outweigh the short-term threats of exposure during project activities. The project will overall reduce the threat of smoke exposure and other related wildfire hazards in chronically threatened and vulnerable areas.

5.0 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.

5.1 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	

5.2 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.

Alex Keeble-Toll

Nevada County Office of Emergency Services
Alex Keeble-Toll, Director

4/24/2026
Date

5.3 Environmental Checklist and Discussion

Project Title: Lower Deer Creek – Penn Valley Hazardous Fuels Reduction Project

Lead Agency Name and Address:
Nevada County Office of Emergency Services (OES)
950 Maidu Avenue, Suite 120
Nevada City, CA 95959

Contact Person & Phone Number:
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Project Location: Western unincorporated areas of Penn Valley, Lake Wildwood, and Rough and Ready (Figure 1)

General Plan Designation: Multiple Land Use Designations (Figure 9)

Zoning: Multiple Zoning Districts (Figure 9)

Description of Project: Hazardous Fuels Reduction

Surrounding Land Uses and Setting: Multiple Land Uses within WUI areas of Penn Valley

Other public agencies whose approval may be required:

- California Governor's Office of Emergency Services
- California Department of Fish and Wildlife
- California Department of Forestry and Fire Protection
- California Department of Parks and Recreation
- California Department of Transportation
- Central Valley Regional Water Quality Control Board
- Northern Sierra Air Quality Management District
- Nevada County Agricultural Commissioner's Office
- Nevada County Public Works

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 foothills of the Sierra Nevada range that are considered to be of high natural scenic quality and contribute to the scenic landscape. The project will result in short-term visual impacts during treatment activities, including the presence of equipment, crews, and chip or slash material during project implementation. Equipment would be present only in any one location for 2 to 3 days at a time with equipment generally only visible from areas immediately adjacent to treatment activities, with the exception for the South Yuba River (Figures 10 and 11) and Lake Wildwood (Figure 12 and 13) viewsheds, which can be viewed in the distance during recreational use of the lake and river waterbodies. No pile burning activities are planned; as such, anticipated impacts from smoke accumulation are not considered in this document or in the Visual Impact Analysis (Attachment D). Biomass disposal will emulate a landscaped environment and is temporary in nature, as a method of erosion control, which will not have a substantial adverse effect on viewshed values.

Following treatment activities, the project will result in reduced vegetation density within areas treated. Reduction of vegetation may be noticeable in close proximity to each area treated; however, the change in vegetation will not be significant when viewed from a distance. Large, healthy trees will be retained, preserving the forested character of the project area. 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) No federal or state scenic highways are located in the project vicinity. The project area includes portions of Highway 20, which is a designated Scenic Highway recognized by Nevada County. The designated portions of Route 20 are near Nevada City and extend to Route 89 near Sattley, which are not in or near the proposed project footprint. The viewshed from rural residential areas is shown on Figure 13. The fuel treatment areas along Highway 20 included in the project (Figure 14) are limited to easement rights-of-way from the roadway centerline, which, although visible, will not cause substantial damage to County-recognized areas of scenic value. **No impact.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c) Except as provided in PRC § 21099, in non-urbanized areas, 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 in an urbanized area,	☐	☒	☐	☐

would the project conflict with applicable zoning and other regulations governing scenic quality?

c) The project site predominantly includes non-urbanized areas. As much as 60 percent of the treatment areas are adjacent to or visible from public roadways, public lands, and recreational watersheds that will be visible to the public. The existing visual character of the project site varies depending on the location within the PAA, but generally, Nevada County is considered an area of extraordinary scenic quality. Views of the valleys created by the South Fork of the Yuba River and its smaller tributaries contribute to the existing visual character. The remaining 40 percent of the treatment areas consists of rural, forested areas with dense vegetation and open space elements. As discussed in a) above, short-term visual impacts from equipment operation 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 at least 30 feet apart will remain, and grasses will be retained, as feasible, with chips spread and broadcast onsite. Vegetation will be retained in 50 and 75-foot buffers adjacent to watercourses and wetlands within the treatment area.

A Visual Impact Analysis was conducted in December 2025 (Attachment D) to evaluate visibility from Highway 20, as a County-designated scenic highway; Lake Wildwood, as a highly visible waterbody open for public use; and the South Yuba River, as a designated California Wild and Scenic River. Viewshed statistics established during the analysis are presented in Table 2.

Table 2
VIEWSHED STATISTICS

Observation Location	Visible Linear Feet				
	Pleasant Valley Road	State Hwy 20	Bitney Springs Road	Mooney Flat Road	Beitler Road
South Yuba River	107				
South Yuba River State Park Visitor Center	256				
Black Swan Trail		199		5,473	
Lake Wildwood Marina	1,895		2,407		63
Lake Wildwood Golf Course	1,736				
Highway 20 Point 1	586	4,161	1,072		
Highway 20 Point 2		5,893			
Meadowlark Court Residence	3,167		2,116	47	

The removal of vegetation can be noticeable from public areas close in distance to the treatment areas and across the South Yuba River and Lake Wildwood viewsheds, however; the change will not be substantially different from existing conditions, if ladder fuels are maintained in a minimum of at least one ten-foot-wide strip in the South Yuba River and Lake Wildwood viewsheds, both high in natural scenic quality.

Mitigation Measure 1: Scenic Overview Preservation Controls
To reduce degradation of County-designated visually important viewsheds, ladder fuels shall be maintained in a minimum of a ten-foot-wide strip along the boundary of a parcel, where practicable, in the South Yuba River and Lake Wildwood viewsheds, both determined as having high natural scenic

quality. An RFP shall determine the exact amount of ladder fuel retention in each viewshed, with Community Design Guidelines, fire safety standards, and ecological value objectives in mind.

The project will not substantially degrade the existing visual character or quality of public views of the site and the surrounding area. The strategies for treatment in the scenic overview preservation portions of the scenic viewsheds, such as establishing appropriate density retention, are up to the discretion of the RFP. The project protects river corridors and scenic river viewsheds by design, as part of maintaining compliance with the Community Design Guidelines adopted in Policy 18.1 of the Aesthetics Element (Nevada County General Plan). **Less-than-significant impact with mitigation incorporated.**

	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 that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

d) The project does not include the installation or use of 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 (DOC 2026). **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 (DOC 2026). 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 area contains forest land as defined in Public Resources Code §12220(g); however, no portions of the project area are zoned Timberland Production District (TPZ). Commercial harvesting is not included in the project scope of work. 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 the 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

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

a) The project site is within the Mountain Counties Air Basin, of which the Northern Sierra Air Quality Management District (NSAQMD) is the local agency responsible for maintaining air quality standards in Nevada County. The project does not conflict with the California Air Resources Board (CARB) approved Ozone Attainment Plan for western Nevada County (CARB 2019). The project complies with, would not conflict with, or obstruct the implementation of the NSAQMD Air Quality Plan. **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?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	☐	☐	☒	☐

b) Criteria air pollutants include ozone, respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Western Nevada County is in non-attainment for ozone and respirable particulate matter criteria air pollutants. Nevada County is in attainment or unclassified for $PM_{2.5}$, CO, NO_2, and SO_2 criteria air pollutants for California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

Project activities will result in short-term emissions of criteria pollutants. Treatment activities implemented under the program would result in emissions of criteria air pollutants and precursors from several sources, including:

- exhaust generated by off-road equipment and machine-powered hand tools;
- exhaust from on-road vehicle trips associated with worker commutes and transport of equipment; and
- fugitive PM_{10} and $PM_{2.5}$ dust emissions generated by ground disturbance activities and vehicle travel on unpaved roads.

Off-road equipment, power tools, equipment transport, and contractor commute trips throughout the duration of project activities will result in exhaust emissions that contain ozone precursors (reactive organic gases [ROG] and nitrogen oxides [NO_x]). Project activities will also generate particulate matter from equipment operation and travel on unpaved roads, found in 80 percent of the project area. An inventory with a comprehensive list of source categories for each potential pollutant and potential effects is included in Table 3.

Table 3
CALIFORNIA AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	California Standard	National Standard	Pollutant Health & Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.070 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may damage lung tissue.	Major sources include on-road motor vehicles, solvent evaporation, and commercial/industrial mobile equipment. Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight.
Carbon Monoxide (CO)	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline–powered motor vehicles.
Nitrogen Dioxide (NO_2)	1 Hour Annual	0.18 ppm 0.03 ppm	0.10 ppm 0.053 ppm	Irritating eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum–refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO_2)	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	0.075 ppm 0.5 ppm 0.14 ppm 0.030 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Coarse Particulate Matter (PM_{10})	24 Hour Annual	50 μg/m^3 20 μg/m^3	150 μg/m^3 –	May irritate eyes and respiratory tract, decrease lung capacity, cause cancer, and increase mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust, ocean spray).
Fine Particulate Matter ($PM_{2.5}$)	24 Hour Annual	– 12 μg/m^3	35.0 μg/m^3 9.0 μg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead (Pb)	30 Day 3 Months	1.5 μg/m^3 –	– 0.15 μg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Combustion of leaded gasoline

To provide a reasonable approximation of the scale of emissions associated with treatment activities, the rates of emissions associated with each activity were estimated on a pounds-per-crew-per-day basis for each pollutant. These emission rates are based on the types and quantities of equipment used and the number of acres treated per day. These projected emissions were compared to the established thresholds of significance as determined by the NSAQMD in Table 4. Exact emissions for future treatment activities conducted in subsequent years may differ from the emission estimates as equipment, crew size, and area treated per day could vary. However, these estimates provide a reasonable approximation of the levels of emissions generated by different treatment activities. The Level A thresholds require the most basic mitigations, while projects that fall within the Level B range require more extensive mitigation, and Level C requires the most extensive mitigations. Table 4 shows that the estimated project construction-related pollution levels fall within NSAQMD Level A thresholds.

Table 4
DAILY EMISSIONS ASSOCIATED WITH TREATMENTS (POUNDS/DAY)

	ROG	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Manual Treatment	**4.36**	8.52	1.34	0.72
Mechanical Treatment	**14.84**	15.58	13.32	9.53
NSAQMD Emissions Threshold (Level A)	**24**	24	79	--
Exceeds Threshold?	No	No	No	--

In order to ensure the project remains within the operational level threshold identified above and to ensure activities do not contribute cumulatively to considerable net increases in criteria pollutants, substantially deteriorating ambient air quality standards, the project was modified to exclude prescribed pile burning activities. Off-site disposal of biomass material was also eliminated entirely from the scope to reduce anticipated emission thresholds. Although these emissions could result in or contribute to ambient concentrations of criteria air pollutants, by process of scope reduction, the project will not exceed Level A NSAQMD thresholds.

While ambient concentrations of these pollutants may adversely affect certain sensitive receptors, such as asthmatics, children, and elderly populations, the degree to which this is insignificant is due to the rate of dispersion across the Mountain Counties Air Basin. The dispersion of PM_{10} and $PM_{2.5}$ emissions is influenced by meteorology, topography, and ground characteristics, and the locations of emissions-generating treatment activities vary from day to day. Concentrations of ground-level ozone are a secondary pollutant formed during photochemical oxidation reactions involving ROG and NO catalyzed by the ultraviolet component of sunlight. Given the many factors (e.g., topography, meteorology, sunlight, emissions sources) that contribute to the formation and dispersion of ozone, it is not scientifically feasible to predict with a meaningful level of accuracy the number of days and locations, if any, when ozone concentrations would exceed the NAAQS or CAAQS.

It is feasible, however, to expect that the project would result in a degree of long-term reduction in emissions of criteria air pollutants and precursors from wildfire smoke by reducing the intensity with which wildfires spread in treated landscapes and slowing the progress of some fires to allow for more rapid containment.

The following BMPs contained in the *FEMA PEA,* where applicable, will be implemented by the Treatment Contractor during project activities as existing control measures:

- All exposed unpaved surfaces shall be watered twice per day to limit dust generation.
- All haul trucks transporting soil, chips, or other loose material 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.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 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. Equipment shall be checked by a certified visible emissions evaluator.
- 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.
- All construction equipment, diesel trucks, and generators are required to be equipped with Best Available Control Technology for emission reductions of NO_x and PM.
- Monitor dust-generating activities and implement appropriate measures for maximum dust control.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

BMPs listed above will be implemented for the project to control emissions generated by vehicles and equipment, and control measures discussed below for dust emissions from operations on unpaved roads. As described in the emissions inventory and emissions table, the project will not result in a net increase in the emissions of the criteria pollutants inventoried above. Short-term exposure to increased concentrations of secondary pollutants is anticipated; however, fast dispersal is likely based on topography and minimized further with emission reduction techniques deployed. Project activities will reduce long-term exposure to criteria air pollutants by decreasing the likelihood of wildfire smoke exposure and providing ease of access to firefighters for quicker containment. With the implementation of the BMPs, 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 (CARB) 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. Western Nevada County is particularly vulnerable, with the highest population demographic in the entire project area, predominantly people over the age of 65, many of whom may already have existing chronic respiratory conditions. Locations of the highest density of sensitive receptors are considered sensitive receptor locations. The PAA encapsulates the entire community of Lake Wildwood from north to south and east to west. Sensitive receptors, such as residences with children under 5 and people over 65, schools, day care centers, hospitals, and nursing homes, are located within or in the immediate vicinity of the project area. PAA segments with the highest sensitive receptors (Lake Wildwood North and Lake Wildwood South) are shown in Figure 15.

Treatment activities would progress across parcels such that diesel PM generated by activities would not take place near any single sensitive receptor for an extended period of time. For example, mechanical treatment by a single treatment crew progresses at a rate of approximately 5 acres per day. Thus, the diesel PM-emitting activities associated with treatment activities would not take place in the same approximate 5-acre area for more than one day. Mechanical treatments would generally involve the greatest number of large, heavy-duty off-road diesel equipment, such as harvesters, forwarders, skid steers, masticators, and track chippers, in comparison to manual treatments. Some diesel-powered equipment may be used in manual treatments, such as cable skidders, backhoes, and masticators. Diesel-powered on-road trucks would also be used to haul equipment and workers to and from treatment sites. No treatment areas are within the immediate approach of access to a home, business, or public facility. This means the period during which a single person could be exposed to diesel PM emissions from a treatment activity would be short-term, relative to the 30-year exposure timeframe considered substantial and would not cause undue harm.

Traveling on unpaved surfaces is necessary to reach and treat over 40 percent of the project action area. Therefore, vehicle travel on unpaved surfaces would generate emissions of fugitive PM_{10} and $PM_{2.5}$ dust during implementation. **Mitigation Measure 2** would minimize fugitive PM_{10} and $PM_{2.5}$ dust emissions by limiting vehicle speeds on unpaved roads. As a further precaution, suspension of ground disturbing activities would be required if activities result in visible dust transported outside the boundary of the treatment areas. Additionally, BMPs listed above require emission reduction techniques, such as requiring treatment crews to wet unpaved roads using water trucks or non-toxic chemical dust suppressants. Implementation of **Mitigation Measure 2** and BMPs above would minimize the contribution of treatment activities to localized concentrations of fugitive PM_{10} and $PM_{2.5}$ emissions. Stands of trees in and near the treatment sites serve as natural barriers, limiting the fugitive dust emissions from transport over long distances from the place of origin.

Mitigation Measure 2: Exhaust Reduction and Dust Control Techniques
In order to reduce exposure to sensitive receptors, most at risk for the onset of asthma, or other chronic respiratory conditions, the following measures must be deployed at all times during implementation in Bitney Springs and Lake Wildwood segments: All traffic associated with project

activities will be restricted to a speed limit of 15 miles per hour. Stockpiles of chipped material susceptible to wind-blown dispersal will be immediately spread and dispersed onsite or covered to prevent movement of the material. Stockpiled limbs, slash, chipped material, and/or pulverized sawdust from chipper operations may not be left onsite for an extended period of time (of 2 hours or more). Dust suppression equipment, collection systems, such as wet vacuums or immediate placement of material into dumpster trucks, shall be used in areas identified as sensitive receptors to reduce dust exposure. Equipment idle times shall be minimized to 2 minutes or less by shutting down equipment when not in use. Electric and gasoline-powered equipment will be substituted for diesel-powered equipment whenever practicable.

Emissions of PM, CO, ROG, and NO from diesel-powered equipment and particulate emissions from vehicular traffic on unpaved roads and soil disturbance to sensitive receptors in the Bitney Springs and Lake Wildwood communities will be addressed by **Mitigation Measure 2** so that anticipated impacts are reduced, and those most vulnerable may take actions to minimize their exposure, if needed. The closest mapped area containing ultramafic rocks, which are areas likely to contain NOA (naturally occurring asbestos) is 2 miles away from the project area; therefore, NOA is not found within the project area. 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.

The project will not expose sensitive receptors to substantial pollutant concentrations because of the short duration and transient nature of project activities. BMPs listed in b) above and **Mitigation Measure 2** will minimize pollutants generated by the project to a level **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 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. Diesel odor emissions are highly dispersive, and equipment will not be operated in any one location for an extended period of time near sensitive receptors (2 hours or more). No pile burning activities are included in the scope of work, so the project does not include any smoke-induced odor impacts. Best Management Practices and **Mitigation Measure 2** will be implemented by the contractor, including limits on equipment idling times to minimize diesel exhaust odors. Odors generated by project activities will be short-term, transient, and will immediately 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. to describe the biological resources present in the project area as well as potential project impacts to sensitive resources (Attachment B). The BRA includes habitat types and vegetative communities within the project area were identified through consultation with the California Wildlife Habitat Relationships (CWHR) database and the USFWS National Wetlands Inventory. Detailed habitat characterization was also completed onsite; using CWHR Habitat Descriptions as well as the California Native Plant Society (CNPS) Online Manual of California Vegetation Alliances. CWHR vegetation types within the project area are shown on Figure 8. The discussion below is based on information contained within the BRA, which is included as Attachment B.

The following BMPs contained within the *FEMA PEA* will be implemented prior to and during project implementation by a Qualified Biologist and Treatment Contractor to minimize impacts to special-status species, raptors, and migratory birds. Where applicable, BMPs have also been modified to meet State agency standards and regulations.

- No more than seven days before the start of ground-disturbing activities, focused preconstruction surveys for special-status species will be completed by a USFWS/CDFW-approved biologist in suitable upland dispersal habitat areas, if special-status species have been previously identified in the area.
- Exclusion fencing or an equivalent will be installed around special-status species habitat prior to any work 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, weed-free straw, or tackifier hydroseeding compounds.
- Prior to any work 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 the avoidance and minimization measures for the special-status species.

Potential Impacts to Special-Status Plant Species

A desktop habitat assessment was completed to determine the potentially occurring special-status plant species within the habitat types identified onsite. Special-status plant species that have the potential to occur within treatment areas are shown in Table 5.

Table 5
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES

Common Name	Scientific Name
Pine Hill flannelbush	*Fremontodendron decumbens*
Stebbins' morning-glory	*Calystegia stebbinsii*
Spiked western rosinweed	*Calycadenia spicata*
Scadden Flat checkerbloom	*Sidalcea stipularis*
Cantelow's lewisia	*Lewisia cantelovii*
Dubious pea	*Lathyrus sulphureus* var. *argillaceus*
Dwarf downingia	*Downingia pusilla*
Chaparral sedge	*Carex xerophila*
Finger rush	*Juncus digitatus*
Brownish beaked-rush	*Rhynchospora capitellata*
Butte County fritillary	*Fritillaria eastwoodiae*

Key to Habitats: AG = Annual Grassland, AQ = Aquatic, BAR = Barren, BOP = Blue Oak Pine, BOW = Blue Oak Woodland, C = Cropland, MC Chaparral, MCC = Montane Chaparral, MH = Montane Hardwood, MHC = Montane Hardwood-Conifer, PG = Perennial Grassland, PP = Ponder URB = Urban, VOW = Valley Oak Woodland

Pine Hill flannelbush (*Fremontodendron decumbens)*

Pine Hill flannelbush is listed as a federally Endangered species by USFWS and has a California Rare Plant Rank of 1B.2. It has been recorded east and north of the project site, with the closest occurrence being from 2016. The elevation of the project falls within the known elevation range of the species. There are slopes and rocky outcrops within the project area. The species is associated with foothill pine, often found in this area. There is a possibility for the species to occur in the project area. However, areas with slopes greater than 65 percent grade are to be excluded from treatments, which may reduce some impacts to Pine Hill flannelbush. Additionally, treatments will focus on vegetated areas, not rocky areas where this species is likely to grow.

Stebbins' morning-glory *(Calystegia stebbinsii)*

Stebbins' morning-glory is threatened by urbanization and development. Suppression of natural disturbances and fire is decreasing the species' reproductive ability. Stebbins' morning-glory has 13 recorded observations in Nevada County, with one within Penn Valley (Calflora). It grows in open chaparral, which does occur in patches throughout the project area. There is the potential for the species to occur onsite within suitable chaparral habitat. Since this species is adapted to a fire regime, a reduction in fire frequency could negatively impact the species. However, the project is intended to reduce conditions for catastrophic fire that would lead to low plant survivorship from high heat intensity. Fire of this nature is not a part of the naturally occurring fire regime. The clearing of vegetation could improve the viability of the species, as it is susceptible to being overcrowded.

Spiked western rosinweed (*Calycadenia spicata)*

Spiked western rosinweed is an endemic annual herb that has a California Rare Plant Rank of 1B.3. It is primarily found in the Central Valley and the adjacent Sierra Nevada foothills. It grows in foothill

and valley woodlands and grasslands. It is typically found in dry habitats that are rocky, open, gravelly, or disturbed, but has also been observed on roadsides and sometimes in clay habitats. Threats to this species include vehicles, development, habitat loss, grazing, alteration of fire regimes, and non-native plants. Spiked western rosinweed can grow in a variety of dry woodland and grassland habitats. It has been observed south of Grass Valley and near Newton. The proximity to these observations of the species and the presence of suitable foothill grassland and woodland habitat, particularly along roadsides, means there is a potential for spiked western rosinweed to occur within the project area.

Vegetation clearing may remove invasive species that threaten this species. Since this species is reliant on the natural fire regime, a reduction in fire frequency could negatively impact the species. However, the project is intended to reduce conditions for catastrophic fire that would lead to lower plant survivorship from high heat intensity. Fires of this nature are not a part of the naturally occurring fire regime.

Scadden Flat checkerbloom *(Sidalcea stipularis)*
Scadden Flat checkerboard is an endemic perennial herb that is State-listed as Endangered with a California Rare Plant Rank of 1B.1. There are only three known populations of this species, all of which occur in the vicinity of Grass Valley. Most of the known plants for this species are growing on privately owned land or land owned by the California Department of Transportation. The species is threatened by highway widening, herbicide application, alterations to natural hydrology, and non-native plants like Himalayan blackberry.

Scadden Flat checkerbloom grows only in wetlands and freshwater marshes. This species has only been observed around Grass Valley in small populations. Due to the project's proximity to Grass Valley, there is the potential for Scadden Flat checkerbloom to occur near wetland areas. This plant is an obligate wetland plant, meaning that it requires high water content and will not be found far outside of flooded areas. Due to the 75-foot buffer zones surrounding wetlands, it is highly unlikely that any direct impacts to this plant occur during treatments.

Cantelow's Lewisia (*Lewisia cantelovii)*
Cantelow's lewisia is a perennial herb that is endemic to California and has a Rare Plant Rank of 1B.2. It grows in a variety of habitats, including granite cliffs, rocky outcrops, serpentine seeps, chaparral, and conifer forest. Most occurrences of the species are on U.S. Forest Service land. It is threatened by horticultural collecting, road construction, mining, and logging.

Cantelow's lewisia is associated with ponderosa pine, which grows throughout the project area. Deer Creek runs through the project area and has steep slopes alongside it in the southern portion of the treatment areas that may provide suitable habitat. Areas of steep slopes are going to be excluded from project activities, along with exclusion buffers around watercourses. Treatments will also focus on vegetated areas and will not disturb rocky outcrops, making the direct impacts to this species low. Many occurrences of this species are south of Highway 20, an area that is included within some treatment areas. The highway runs along the southern limits of the project. There is the possibility for the species to occur, especially in the Lower Penn Valley section of the PAA near known occurrences.

Dubious pea (*Lathyrus sulphureus* var. *argillaceus)*
The dubious pea is a perennial herb that is a variety of the snub pea. It has a California Rare Plant Rank of 3. It is mainly dispersed across the foothills of the Sierra Nevada Mountain range from

Calaveras to Shasta County. Dubious pea blooms in April and May. It is primarily pollinated by bees and reproduces through seeds. It is threatened by grazing, foot traffic, and road construction. Dubious pea has the potential to occur within the site. An observation of the species was made within the project area in 2019, though the exact location was not specified. It grows in forest and mixed oak-pine woodlands, which are present throughout the project area.

Dwarf downingia (*Downingia pusilla)*
Dwarf downingia is an annual herb found in California and elsewhere that has a Rare Plant Rank of 2B.2. It is found near wet areas such as ditches, marshes, and riparian wetlands. It can also be found in wet areas of foothill woodlands. Dwarf downingia blooms from March to May with small tubular flowers that are white or blue with yellow spots near the mouth of the tube.

Dwarf downingia has been observed west of the project area near Smartville. Due to the presence of suitable foothill grasslands and woodlands, there is potential for it to occur within the project area. However, this species is restricted to wet areas near marshes and wetlands. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Chaparral sedge (*Carex xerophila)*
Chaparral sedge is a perennial herb that is endemic to California and has a Rare Plant Rank of 1B.2. It is found at 280 to 770 meters in elevation in chaparral, cismontane woodlands, and lower montane conifer forest. The species is restricted to dry gabbroic and serpentine soils along the northern Sierra Nevada range. It blooms from March to June and is pollinated via wind. Threats to the chaparral sedge include development, non-native plants, and fire. Development is a particular risk in Nevada County on Bureau of Land Management land, where areas of known occurrences and habitats that the species has the potential to occur on are threatened.

The project site contains chaparral, woodlands, and conifer forest throughout the area, all of which have the potential for growth of chaparral sedge. The site is within the elevation range of the species. It has been observed growing along the roadside on the southern edge of the project limit in the Lower Penn Valley section of the PAA. There are several other occurrences south of the project area.

Finger rush (*Juncus digitatus)*
Finger rush is an annual herb that is endemic to California and has a Rare Plant Rank of 1B.1. It is found at elevations of 660 to 1097 meters in openings in woodlands and montane coniferous forest as well as vernal pools. This species blooms from April to June with reddish-purple flowers. It is a wetland plant and requires access to water. Alterations to the hydrologic regime are a major threat to this species. There are limited observations of this species across the foothills of the Sierra Nevada.

Observations of this species have occurred near Grass Valley, east of the project area. However, there is a suitable habitat within the project area and therefore potential for this species to occur. This species is restricted to wetlands and occurs only in areas with access to water. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Brownish beaked-rush (*Rhynchospora capitellata)*
Brownish beaked-rush is a perennial herb that has a Rare Plant Rank of 2B.2. It is found at elevations of 45 to 2000 meters in montane coniferous forests, marshes, swamps, and meadows. This species blooms in July and August and produces reddish-brown flowers. It requires access to water and is found only in wetlands and riparian areas. Threats to this species include grazing and development.

Brownish beaked-rush has been observed in Bridgeport near the project area, as well as near Grass Valley. Coniferous forest habitat occurs within the project area, and therefore, the project area has the potential to host this species. This species only occurs in wetland areas. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Butte County fritillary (*Fritillaria eastwoodiae)*
Butte County fritillary is a perennial, bulbiferous herb. It is Moderately Threatened in California with a Rare Plant Rank of 3.2. It is generally found growing on dry slopes in chaparrals. The species will also grow in cismontane woodland or lower elevation coniferous forest. It will inhabit elevations ranging from 50 to 1500 meters. It has been recorded growing on serpentine, granitic, volcanic, and, rarely, limestone soils. The main threats to the species are caused by logging, road construction, and development on private land. The habitats in which the Butte County fritillary will grow are present in the project area. Dry, sloping chaparral, woodlands, and low-elevation coniferous forest occur throughout the project area and have the potential to host this species. The closest recorded occurrence of the species is just to the north. Since this species also grows in a variety of soil types, there is a high probability that Butte County fritillary will be present within project areas.

Mitigation Measure 3: Riparian and Wetland Identification and Exclusion
Prior to ground-disturbing activities, eligible parcels will be surveyed for aquatic resources. Treatment prescriptions 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.

Mitigation Measure 4: Pre-Treatment Botanical Surveys
If habitat types for special-status plants are identified, protocol-level rare plant surveys of the parcels shall be conducted by a Qualified Biologist within the treatment area. If no special-status plants are found, no further measures pertaining to special-status plants are necessary. If special-status plant species are identified, treatment will exclude activities within 15 feet of the individual, and exclusionary fencing and/or high-visibility flagging will be placed around the plants before operations on the parcel to demarcate the avoidance area.

With **Mitigation Measures 3 and 4**, impacts to Pine Hill flannelbush (*Calystegia stebbinsii),* Stebbins' morning-glory (*Calycadenia spicata),* spiked western rosinweed (*Sidalcea stipularis),* Scadden Flat checkerbloom (*Lewisia cantelovii),* Cantelow's lewisia (*Lathyrus sulphureus* var. *argillaceus),* dubious pea (*Downingia pusilla),* dwarf downingia (*Carex xerophila),* chaparral sedge (*Carex xerophila),* finger rush (*Juncus digitatus),* brownish beaked rush (*Rhynchospora capitellata),* Butte County fritillary (*Fritillaria eastwoodiae*) and other potentially occurring rare plant species will be **less than significant with mitigation incorporated.**

Special-Status Wildlife
The project area contains several habitat types that could support special-status wildlife species. Potentially occurring special-status wildlife species are included in Table 6.

Table 6
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name
Bald eagle	*Haliaeetus leucocephalus*
California black rail	*Laterallus jamaicensis coturniculus*
California spotted owl	*Strix occidentalis occidentalis*
California condor	*Gymnogyps californianus*
Yellow-breasted chat	*Icteria virens*
Gray wolf	*Canis lupis*
Ringtail	*Bassariscus astutus*
Townsend's big-eared bat	*Corynorhinus townsendii*
Western red bat	*Lasiurus frantzii*
California red-legged frog	*Rana draytonii*
Coast (Blainville's) horned lizard	*Phrynosoma blainvillii*
Foothill yellow-legged frog	*Rana boylii*
Northwestern pond turtle	*Actinemys marmorata*
Western spadefoot	*Spea hammondi*
Chinook salmon	*Oncorhynchus tshawytscha*
Steelhead	*Oncorhynchus mykiss irideus*
Crotch's bumble bee	*Bombus crotchii*
Monarch butterfly	*Danaus plexippus*
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*
Vernal pool fairy shrimp	*Branchinecta lynchi*

Raptors
All raptors in the orders of Falconiformes or Strigiformes (birds of prey), including common species and their nests, are protected from "take" under the California FGC, Section 3503 and 3503.5, and the Federal Migratory Bird Treaty Act. Raptor species may nest in trees and other vegetation located within or in the immediate vicinity of the project area. Construction activities such as tree and vegetation removal or grading and paving occurring during the nesting season (February 1 through August 31) could result in direct impacts to nesting birds.

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
California FGC, 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.

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

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 "take" prohibitions, including disturbance, such as injury, decreasing productivity, or substantially interfering with normal breeding, feeding, or sheltering, or nest abandonment. Under the CESA, 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, or sheltering, or nesting.

Available data on CNDDB show that the nearest bald eagle occurrence is approximately five miles northwest of the project area near Collins Lake. A bald eagle observation was also reported by CDFW's Bald Eagle Observations Database within the Englebright Reservoir near Bridgeport, less than a mile outside of the project area. Bald eagles may forage along Lake Wildwood, the Englebright Reservoir, and the Yuba River, and are likely to scavenge or fly over the proposed project location. Likely nesting habitat for bald eagles exists in the eastern portion of the project area in the Bitney Springs section of the PAA. Bald eagles exhibit nest site fidelity and therefore have the potential to be impacted through the removal or modification of their nest sites.

Mitigation Measure 4 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. **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. Project impacts to the bald eagle would be **less than significant with mitigation incorporated**.

Special-Status Species

California black rail (*Laterallus jamaicensis coturniculus)*
The California black rail is listed as Threatened under CESA and a Species of Special Concern by CDFW. This species is a year-long resident species of California that inhabits the San Francisco Bay area, Sacramento-San Joaquin Delta, the Salton Sea, the lower Colorado River area, and some areas of coastal southern California. The black rail inhabits wetlands, both saline and freshwater, and is rarely seen even in areas within its range. Black rail inhabits perennial wetlands with dense emergent vegetation. Freshwater plant species where they can be found include bulrushes, cattails, and saltgrass. They typically prefer higher wetland zones without large influxes of water, with shallow water and gently sloping shorelines. Nests are deep, loose cups that are concealed in dense vegetation at ground level or elevated by a few inches. Over 30 observations of black rail are recorded in CNDDB within

five miles of the project area. No occurrences are within the roadside treatment area; however, the project area falls within the species' yearlong range.

Mitigation Measure 5 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: Raptor, Migratory Bird, and Special-Status Bird Buffers
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. Surveys shall begin before sunrise and continue until all vegetation and nesting habitat has been sufficiently observed. 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. The project would result in **less-than-significant impact with mitigation incorporated** for the California black rail.

California condor (*Gymnogyps californicus)*
The California condor is listed as Endangered under the ESA, Endangered under CESA, and Fully Protected by CDFW. However, the population that is in range of this project is a non-essential experimental population that consists of condors released from captivity throughout Oregon, northwestern Nevada, and northern California within their historic range. This population is distinct from the population that occurs in southern California, Arizona, and Utah.

The condor is a habitat generalist, as it can fly large distances in search of food. Foraging habitats include open grasslands, oak savanna foothills, and beaches adjacent to coastal mountains. Roosting takes place in large trees/snags or on rocky outcrops/cliffs. Condors are carrion eaters that consume carcasses they come across. Nests are found on ledges of large, steep cliffs, in caves, or on the broken tops of old-growth conifers with no additional nesting material added. Females lay a single egg but may produce a replacement egg if an egg is lost early enough in the breeding season. Both parents are responsible for the care of the chick, and the young are dependent on the parents for up to two years.

While rock outcroppings and cliffs do not occur within the project area to provide suitable nesting habitat, there is potential for condor foraging, considering the large distances that they travel for food. The project would result in **less-than-significant impacts** to the California condor.

California spotted owl (*Strix occidentalis occidentalis)*
The California spotted owl (CSO) is proposed as threatened under the ESA and a CDFW Species of Special Concern. CSOs are found in eastern California throughout the Sierra Nevada range and in southern coastal California. Spotted owls typically inhabit mature forests with a mixed canopy comprised of conifer and oak species. Nesting habitat requires important stand elements, including high canopy closure (60 to 80 percent), a multi-layered, multispecies canopy with large overstory trees (20-plus inches DBH), and a presence of broken-topped trees or other nesting platforms (e.g., mistletoe clumps) (FWS 1992). Foraging habitat provides foraging opportunities for spotted owls but

lacks the structure to support nesting and roosting (FWS 1992). Owls also use a broader range of forest types for foraging than they do for nesting. Urbanized and developed portions of the project area are less likely to provide appropriate habitat because of the degree of human presence, low canopy cover, lack of old-growth forest habitat, and proximity to major roadways and the railroad.

California spotted owl foraging or nesting may occur throughout multi-story oak woodland within the project area; however, the treatments are primarily limited along roadways, typically considered undesirable for spotted owls. The Bitney Springs PAA falls within 5 miles of CSO range and therefore is the most likely portion of the project area to host nesting and foraging owls. Operations within the Bitney Springs PAA should adhere to an LOP to avoid direct impacts during nesting season. If the implementation of the LOP is not feasible, then surveys will be required to confirm presence prior to ground disturbing activities. **Mitigation Measure 6** 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 6: California Spotted Owl Surveys
If a CSO nest is observed within the project area, a 0.25-mile non-disturbance buffer will be implemented around the nest outside of breeding season (February 1 – August 15). Work within suitable habitat of the Bitney Springs PAA, an LOP will be implemented outside of the breeding season. If the implementation of an LOP is not feasible, protocol-level surveys will be conducted to confirm no presence of CSO prior to work.

If establishment of a buffer is not feasible, CDFW will be consulted for further avoidance and minimization guidance; alternatives to the buffer may include biological monitoring of work within the buffer or seasonal avoidance of the site (i.e., returning to complete work at that site outside of the nesting season). If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume. The project would result in **less-than-significant impacts with mitigation incorporated** for the California spotted owl.

Yellow-breasted chat *(Icteria virens)*
Yellow-breasted chat is listed as a Species of Special Concern by CDFW. They are a summer resident of California that inhabits coastal areas in the north and south, as well as the foothills of the Sierra Nevada range. Yellow-breasted chats inhabit riparian habitats surrounding watercourses. Yellow-breasted chat is found in elevations of up to 1459 meters in valley foothill riparian areas. During their migration, they may be found at lower elevations in riparian habitat. They require thickets of willow and other brushy tangles near watercourses. They typically glean from the foliage of shrubs and low trees. Yellow-breasted chats usually arrive in April and depart for wintering grounds in late September.

One observation of the yellow-breasted chat was recorded on CNDDB within five miles of the project area. The entire project area falls within the species range. Yellow-breasted chat inhabits riparian areas present within the project area surrounding the many rivers, streams, and other water bodies. Non-work buffer zones of 75 feet and 50 feet surround all watercourses, and riparian habitat will be identified and excluded from treatments. As a result, all potential nesting and foraging habitat for the yellow-breasted chat will be excluded from treatments. The project would result in **less-than-significant impacts** to the yellow-breasted chat.

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. Current threats to 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. For the gray wolf, the site lacks habitat suitable for denning or rendezvous behaviors. No wolf sighting has been recently reported in Nevada County. 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**.

Ringtail *(Bassariscus astutus)*
The ringtail is recognized as a fully protected species by CDFW. In California, the ringtail is widely distributed throughout riparian forests, brush stands, and shrublands in lower to middle elevations. They can be found nesting and living in natural cavities, snags, and sometimes buildings near a permanent water source. They are nocturnally active and typically feed primarily on rodents and rabbits. The project area falls within the range of ringtail cats and provides suitable habitat. Ringtail cats may likely occur in the project area.

Ringtails utilize tree hollows with entrance holes greater than two inches in diameter in standing trees or downed logs. The removal of dead, dying, or diseased hardwood trees could potentially target ringtail den habitat. Denning sites have the potential to be disturbed by project activities. Impacts to these potential den structures would be avoided by the inclusion of protection measures for ringtail dens. **Mitigation Measure 7** includes a Limited Operating Period (LOP) from April 15 to June 30 during the denning season for ringtails, and **Mitigation Measure 8** ensures any potential den structures would be identified before completing project work by surveying within 0.25 miles of the site to determine the presence of a ringtail dens before treatment. Any den structures would be preserved, if feasible, if they do not contribute to fuel loads or wildfire hazards. Active dens would be avoided with an appropriate temporal or spatial buffer to prevent mortality and loss of den habitat, therefore, impacts to ringtails would be **less than significant with mitigation incorporated**.

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 3 incorporates a non-disturbance wetland buffer that 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**.

Townsend's big-eared bat *(Corynorhinus townsendii)*
Townsend's big-eared bat is listed as a Species of Special Concern by CDFW. This species is found year-round throughout California in all habitats except subalpine and alpine. Townsend's big-eared bats are nocturnal and can live in a variety of structures for roosting, including caves, mines, tunnels, buildings, or other human-made structures. Foraging occurs in open and wooded areas where they consume moths as their principal food source. Roosting sites do not reach below freezing. Females form maternity roosts with small clusters of females and young, usually in warmer areas. Males roost alone or in small groups. Birthing of young occurs in May and June, and maternity roosts begin to disperse in August. Hibernation occurs from October to April.

Two observations of Townsend's big-eared bat have been recorded on CNDDB within five miles of the project area. The project area falls within the species range, which covers all of California. While roost habitat may occur in buildings and other structures in the area, treatments are focused on vegetation and would not disturb the thermal quality or protective cover and therefore would not harm roost habitat. The project would result in **less-than-significant impacts** to the Townsend's big-eared bat.

Western red bat *(Lasiurus frantzii)*
The western red bat is listed as a Species of Special Concern by CDFW. The red bat is locally common in some areas and occurs from Shasta County to the Mexican border, west of the Sierra Nevada/Cascade crest, and in deserts. They migrate between summer and winter ranges and can be found outside of their normal range. Western red bats are most commonly associated with riparian habitats.

Western red bats are nocturnal and roost primarily in trees, and occasionally in shrubs. Roosts are found only within the foliage of trees, typically among dense clusters of leaves within which they hang. Roosting habitat includes forest and woodlands from sea level up through mixed conifer forests. They often choose roost sites within edge habitat adjacent to streams, fields, or urban areas. Roost sites are typically protected from above, open below, and located above dark ground cover from 0.6 to 13 meters from ground level. Maternity roosts and day roosts are found in very similar locations, although nursing colonies with females and their young are often in higher sites than male roosts. Birthing occurs from late May through early July, and young are capable of flight within six weeks of age. Western red bats have twins or multiple births within a year. Hibernation occurs in the winter, with arousal occurring on warm days.

One occurrence of the western red bat has been recorded in CNDDB within five miles of the project area. The project area falls within the species' yearlong range. Noise disturbance has the potential to

temporarily disturb roosting bats, and felling of trees may cause disturbance to individuals within roosts or hibernating and cause fleeing of the nest during the day. Project activities during winter hibernation are of concern. Pre-construction surveys will be conducted within the project area to identify bat roosting structures prior to treatment. If roosting habitat is identified, the tree will be removed at the appropriate time of year or avoided.

Mitigation Measure 9: Bat Roost Humane Exclusion
Prior to ground disturbing activities, trees with maternity roost structures (i.e., cavities in the trunk or branches, woodpecker holes, loose bark, and cracks) within riparian areas and oak woodlands shall be identified by a Qualified Biologist. If a roost structure is present, one of the following shall occur for any work within 50 feet of the structure:

- Treatment is completed between September 1 and March 1;
- Prior to treatments during 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; or
- Emergence surveys shall be completed by a Qualified Biologist to determine if the roost structure is occupied. If it is not occupied, then no further measures are required. If it is determined to be occupied, the humane exclusion described above must be implemented.

Project impacts to the western bat will be **less than significant with mitigation incorporated.**

California red-legged frog *(Rana draytonii)*
The California red-legged frog (CRLF) is listed as Proposed Threatened under the ESA and a Species of Special Concern by CDFW. This frog resides along the Sierra Nevada range, some portions of the Cascades range, and throughout coastal California from Mendocino County south. Red-legged frogs inhabit pools of streams, marshes, and ponds. They are highly aquatic and prefer 3 feet or more of water to take cover in, as well as dense vegetation. Water bodies must retain some amount of surface water throughout the year to provide a suitable habitat. Populations in the Sierra Nevada are highly restricted and consist of small numbers of individuals.

No CNDDB occurrences have been recorded within the project area. The project area falls within the species' range, and small pockets of suitable habitat exist, particularly along the Yuba River. Final critical habitat has been designated nearby in the greater surrounding area, with one area of final critical habitat occurring within 6 miles of the project area. Red-legged frogs may occur in wetland areas or intermittent streams that may occur within the project area. Wetland and riverine buffers, alongside riparian exclusions, will reduce any direct impacts to breeding or migrating individuals. Nearby noise disturbance from project activities may cause stress for individuals who prefer quiet marsh habitat and may cause frogs to temporarily seek refuge. Although this species remains close to water throughout its life history, occasional migration for foraging or during wet weather into upland areas is possible; noise and human presence during treatments may deter migration into these areas. These disturbances will be temporary and will not impact habitat selection or migration after project activities conclude. The project would result in **less-than-significant impacts** to CRLF.

Coast (Blainville's) horned lizard (*Phyrnosoma blainvillii)*
The coast horned lizard is listed as a Species of Special Concern by CDFW. This species is found throughout the Central Valley and southern coastal California. It occurs in valley-foothill hardwood, conifer and riparian areas, and pine-cypress, juniper, and annual grassland habitats. They are found in open areas with sparse vegetation with sandy, loamy soils where they can easily burrow.

Five occurrences have been recorded in CNDDB within five miles of the project area, all in the east direction towards Grass Valley. However, this lizard is most often found in areas with very sparse vegetation, making their overlap with overgrown treatment areas unlikely. In areas where suitable habitat is identified, pre-treatment surveys will be conducted for individuals, and nest surveys will be conducted prior to project activities during nesting season (May through August). Exclusion buffers of 50 feet will be placed around any nests that are observed to avoid impacts to young or reproducing individuals. The relatively small project area compared to the species range would restrict these impacts to a portion of the species populations and is not likely to cause trends toward population decline or extirpation. Personnel will be informed of lizard behavior, as they tend to freeze in the threat of a predator, so care will be taken to look for lizards in the area. If a coast horned lizard is observed during treatments, then it shall be avoided or relocated by a Qualified Biologist, if feasible. The project would result in **less-than-significant impacts with mitigation** for the coast horned lizard.

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. 3, which is the North Sierra Population. *R. boylii population 3* is listed as Threatened under CESA.

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). 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.

One observation is recorded in CNDDB within the project area near Rough and Ready in Squirrel Creek. The project area is within the species range and may occur in other Class II streams within the project area. Work is proposed in parcels in the Lower Penn Valley section of the PAA through which Squirrel Creek runs. Squirrel Creek has connectivity to Deer Creek, as well as other ephemeral streams throughout the project area. If surface water is present, then there is potential for FYLF to occur since adults disperse widely throughout watercourses in the spring through summer seasons, wherever cool running surface water and adequate riparian cover are present. Although this species remains close to water throughout its life history, occasional migration for foraging or during wet weather into upland areas is possible; noise and human presence during treatments may deter migration into these areas.

These disturbances will be temporary and will not impact habitat selection or migration after project activities conclude. The project would result in **less-than-significant impacts** to FYLF.

Northwestern pond turtle (*Actinemys marmorata)*
The northwestern pond turtle is listed as a CDFW Species of Special Concern and a Proposed Threatened species under the ESA. Northwestern pond turtles are habitat generalists and can occupy a wide range of aquatic habitats. The most limiting factor of habitat suitability is a lack 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 as far as a few hundred feet from water.

Seven observations are recorded in CNDDB within five miles north and west of the project area. The project area falls within range and contains suitable habitat. WPT may occur in Class 1 and Class 2 streams and emergent wetlands within the project area. Watercourse protections are included in the project design, which will avoid disturbance to the aquatic environment. 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. 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 10** is included to identify and protect WPT and their nests if project work occurs during nesting season.

Mitigation Measure 10: Western Pond Turtle Surveys
Prior to ground-disturbing activities, work areas within 100 feet of watercourses (ponds, streams, or rivers) will be evaluated to determine if suitable nesting habitat for the western pond turtle (WPT) is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland annual grassland and riparian 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 their nest is found, a 50-foot (or greater) buffer shall be installed between the work area and the nest, where no activities, equipment access, or foot traffic shall occur. The buffer perimeter shall be demarcated with high-visibility, low-disturbing methods such as flagging tape or pin flags. The area shall be communicated to personnel, so that workers onsite are aware of the exclusion area.

If an adult individual or juvenile is detected at any time within an active work area or access route, project activities will cease until it has left the work area on its own accord or is relocated by a Qualified Biologist to a nearby area with a habitat similar to the environment in which it was found. Project impacts to the northwestern pond turtle will be **less than significant with mitigation incorporated.**

Western spadefoot (*Spea hammondi)*
The western spadefoot is listed as Threatened under the ESA and as a Species of Special Concern by CDFW. Their range falls throughout the Central Valley of California and the adjacent foothills. The western spadefoot is found primarily in Grasslands and occasionally in valley-foothill hardwood woodlands with shallow temporary pools. They spend most of their time in self-constructed underground burrows or mammal burrows up to 1 meter deep. Spadefoots emerge from their burrows

to reproduce after rain events, typically from January through March. Larvae of the spadefoot are fully aquatic tadpoles, which are laid in shallow temporary ponds created by rainfall. Metamorphosed juveniles will seek refuge around ponds in mud cracks, under boards, and other surface objects.

No CNDDB recorded observations exist within or around the project area. However, the southwestern portion of the project area in the Mooney Flat, Lake Wildwood South, and Lower Penn Valley road segments falls within the range of the species. Potential suitable habitat may occur where seasonal pools occur. Migration from burrows to breeding ponds occurs during suitable rainfall conditions. Project treatment disturbances may disrupt which ponds are chosen or when migration occurs. However, since disturbances will only occur during a short period of time during vegetation removal, this impact will not persist and will not cause continual disruptions to the migration patterns of these species.

If a heavy rain event occurs (more than 1 inch of rain within 48 hours) in the breeding season (January through March), within three days prior to starting work that occurs within 200 feet of annual wetlands, a Qualified Biologist will survey the work area and nearby waterbody for the presence of western spadefoot within the three days prior to starting work. If adults are observed emerging from burrows within the project area, or if tadpoles or suitable habitat for egg masses are identified within the work area, then the work area will be avoided until a dry period of 3 days occurs, and another survey confirms the lack of presence of spadefoot migrating to the reproduction pond. The project would result in **less-than-significant impacts with mitigation incorporated** for the western spadefoot.

Central Valley Spring-Run Chinook salmon *(Oncorhynchus tshawytscha pop. 11)*
Chinook salmon in the Central Valley spring-run are listed as Threatened under the ESA and the CESA. Chinook salmon are known to migrate in streams throughout California at multiple times of year for spawning. Salmon are anadromous fish, meaning that adults travel up freshwater streams to spawn, and then juveniles migrate downstream to grow and mature in the ocean. Spawning occurs in cool water streams with riffle pool complexes with gravel bottoms.

The Yuba River is passable to chinook up to the Englebright Dam, a passage barrier located within the project area. As a result, spawning and large groups of salmon occur just below the dam. The USFWS has designated this area of the Yuba River as Critical Habitat for the chinook, and NNFS has identified it as Essential Fish Habitat. Deer Creek is connected to the Yuba River in the Mooney Flat Road segment, and chinook are able to run upstream to the Wildwood Dam. They have the potential to occur within the project area in passable areas of the Yuba River and its tributaries. It is likely that they will be present in the project area within the Yuba River and Deer Creek up to the Wildwood Dam, a fish passage barrier.

In-water work will not be performed as a part of this project, and Class I watercourses will have a 75-foot non-work buffer placed around the shoreline. The buffer would prevent herbicides from entering watercourses, prevent the removal of shade that creates fish habitat, and retain nutrient cycling and water quality during project activities. The project would result in **less-than-significant impacts** to Central Valley spring-run Chinook salmon, and **no impact** to Essential Fish Habitat or Critical Habitat.

Central Valley Steelhead *(Oncorhynchus mykiss irideus pop. 11)*
Steelhead in the Central Valley are listed as Threatened under the ESA and as a Species of Special Concern by CDFW. Coastal rainbow trout/steelhead are the most widely distributed native trout form and are found on the western slopes of the Sierra Nevada in waters draining to the Pacific Ocean. Steelhead are anadromous fish, meaning that adults travel up freshwater streams to spawn, and then juveniles migrate downstream to grow and mature in the ocean. The same fish are referred to as rainbow trout when they remain in freshwater all their lives.

The Yuba River is passable to steelhead up to the Englebright Dam, a passage barrier located within the project area. As a result, spawning and large groups of steelhead occur just below the dam. The USFWS has designated this area of the Yuba River as Final Critical Habitat for the steelhead, and NMFS has identified it as Essential Fish Habitat. Deer Creek is connected to the Yuba River in the Mooney Flat Road segment, and steelhead are able to run upstream to the Wildwood Dam.
They have the potential to occur within the project area in passable areas of the Yuba River and its tributaries. They will likely be present in the project area within the Yuba River and Deer Creek up to the Wildwood Dam, a fish passage barrier.

In-water work will not be performed as a part of this project, and Class I watercourses will have a 75-foot non-work buffer placed around the shoreline. The buffer would prevent herbicides from entering watercourses, prevent the removal of shade that creates fish habitat, and retain nutrient cycling and water quality during project activities. The project would result in **less-than-significant impacts** to Central Valley Steelhead and **no impact** to Essential Fish Habitat or Critical Habitat.

Crotch's bumblebee *(Bumbus crotchii)*
Crotch's bumblebee is listed as a Candidate Endangered species under CESA. The species inhabits most of California from Redding south. It inhabits grasslands, shrublands, chaparral, desert margins, and semi-urban settings. Crotch's bumblebee prefers hotter and more arid climates than other bumblebee species. Nests for their colonies are often found underground in abandoned rodent nests or aboveground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Workers are active from April to August. Only mated queens overwinter and establish the colony in the early spring.

Open areas of grassland will be excluded from project activities where many of these plants occur. The use of machinery and human activity during treatments also has the potential to disturb ground nests or nests found in trees. If an active bumblebee nest is observed within the project area in vegetation that is slated for removal, removal will occur under an LOP, avoiding the time period from April 1 to August 30 when bees are active. Protection measures to retain milkweed plants will also ensure retention of nectar sources, as this is a major food source of Crotch's bumblebee.

If feasible, 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 3** (e.g., forest meadow or grassland habitat containing sufficient floral resources), then **Mitigation Measure 11** will be implemented, as feasible:

Mitigation Measure 11: Bumble Bee Avoidance
Ground-based mechanical equipment will be excluded from meadows or annual grasslands. If a bumblebee nest is observed on a tree to be removed, then removal will follow an LOP between September 1 and March 31. If an LOP is not feasible, a Qualified Biologist shall implement focused surveys of the project area in suitable riparian areas and meadows to determine if special-status bumblebees are present or if their burrows exist. If the bees onsite are determined to be non-special-status species, then work may continue. Project impacts to the Crotch's bumblebee are **less than significant with mitigation incorporated**.

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. It is possible that monarchs will occur in the project area during migration, especially where flowering plants are found. Additionally, their caterpillars or cocoons may occur on milkweed plants. According to the Xerces Society, monarch butterflies are least likely to reproduce between October 31 and March 15 in the Central Valley and foothills. 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 12** includes the avoidance of milkweed plants.

Mitigation Measure 12: Monarch Avoidance
Prior to ground-disturbing activities, each eligible parcel will be evaluated so that the presence of native milkweed can 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. Project impacts to monarch butterflies are **less than significant with mitigation incorporated.**

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)*
The valley elderberry longhorn beetle (VELB) is listed as Threatened under the ESA. It is found throughout the Central Valley in riparian areas and foothill oak woodlands. Elderberry plants (*Sambucus* spp.) are the obligate host species for all portions of the VELB's life cycle. Females lay their eggs on the bark, and larvae hatch and burrow into the stems. It can take up to two years for larvae to mature into adults. Larvae feed on the pith of the plant, and adults feed on leaves, flowers, and nectar of the host plant. Adults emerge from March through June when the elderberry blooms and die quickly afterward, with a maximum of three weeks of activity.

No CNDDB occurrences have been recorded within or around the project area. In the Mooney Flat Road segment, the riparian corridor surrounding the Yuba River, Englebright Reservoir, and a portion of Deer Creek and its tributaries fall within the species range.

VELB may occur within the project area in riparian areas that fall within the range where elderberry occurs. Riparian exclusions are likely to exclude VELB habitat from treatment areas. Surveys will be completed concurrently with the botanical survey period to determine if elderberry is present in treatment areas that fall within the species range. If elderberry is identified onsite, the plants shall be flagged, and a 20-foot non-disturbance buffer shall be implemented to preserve habitat for valley elderberry longhorn beetles. If work is done during the VELB flight season, 165-foot buffers will be placed around any elderberry shrubs identified to avoid any impacts to flying beetles. Impacts to VELB are **less than significant with mitigation incorporated.**

Vernal pool fairy shrimp *(Branchinecta lynchi)*
Vernal pool fairy shrimp are listed as Threatened under the ESA. They are found in vernal pool habitats in California and southern Oregon. Vernal pools are temporary waterbodies that fill up with water from rainfall and dry out during the warmer portion of the year. Vernal pool fairy shrimp hatch from eggs called cysts when the pool fills with water. Cysts remain in the dry pool bed throughout the year until conditions are favorable to hatch. Vernal pool fairy shrimp require 40 days to reproduce and have an average lifespan of 91 days.

No CNDDB occurrences have been recorded within or around the project area, and Final Critical Habitat does not exist within the project area. The project area contains rolling foothills throughout, which are not typically consistent with the flat topography conducive to the formation of vernal pools. No emergent wetlands have been mapped within the project area by the National Wetland Inventory, suggesting that there is no suitable habitat, nor were any vernal pools observed during the reconnaissance survey. However, there is still a chance that vernal pools could occur within treatment areas that have not yet been identified. These habitats would be avoided due to the 75-foot wetland buffer. A 50-foot buffer will be placed around any vernal pool identified within the project area. The project would have **a less-than-significant impacts** to vernal pool fairy shrimp.

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

b) Sensitive Natural Communities that potentially occur within the project area include valley oak woodland and forest, Goodding's willow – red willow riparian woodland and forest, canyon live oak – interior live oak chaparral, and Fremont cottonwood forest and woodland.

Prior to ground-disturbing activities, 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. Herbicide application, equipment staging, operation of mechanical equipment, and onsite biomass disposal shall not occur within the marked buffers. The onsite biologist

or Registered Professional Forester will identify any sensitive natural communities to be avoided during implementation of **Mitigation Measure 13**. Avoidance areas will be established for vehicle and equipment traffic, and no treatment will occur within the habitat.

Mitigation Measure 13: Sensitive Natural Communities
Prior to ground-disturbing activities, 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 will be implemented. 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. Avoidance areas will also be established for vehicle and equipment traffic. If avoidance is not feasible, the treatment prescription within sensitive natural communities shall not degrade the community composition, as defined by the 2009 Manual of California Vegetation. An invasive species protocol, **Mitigation Measure 14** will be implemented to ensure inspection and cleaning of equipment, tools, footwear, and other ways in which potential noxious weed sources could be transferred into the site to maintain and protect sensitive natural communities and riparian habitat.

Mitigation Measure 14: Invasive Species Management Protocol
A plan for avoiding the spread of non-native invasive species shall be prepared to establish implementation guidance that prevents the spread of noxious weeds. If a significant population of Cal-IPC-listed invasive species is observed onsite, equipment shall be cleaned and inspected in between sites before proceeding to another location. All off-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be visually inspected to verify that it is free of soil, seeds, and other earthen debris.

The project would result in **less-than-significant impacts with mitigation incorporated** to sensitive natural plant communities and riparian habitats.

	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 3** above, the project will not affect any state or federally protected wetlands. **Less-than-significant impact 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 and migratory birds are addressed above. In addition to denning and nesting habitat for special-status wildlife, the project area potentially contains bat maternity roosts. 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) The Nevada County General Plan Land Use Element contains Site Development Standards that restrict development in sensitive environmental features by mitigating impacts on landmark oaks and groves and riparian corridors within 100 feet of streams. Standards require field inventory and review, conservation easements, fencing, buffer or setbacks, and offsite mitigation banking. The County conducts a review process as part of the development and use permit application review. Land Use code includes a specific ordinance that requires a Management Plan for the protection of oaks, especially Blue and Valley Oak, when trees are disturbed. Trees removed must be replaced on an inch-for-inch basis or a fee paid to the Tree Preservation Fund. A Tree Ordinance in Nevada City requires a tree removal permit for any tree 10 inches DBH or larger. The project activities do not include land development activities that require adherence to site development standards. Project activities are also conducted outside of Nevada City limits. The County will conduct a review of the project during encroachment permit application review, as required to be obtained from Public Works and Caltrans 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. 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) Cultural resources include "moveable heritage," such as collections of artifacts, statuary, artwork, and important documents or repositories. These resources are housed in libraries, museums, archives, historical repositories, or historic properties. Structures nominated, listed, and/or eligible for listing on the CRHR occur within the project area; however, all structures will be avoided entirely and are not a part of targeted treatment prescriptions. The project includes activities that potentially modify Heritage Trees.

Heritage Trees and Groves are defined by a tree or a group of hardwood trees designated by the Board of Supervisors to be of historical or cultural value, outstanding specimens, unusual species, or of significant community benefit due to size, age, or any other unique characteristic, and considered to be in good health. The project may include trimming of limbs and reduction of shrub and ladder fuels surrounding heritage trees in or near the South Yuba River State Park. Root systems of heritage trees shall be protected and preserved at all times, including the use of flagging and/or fencing to ensure protective treatment methods occur. Placement of mulch around heritage trees will be limited to 2 inches in depth to preserve healthy root conditions. Trimming of limbs, protection flagging, and placement of mulch around healthy heritage trees would not constitute a substantial adverse change to a historical resource.

The project could result in the potential unearthing of undiscovered buried cultural resources during groundbreaking activities. This would constitute a substantial adverse change in the significance of a cultural resource. **Mitigation Measure 16** will be implemented to ensure proper research, identification, protective measures such as flagging or fencing, and avoidance buffers are applied in treatment areas with known recorded cultural resources to minimize substantial impacts to cultural resources within the project area.

Mitigation Measure 16: Cultural Resource Avoidance includes a CHRIS records search completed for all areas to be treated and results provided prior to treatment activities so that sites can be strategically avoided. No treatment or staging of equipment or placement of material will be conducted in or adjacent to these sites. In addition, archaeological pedestrian surveys at 30-meter transect intervals or less shall be conducted by a qualified archaeologist within the PAA prior to any treatment activities. These surveys shall be conducted before ground-disturbing activities. The management recommendations presented in a Cultural Resources Inventory Report shall be adhered to, which may include but is not limited to:

- 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.
- Buffers or modified treatment zones (STZ) will be included in the prescription for each parcel.

- Buffers will be highly visible with the use of exclusionary flagging or fencing

Management recommendations for an unanticipated discovery protocol for potential discovery of cultural resources and/or human remains shall be implemented for the project at all times.

In the event of inadvertent discovery of precolonial resources, historic resources, or human remains, all work within 100 feet of the find shall cease. Contact will be made to the Nevada County Coroner, the Native American Heritage Commission, or other individuals recognized by the Grantee until an SOI-qualified archeologist has assessed the discovery to develop appropriate management recommendations for resource treatment. Culturally appropriate treatment may include, but is not limited to, minimization of handling, leaving in place, processing for reburial, and returning to a location within the project area where no future additional impacts may occur. Curation of tribal cultural resources is generally not considered appropriate without a tribal monitor or without prior authorization from representatives of the traditionally and culturally affiliated Native American Tribe. Notification, coordination, site assessment, and consultation must be documented and provided to the Planning Department prior to re-initiation of work at the discovery site. Ground-disturbing activities may continue upon approval by the designated archeologist, Tribal monitor and/or County representative. Impacts to cultural resources will be **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 cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐

b) Mitigation Measures 16 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?	☐	☐	☒	☐

c) The project does not include excavation activities anticipated to disturb human remains. Disturbance areas are limited to 100 to 400 feet within existing parcel rights-of-way and landscaped areas. In the unlikely event of the discovery of human remains during project activities, work shall cease until notification, coordination, site assessment, and/or consultation is provided. Documentation must be provided before re-initiation of work if human remains are disturbed. Ground-disturbing activities may continue upon approval by the designated archeologist, Tribal monitor and/or County representative. Potential project disturbance to any human remains is considered **less-than-significant.**

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 require temporary consumption of energy resources (such as diesel fuel and gasoline) for equipment used during treatment activities, and transportation of workers and equipment. 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 fullest extent feasible. The project will not result in any wasteful or inefficient consumption 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 Nevada 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. 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) According to the U.S Geological Service, western Nevada county falls in a low-intensity zone for expected earthquakes. No Alquist-Priolo earthquake fault zones are mapped in the vicinity of the project area (DOC 2026). The closest mapped earthquake fault zones include the West Tahoe Dollar Point Fault Zone, approximately 95 miles southeast of the project site. However, inactive faults, where no displacements have been recorded, also have the potential to experience displacement sometime in the future. 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) The project site is not in the vicinity of 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). Frequent, strong seismic ground shaking is unlikely at the project site. The project does not include the 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) Soil liquefaction occurs when water-saturated sands, silts, or gravelly soils are shaken so violently that the individual grains lose contact with one another and float freely in the water, turning the ground into a pudding-like liquid. Building and road foundations lose load-bearing strength and may sink into the ground. Figure 5 displays the soil classifications for the project area, with many Class C soils (dense soil/soft rock). 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, and 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:

- 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, or 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,~~ mulching, slash packing, or other appropriate erosion control or slope stabilization techniques will be deployed on any site where site inspection determines that disturbance could pose 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.

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?	Potentially Significant Impact ☐	Less Than Significant with Mitigation Incorporated ☐	Less-Than-Significant Impact ☐	No Impact ☒

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 a 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. **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?	Potentially Significant Impact ☐	Less Than Significant with Mitigation Incorporated ☐	Less-Than-Significant Impact ☐	No Impact ☒

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.**

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?	Potentially Significant Impact ☐	Less Than Significant with Mitigation Incorporated ☐	Less-Than-Significant Impact ☐	No Impact ☒

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

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

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 PEA* will be implemented in the event that unanticipated paleontological resources are uncovered during 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 brea, 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 will 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 NSAQMD has not established thresholds of significance for greenhouse gas (GHG) emissions applicable to construction or land use development. The California Air Resources Board (CARB), in response to AB 32, is currently implementing a Climate Change Scoping Plan (Update) that identifies how the State can substantially advance toward a greenhouse gas reduction target of reducing greenhouse gas emissions to 80 percent below 1990 levels, no later than 2045. The recommended measures in the 2022 Scoping Plan and previous Scoping Plans are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects. In light of the lack of established GHG emissions thresholds that would apply to the proposed project, CEQA allows lead agencies to identify thresholds of significance applicable to a project that are supported by substantial evidence.

The Placer County Air Pollution Control District recommends a tiered approach to determine if a project's GHG emissions would result in a significant impact (PCAPCD 2017 CEQA Handbook). First, project GHG emissions are compared to the de minimis level of 1,100 metric tons of CO_2e per year. If a project does not exceed this threshold, it does not have significant GHG emissions. If the project exceeds the de minimis level and does not exceed the 10,000 metric tons of CO_2e per year threshold, then the project's GHG emissions can be compared to the efficiency thresholds. These thresholds are 4.5 metric tons of CO_2e for residential projects in an urban area and 5.5 metric tons of CO_2e for residential projects in a rural area. The PCAPCD GHG threshold of 10,000 metric tons of CO_2e per year is also applied to land use projects, including construction and operational phases. Projects that exceed 10,000 metric tons of CO_2e per year would be deemed to have a cumulatively considerable contribution to global climate change.

State CEQA Guidelines, Section 15064, also directs lead agencies to consider the extent to which the project may reduce GHG emissions, compared to the existing environmental setting. Wildfire has been a pervasive, natural, environmental factor throughout most of the State for decades. It is estimated that approximately 4.4 million acres have burned annually, resulting in high-intensity wildfire emissions (Stephens, Martin, and Clinton 2007). Smoke production from catastrophic fires inundates large areas of the state for months and produces serious health effects. Wildfires have been documented to contribute to over 1 million metric tons of CO_2e in California.

The project will result in GHG emissions from the operation of mechanical equipment and vehicle trips to transport workers and equipment. Manual treatments would primarily be performed with chainsaws. Typically, one hand crew of eight to ten workers would conduct manual treatments and can treat approximately one acre per day, depending on existing vegetation, terrain, silvicultural prescription, and other factors. Mechanical treatments would be performed with heavy-duty off-road equipment such as skidders and masticators. Typically, one crew of up to two workers would conduct mechanical treatments and progress at a rate of approximately 5 acres per day. For older stands treated,

the average emissions per acre is 1.0 metric tons of CO_2e. Approximately 500 acres would undergo treatment per year under the proposed project. This would include 100 acres of manual treatments and 400 acres of mechanical treatments. Applying these parameters, the level of GHG emissions generated by the increase in each treatment activity by metric tons per acre and annually is summarized in Table 7.

In addition to emissions estimated in Table 7, the project would also generate minimal GHGs from the transport of equipment to and from the project site, transportation on rural unpaved roads, and the chipping of biomass. Emissions from transport of equipment would be minimal since treatment activities would be conducted by local contractors with equipment staged within the treatment area, and emission controls would be deployed to the fullest extent feasible.

Table 7
ESTIMATED GREENHOUSE GAS EMISSIONS
ASSOCIATED WITH TREATMENT ACTIVITY

	Direct GHG Emissions ($MT CO_2e$/acre)	**Estimated Project Emissions ($MT CO_2e$)**
Tree Fuel Type	4.5	1,150
Shrub Fuel Type	1.0	200
Estimate Total GHG Emissions		**1,350 MT CO_2e**

The emissions intensity of treatment activities may vary widely according to multiple factors, including, but not limited to, the amount of vegetation removed or treated per acre, the frequency of treatments over the course of a year, the number of workers and equipment needed for each treatment project, and the specific types of equipment available. As such, all emissions estimates are approximate. As shown in Table 7, the proposed project would total approximately 1,400 metric tons of CO_2e per year. Compared to the PCAPCD's mass GHG threshold of 10,000 metric tons per year, GHG emissions associated with the proposed project would be less than significant and, with BMPs described in the Air Quality Section of this document, emissions of GHGs generated by the operation of vehicles, equipment, and transportation on rural unpaved roads will be minimized. The project does not meet the de minimis level of 1,100 metric tons of CO_2e per year, however; the project meets the efficiency thresholds for residential projects in a rural area. With emission control measures in place, the project is not considered cumulatively considerable.

Improved growing conditions after treatment prescriptions will reasonably improve residual stands' photosynthetic capacity, increasing vigor in residual trees, and will result in an overall increase in carbon sequestration rates. Due to the temporary nature of the project, it is not likely to produce significant GHG emissions that could result in adverse impacts to the environment. The project will reduce wildfire risk and the severity of environmental effects from episodic, catastrophic disturbances. Catastrophic wildfires and vehicular transportation facilities, combined with prevailing westerly winds, contribute a significant mass of emissions to the atmosphere and the local air basin. Fuel reduction activities within the project area will improve carbon sequestration, which would reduce GHG emissions over the long term and will not contribute to a significant cumulative impact. **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) Use of equipment and vehicles, as well as transportation on rural roads, 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 immediately following treatments. 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 PEA* 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. Vehicle maintenance and washing will be done offsite.
- 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.
- Spent fluids, including motor oil, radiator coolant, and used vehicle batteries, will be collected, stored, and recycled as hazardous waste offsite.
- No smoking will be allowed in work areas at any time.

The implementation of these practices will ensure the project will 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. These materials will not be stored within the project area, and any fueling or maintenance will be conducted off-site.

The following BMPs 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 area is within one-quarter mile of multiple schools and school district facilities. The project will require the handling of herbicides and the use of diesel-operated equipment within 1,000 feet of schools and school district facilities. 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. With BMPs and **Mitigation Measures 2,** the risk of exposure to emission pollutants, fuels, or other combustible hazards will be reduced. 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) The nearest private airstrip is 15 miles from the project area at the Nevada County Airport in Green Valley. Other public airports used by residents include the Sacramento International Airport (SMF), which is located 41 miles away from the project area. The project is not within the vicinity of a private airstrip or airport that would expose people to a safety hazard or excessive noise. **No 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) The project would not interfere with local or state adopted emergency response plans. Project activities will occur on Highway 20, which is a major collector for the western Nevada county region. Project activities are anticipated to result in temporary traffic delays during project implementation; however, the project will provide safe ingress and egress for first responders in rural communities and will provide established evacuation routes for those most susceptible to threats of wildfire. This project was developed to improve the goals of the County's emergency response and evacuation plans. **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 and increased human presence in the project area could result in a temporary increased risk of fire during project activities. As described 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 Lake Wildwood, Penn Valley, and Rough and Ready 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 6, 7, and 16. Hydrology within the project area includes Class I, II, III, and IV watercourses (per the California Forest Practice Rules). Class I watercourses include Lake Wildwood, the Yuba River, and Englebright Reservoir. The Yuba River feeds tributary Deer Creek, which is dammed at Lake Wildwood and runs throughout the project area. Multiple Class II, III, IV stream conveyances support perennial or seasonal (i.e., ephemeral or intermittent) hydrology.

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 BMPs included in the *FEMA PEA* will be implemented. The project includes goals to protect and improve water quality by improving ecological function. The Treatment Contractor will implement the following when working near waters of the State, WOTUS, or wetlands to protect surface water quality during project implementation and minimize water quality impacts from ground disturbance, spills or leaks, and herbicide application.

For work between 50 and 200 feet of a waterbody or wetland:

- Protect all storm drain inlets using filter fabric cloth or other BMPs to prevent sediments from entering the storm drainage system during construction activities.
- Prevent runoff pollution at the source and keep materials out of the rain. 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.
- Appropriate erosion control measures will be used to reduce siltation and runoff of contaminants into wetlands and adjacent ponds, streams, or riparian woodland/scrub.
- No stockpile of brush, loose soils, or other debris material in or near stream banks at any time.
- 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 made of material that will not entrap reptiles and amphibians. Erosion-control measures will be placed between the water or wetland and the outer edge of the project site.
- All off-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be considered free 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 non-native grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas 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.
- Herbicides will be restricted to glyphosate-based herbicides that are approved by the EPA for use around water (e.g., Rodeo)

BMPs included above, as well as other mitigation measures in place to preserve significant rock outcroppings and native plant materials, will minimize project impacts to surface water quality. The project is required to comply with water quality protection measures, such as identification and buffers for avoidance, required to be monitored and reported in the project's Mitigation Monitoring and Reporting Program (MMRP). Any provisions to avoid, mitigate, or compensate for impacts to the wetlands or riparian areas contained in permit authorizations shall become conditions of project approval. Reporting documented for the MMRP shall be prepared by a certified hydrologist, geologist, registered forester, Qualified Biologist or Botanist, wherever appropriate. See the MMRP in Attachment F.

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 existing 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 chipping activities and transportation on rural roads. The source of water will depend on the location of the treatment area, as well as the Treatment Contractor, but will not be sourced from groundwater recharge. 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 include a 75-foot buffer from perennial streams and wetlands and a 50-foot buffer from ephemeral and intermittent streams. The project does not alter the course of any streams or rivers, includes no changes to site topography or the addition of impervious surfaces, and will not result in substantial erosion or siltation. The project includes site restoration for areas where ground disturbance will be caused by machinery and equipment. **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 off-site. **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, which 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 Figure 6. The PAA includes portions of Flood Hazard Zone A, AE, and designated floodways, areas subject to inundation of Squirrel Creek, as well as small portions of flood hazard areas adjacent to the Yuba River.

The project includes site restoration to stabilize treatment areas following fuel 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. 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 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) No land development or permanent construction activity requiring re-zoning is included in the project. 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 minimize biological, cultural, and other temporary impacts. The BMPs and mitigation measures developed do not conflict with the Nevada County General Plan or the Penn Valley Area Plan. 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, changes 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

a)	Would the project result in the 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?	Potentially Significant Impact ☐	Less Than Significant with Mitigation Incorporated ☐	Less-Than-Significant Impact ☒	No Impact ☐

a) The project will generate 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's impact on individual sites will be short in duration, as hazard vegetation is removed from a parcel and moved to the next parcel. Noise generated by the project will be transitory.

The following BMPs contained in the *FEMA PEA* will be implemented for the project:

- The 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 will include the name and phone number of a project representative or site supervisor.
- Advance notification will be provided 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.
- The contractor is responsible for maintaining equipment in the best possible working condition.
- All noise-producing project equipment and vehicles using internal combustion engines will 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 specifications. Mobile or fixed "package" equipment will be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receivers.
- Equipment will be located as far as possible from nearby noise-sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only. No project-related public address or music system will be audible at the location of any adjacent noise-sensitive receptor.
- The onsite supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeals process to the Owner will be established prior to the commencement of treatment that allows for the resolution of noise problems that cannot be immediately solved by the site supervisor.

Nevada County has noise limits for exterior construction, including temporary activities, which indicates noise associated with construction activity must be between the hours of 7:00 a.m. and 7:00

p.m. on any given date. Additionally, the project is subject to the Penn Valley Area Plan, which adopted area-specific guidelines. Local standards are measured only on properties containing noise-sensitive land uses, including residences, schools, hospitals, nursing homes, churches, and libraries, and may be measured anywhere on the property containing said land use. Where two (2) different zoning districts abut, the standard applicable to the lower, or more restrictive, district plus five (5) decibels (dB) applies. The most restrictive district standards throughout the project area will be residential, rural, and public, limited to a range between 55 dB (*Leq*) and 75 dB (*Lmax*). Sensitive receptors in the project area are shown on Figure 15.

Medium-sized chainsaws, common for homeowners and professional arborists, produce 85 dB to 100 dB. Masticators typically generate noise levels between 70 dB and 90 dB. Commercial-sized woodchippers vary based on type and size but generally operate at 85 dB to 90 dB. An additional 10 dB is imposed on the equivalent sound levels during nighttime hours between 10 p.m. and 7 a.m. The mean average for the anticipated noise level at one time meets exterior noise limits for Commercial, Residential, Industrial, and Business Park land use categories. Cumulatively, the noise generated by the project activities at one time may exceed the most restrictive exterior noise standards of 55 dB to 75 dB in Residential, Rural, and Public land use categories. Due to project activities not occurring consecutively for 180 days in one location, or requiring development, subject to rezoning, or a Use Permit, these exterior standards may be exceeded without the requirement of a noise study, through the incorporation of design controls that assist in minimizing impacts.

The project will generate noise in short durations, as work occurs on a parcel at a time, from varying distances. No permanent or fixed noise sources are included in the project scope; however, **Mitigation Measure 15** is included to ensure project activities comply with the allowable construction hours included in the Nevada County General Plan Noise Element. 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. Temporary noise generated by project activities would be **less than significant with migration incorporated**.

Mitigation Measure 15: Operational Hours
To reduce potential impacts associated with noise, project activities shall only be conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and 8:00 a.m. and 7:00 p.m. on Saturday. No work will occur on Sunday to comply with the allowable hours of construction activity (Section 12.04.070) included in the Nevada County 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 techniques. 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 operate 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) The nearest private airstrip is 15 miles from the project area at the Nevada County Airport in Green Valley. Other public airports used by residents include the Sacramento International Airport (SMF), which is located 41 miles away from the project area. The project is not within the vicinity of a private airstrip or airport that would expose people to excessive noise. **No 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) Significant growth in Nevada County has occurred within the last two decades. The gross population statistics in western portions of the County demonstrate a predominance of commercial, industrial, public, residential, and residential-agricultural development, at a rate of one household per every three acres. The newest residential development has been single-family residential units in Lake Wildwood and rural Nevada County. Residences can be found along highways, county roads, and in smaller rural communities, where heavily wooded foothill terrain provides outstanding vistas. The quality of supporting infrastructure for residential development varies throughout the project area. Lake Wildwood has paved streets, a sewer, and a water system. Penn Valley has paved streets, whereas most of the large three and five-acre parcels, and subdivisions in rural unincorporated areas with lots and ranchettes have gravel roads and septic tanks. While acknowledging the consistent population growth from the 1960s and 1990s, considerable to substantial unplanned development in the western region, the project does not include the expansion of any roads or infrastructure or development whatsoever. The project does not include the construction of new homes or businesses that would result in unplanned population growth. The project will not induce substantial 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 following public services are provided to this area of western Nevada County:

- Fire protection services are provided by the Penn Valley Fire Protection District; police services provided by the Nevada County Sheriff; medical services are provided by the Sierra Nevada Memorial Hospital, Western Sierra Medical Clinic, Sutter Health, and Dignity Health urgent care; education services are provided by the Penn Valley Union Elementary School District; recreational services are provided by the Penn Valley Parks Department, the Lake Wildwood Association, and the California Department of Parks and Recreation; water services are provided by the Nevada Irrigation District; and sewer services are provided by the Nevada County Sanitation District.
- Government facilities such as the United States Postal Service, Chamber of Commerce, and Veterans Services are in the immediate vicinity of the project.

The existing services and facilities listed above provide adequate coverage for the communities served and would not be subject to an increase during the project. The project does not include the construction of new structures or involve activities that would adversely affect fire protection service ratios, response times, or other performance objectives. **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 does not include the construction of new structures or involve activities that would adversely affect police service ratios, response times, or other performance objectives. **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 does not include the construction of new structures or involve activities that would adversely affect school service ratios, response times, or other performance objectives. **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 does not include the construction of new structures or involve activities that would adversely affect school service ratios, response times, 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 does not include the construction of new structures or involve activities that would adversely affect public facility ratios, response times, or other performance objectives. **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) The project includes prescribed treatments in several areas of public lands, open space, and recreational facilities, including the community of Lake Wildwood, which has a private lake, a public golf course, tennis, and pickleball courts. The project also includes portions of the South Yuba River State Park, which includes several scenic vistas, a visitor center, historic sites, parks and bridges, hiking trails, swimming, fishing, camping, and boating opportunities. The project also includes portions of Black Swan Preserve, which includes public hiking trails and groundwater-fed ponds for fishing. No closures of these areas are anticipated during project activities, as the treatment areas are restricted to roadway centerlines and strategic treatment areas. Short-term increases in traffic and the use of alternate routes to access portions of these recreational areas in the western region may be anticipated. Impacts would be temporary and would not result in an increase of use or physical deterioration of the 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 include prescribed fuel reduction treatments in or immediately adjacent to recreational facilities; however, these activities are for preservation and protection objectives to improve water quality and reduce wildfire risk. The project does not include the construction of recreational facilities and would not require the 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) Transportation in and around western Nevada County includes highway, rail, air, bus, and increasingly, cycling and pedestrian. Interstates, freeways, highways, and other principal arterial routes serve as the primary means of egress during an evacuation from the County and ingress for emergency personnel. Routes designated as minor arterial and major collector routes supplement the primary evacuation routes and provide egress from local neighborhoods and communities (Nevada County GIS 2020). Nevada County provides local and regional fixed-route bus service to the municipalities and unincorporated areas of western Nevada County, including Nevada City, Grass Valley, Penn Valley, Rough and Ready, and Lake Wildwood. The project may result in temporary traffic increases in the specific region of project activities; however, project activities will be transitory and will not occur in a single area for an extended period. With the baseline analysis of the County's Evacuation Study, traffic increases as a result of an evacuation order for a rapid spread wildfire would be approximately 2 to 4.5 hours long. The temporary increased traffic delay as a result of this project is considered discountable, as the project will create safer ingress, reducing traffic hazards during evacuation and for first responders. The project will not conflict with any program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The following applicable BMPs contained in the *FEMA PEA* 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 should be used when necessary for vehicles, bicycles, and pedestrian ways.
- All detour signs during the project would be designed to meet the responsible agency standards.
- A Traffic Control Plan shall be implemented if project activities are 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) The Nevada County Transportation Commission, in coordination with the County of Nevada, City of Grass Valley, City of Nevada City and the Town of Truckee developed a Vehicles Miles Traveled (VMT) implementation study to provide recommended methodologies, thresholds and procedures for land use and transportation projects for compliance with CEQA Guidelines and SB 743. Caltrans is also a responsible agency under CEQA that has set expectations for adequate analysis of the State highway system. Caltrans supports CEQA streamlining for land use projects in transit priority areas and areas with existing low VMT, as described in OPR's Technical Advisory. The VMT Screening Tool was used to make a determination for this project in western Nevada County. A VMT estimate and forecast for the western unincorporated Nevada County jurisdiction was analyzed based on the California State Travel Demand Model (CSTDM). Lake Wildwood and Penn Valley (Transportation Analysis Zones [TAZ] identified) were based on the NCTC travel demand model. For some cities and population centers (particularly Grass Valley and Lake Wildwood), the difference was large. Thus, actual VMT will vary. The largest threshold of western unincorporated Nevada County was used as the basis of this analysis.

Projects in western Nevada County consistent with an RTP or General Plan would generate less than 630 VMT per day. The highest total VMT per service population from the Nevada County TMD was 22 VMT per day. Additionally, the project is not a land use or transportation project that would be subject to requirements for a project-specific traffic study.

The project will result in a short-term increase in 18 VMT per day, generated by treatment crews. The project footprint was evaluated to determine that activities will occur within low VMT-generating TAZ, in the mix of residential and commercial land uses. These short-term increases do not exceed the 22 VMT per day threshold and are temporary in nature, ceasing entirely upon project completion. Therefore, 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 any changes in road design or construction of any kind. 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

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)?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
	☐	☒	☐	☐

a) AB52 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.

AB52 also establishes a formal consultation process for California cities, counties, and tribes regarding tribal cultural resources. Under AB52, 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.

The Native American Heritage Commission's response letter was received on January 8, 2025. The Sacred Lands File search identified a positive result within the Area of Potential Effect (APE). Tribal notification letters for the project were sent on January 22, 2026, to each contact provided by the NAHC. To date, no responses have been received. **Mitigation Measure 16** included in the Cultural Resources section, will be implemented to avoid impacts to cultural resources within the project area, including those eligible for listing in the California Register of Historical Resources (CRHR).

In the event of inadvertent discovery, the County Coroner shall be contacted, and work shall cease until identification, record and evaluation, and/or consultation with appropriate parties, such as the Cultural Representatives and descendants, have concluded. Impacts to tribal cultural resources will be **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 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.	☐	☒	☐	☐

b) The Native American Heritage Commission (NAHC) was contacted on January 6, 2026, by ALTA to request a Sacred Lands File (SLF) Search and a list of tribes that are traditionally and culturally affiliated with the geographic area to be notified of the project. A response from NAHC was received on January 8, 2026, indicating the results of the SLF search were positive. Pursuant to AB52, notification letters were sent on January 22, 2026, to Chairpersons, Tribal Historic Preservation Officers (THPO) and/or Cultural Resource Departments of each tribe on the NAHC response list. This list included the Colfax-Todds Valley Consolidated, Maidu of the Taylorsville Rancheria, Nevada City Rancheria Nisenan, Susanville Indian Rancheria, United Auburn Indian Community of the Auburn Rancheria, Washoe Tribe of Nevada and California, and Wilton Rancheria Tribes. No responses were received as a result of the notification letters. All known cultural and historic resources will be avoided during project activities by following professional recommendations in conducting a pedestrian survey for identification, flagging or fencing, and establishment of a 50-foot buffer prior to treatment, where resources are present.

Due to the potential of unearthing unidentified resources during ground-disturbing activities, **Mitigation Measure 16: Cultural Resource Identification and Avoidance** ensures preservation shall be implemented at all times by buffers and/or modified treatment (Special Treatment Zone (STZ)) included in the treatment prescription, which is 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 require wastewater, stormwater, electric power, natural gas, or telecommunication facilities. 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 short in duration and does not require development activities. The project will temporarily require water for dust suppression during vegetation treatment activities and transport on unpaved roads. The source of water for the project will depend on the location within the project area and the Treatment Contractor. A mobile water truck under a short-term contract can provide sufficient water in normal and dry conditions for the entire duration of activities. The project is not anticipated to require a significant quantity of water for dust suppression, and the need for water will immediately cease upon completion of 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 Sanitation District provides wastewater treatment in the unincorporated areas of Western Nevada County. A regionalization project has been completed to expand wastewater treatment to the Penn Valley area, but it does not contribute to the effects of this project, as the project will not result in the need for expanded use or expansion of services. The project does include potential treatments near the Lake Wildwood Wastewater Treatment Plant and in outlying unincorporated areas with private septic wastewater treatment systems; however, fuel reduction treatment activities will protect the facilities by reducing wildfire risk. **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 trash generated by the project contractor will be bagged, removed from the site, and transported to either the county transfer site or Waste Management (WM) for final disposal. Portable toilets may be rented, picked up, cleaned and pumped by the selected service company. Organic green waste (biomass) generated by project activities will be chipped and broadcast onsite for final disposal. Rolling dumpsters may be used temporarily to store limbs, slash, and woody debris prior to chipping. The project will not generate solid waste in excess of standards, exceed the 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 does include state responsibility areas classified as very high fire hazard severity zones (CAL FIRE FRAP), as shown in Figure 17. The project will result in reduced fire intensity around the communities of Lake Wildwood, Penn Valley, and Rough and Ready through the reduction of surface fuels, ladder fuels, and tree crown density. The project was specifically developed in support of Nevada County's Evacuation Study (2024) and Nevada County's Community Wildfire Protection Plan (CWPP 2025). The project will not impair any adopted emergency response plan or emergency evacuation plan. **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 during the operation of vehicles and mechanized equipment, and an increase of human presence during project activities. Use of gasoline and diesel operating equipment posses as a potential combustion hazard that with prevailing winds could pose as a wildfire risk. Disposal of chips in piles may also cause a potential fire hazard. BMPs listed in the Hazards and Hazardous Materials section of this document include the following, which will also reduce the risk of wildfire caused by project activities:

- 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.
- 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 arrests and fire extinguishers.
- No smoking will be allowed in work areas or near staged equipment onsite at any time.
- Green waste

Upon completion, the project will result in reduced fire intensity around these communities through reducing ladder and surface fuels, and 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, 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 County was impacted by flooding, landslides, and mudslide hazards during the severe winter storms of January 2023. The project does not include construction, development, or any change in drainage, slope, or existing land uses. BMPs established prevent any kind of alteration to natural floodplain values and stream channels, promoting natural protective barriers to help accommodate and channel floodwaters. 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 and 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 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, and wildfire, 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. Exhaust control requirements will ensure cumulative air quality and GHG impacts of projects involving gas-operating equipment occurring at the same time would be less than significant. Other short-term impacts would occur in a single area for only a short duration of time and are unlikely to combine with other projects or activities to be considered cumulatively considerable.

Other project-level impacts, including those related to aesthetics, biological resources, 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 the 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 and plant species. BMPs will also be implemented to minimize project-level impacts to hydrology and water quality, geology and soils, including soil stabilization following treatment, and buffered areas adjacent to wetlands and watercourses. Other projects, including large-scale fuel reduction projects planned within areas nearby will also be subject to CEQA review, must abide by Forest Practice Rules, and will be required to minimize impacts on these resources. 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**.

6.0 CONCLUSION OF THE MITIGATED NEGATIVE DECLARATION

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. Nevada County OES is the lead agency for the above-listed project and has developed this MMRP as a part of the project. The MMRP lists the mitigation measures developed to reduce environmental impacts to a less-than-significant level. The MMRP also identifies each party responsible for implementing the measures, the timeframes within which each measure must be implemented, and which party is responsible for ensuring compliance with each measure. See the MMRP in Attachment F.

6.1 Summary of Findings and Impacts

This IS-MND has been prepared to assess the project's potential effects on the environment and to appraise the significance of such effects. Based on this IS-MND, it has been determined that the proposed project will not have any significant effects on the environment with the implementation of mitigation measures. This conclusion was 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 Environmental Checklist included in this document discusses the results of each resource-specific environmental impact analysis conducted. This IS-MND revealed that potentially significant environmental effects could result from the proposed project. Nevada County OES has revised the scope of work and developed effective mitigation measures for the project to eliminate or reduce environmental impacts to a less-than-significant level. Nevada County 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 environmen**t.

6.2 Mitigation Measures

In addition to the BMPs identified throughout this document, the following mitigation measures will be implemented to avoid or minimize environmental impacts. Successful implementation of the mitigation measures below will reduce the environmental impacts of the proposed project to less than significant.

Mitigation Measure 1: Scenic Overview Preservation Controls
To reduce degradation of visually important viewsheds, ladder fuels shall be maintained in a minimum of a ten-foot-wide strip along the boundary of a parcel, where practicable, in the South Yuba River

and Lake Wildwood viewsheds, both determined as having high natural scenic quality. An RFP shall determine the exact amount of ladder fuel retention or residual density in each viewshed, with Community Design Guidelines, fire safety standards, and ecological value objectives in mind.

Mitigation Measure 2: Equipment Exhaust Reduction and Dust Control Measures
All traffic associated with project activities will be restricted to a speed limit of 15 miles per hour when traveling off highways or county roads. Stockpiles of chipped material susceptible to wind-blown dispersal will be immediately spread and dispersed onsite or covered to prevent movement of the material. Stockpiled limbs, slash, chipped material, and/or pulverized sawdust from chipper operations may not be left onsite for an extended period of time (of two hours or more). Dust suppression equipment, collection systems, such as vacuum bags or immediate placement of material into dumpster trucks, shall be used in areas identified as sensitive receptors to reduce dust exposure. Electric and/or gasoline-powered equipment will be substituted for diesel-powered equipment where practicable.

Mitigation Measure 3: Riparian and Wetland Identification and Exclusion
Prior to ground-disturbing activities, eligible parcels will be surveyed for aquatic resources. Treatment prescriptions 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.

Mitigation Measure 4: Pre-Treatment Botanical Surveys
If habitat types for special-status plants are identified, protocol-level rare plant surveys of the parcels shall be conducted by a Qualified Biologist within the treatment area. If no special-status plants are found, no further measures pertaining to special-status plants are necessary. If special-status plant species are identified, treatment will exclude activities within 15 feet of the individual, and exclusionary fencing and/or high-visibility flagging will be placed around the plants before operations on the parcel to demarcate the avoidance area.

Mitigation Measure 5: Raptor, Migratory Bird, and Special-Status Bird Buffers
Vegetation removal shall occur outside of avian nesting season 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 ground disturbing 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 establishment of a buffer is not feasible, CDFW will be consulted for further avoidance and minimization guidance; alternatives to the buffer may include biological monitoring of work within the buffer or seasonal avoidance of the site (i.e., returning to complete work at that site outside of the nesting season). If a seven-day or longer lapse in project-related work occurs, another focused survey will be required before work can resume.

Mitigation Measure 6: California Spotted Owl Surveys
If a CSO nest is observed within the project area, a 0.25-mile non-disturbance buffer will be implemented around the nest outside of breeding season (February 1 – August 15). Work within suitable habitat of the Bitney Springs PAA, an LOP will be implemented outside of the breeding season. If the implementation of an LOP is not feasible, protocol-level surveys will be conducted to confirm no presence of CSO prior to work.

Mitigation Measure 7: Limited Operating Periods
If suitable habitat is present and protocol-level surveys are not planned, or buffers are not feasible for the following species, occupancy can be assumed based on the presence of suitable habitat and adherence to the seasonal restrictions described below:

- Nesting birds and raptors - avoidance from February 1 to August 31 near nesting habitat
- California spotted owl - avoidance from March 1 to August 15 within suitable habitat
- Ringtail - avoidance from April 15 to June 30 where a den occurs
- Western red bat - avoidance period from February 28 to August 31 near roosting trees;
- Bumblebee - avoidance from April 1 to August 31 where a colony is observed
- Monarch butterfly - avoidance from October 31 to May 1 wherever milkweed is present

Mitigation Measure 8: Mammal Den Surveys
Prior to ground-disturbing activities, the project area will be evaluated for suitable mammal den habitat. If a potential den habitat for ringtail is identified, pretreatment surveys shall be completed within seven days before any vegetation disturbance activities to determine if any terrestrial mammal den structures are present within the work area. For treatment areas within 200 feet of riparian corridors, within seven days of starting any vegetation disturbance, the treatment area will be surveyed by a Qualified Biologist for trees with potential ringtail den structures. If den structures are identified, then their occupancy shall be determined, and the den structure will be avoided. Avoidance will involve implementing an LOP from April 15 to June 30 while denning occurs, or by implementing a 0.25-mile non-disturbance buffer around the den.

Mitigation Measure 9: Bat Roost Humane Exclusion
Prior to ground-disturbing activities, trees with maternity roost structures (i.e., cavities in the trunk or branches, woodpecker holes, loose bark, and cracks) within riparian areas and oak woodlands shall be identified. If a roost structure is present, one of the following shall occur for any work within 50 feet of the structure: Treatment is completed between September 1 and March 1; Prior to treatments during 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; or emergence surveys shall be completed by a Qualified Biologist to determine if the roost structure is occupied. If it is not occupied, then no further measures are required. If it is determined to be occupied, the humane exclusion described above must be implemented.

Mitigation Measure 10: Western Pond Turtle Survey
Prior to ground-disturbing activities, work areas within 100 feet of watercourses (ponds, streams, or rivers) will be evaluated to determine if suitable nesting habitat for the western pond turtle (WPT) is present. If no suitable nesting habitat is identified, no further action is required. Wherever suitable upland annual grassland and riparian 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 their nest is found, a 50-foot (or greater) buffer shall be installed between the work area and the nest, where no activities, equipment access, or foot traffic shall occur. The buffer perimeter shall be demarcated with high-visibility, low-disturbing methods such as flagging tape or pin flags. The area shall be communicated to personnel, so that workers onsite are aware of the exclusion area. If an adult individual or juvenile is detected at any time within an active work area or access route, project activities will cease until it has left the work area on its own accord or is relocated by a Qualified Biologist to a nearby area with a habitat similar to the environment in which it was found.

Mitigation Measure 11: Bumble Bee Avoidance
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 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 12: Monarch Butterfly Avoidance
Prior to ground-disturbing activities, the presence of native milkweed (*Asclepias* spp.) will be determined. If milkweed is identified onsite, the plants shall be flagged, and a 10-foot non-disturbance buffer shall be implemented to preserve habitat for monarch butterflies.

Mitigation Measure 13: Sensitive Natural Communities
Prior to ground-disturbing activities, 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 will be implemented. 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. Avoidance areas will also be established for vehicle and equipment traffic. If avoidance is not feasible, the treatment prescription within sensitive natural communities shall not degrade the community composition, as defined by the 2009 Manual of California Vegetation.

Mitigation Measure 14: Invasive Species Management Protocol
A plan for avoiding the spread of non-native invasive species shall be prepared to establish implementation guidance that prevents the spread of noxious weeds. If a significant population of Cal-IPC-listed invasive species is observed onsite, equipment shall be cleaned and inspected in

between sites before proceeding to another location. All off-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be visually inspected to verify that it is free of soil, seeds, and other earthen debris.

Mitigation Measure 15: Operational Hours
To reduce potential impacts associated with noise, project activities shall only be conducted between the hours of 8:00 a.m. and 7:00 p.m. on weekdays and on Saturday.

Mitigation Measure 16: Cultural Resources Identification and Avoidance
Management recommendations for the avoidance of sites eligible for listing on the California Register of Historic Resources (CRHR) shall be adhered to through implementation of a 50-foot buffer around the site boundary or modification of the prescribed treatment (use of hand tools and exclusion of equipment) for areas where vegetation removal may be beneficial. Cultural resource avoidance and/or preservation shall be implemented at all times by buffers and/or modified treatment (Special Treatment Zone (STZ)) included in the treatment prescription.

7.0 PREPARERS OF THIS DOCUMENT

This document was prepared by VESTRA Resources, Inc., for the Nevada County Office of Emergency Services with input and support from the Nevada County Resource Conservation District.

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Attachment A

Figures

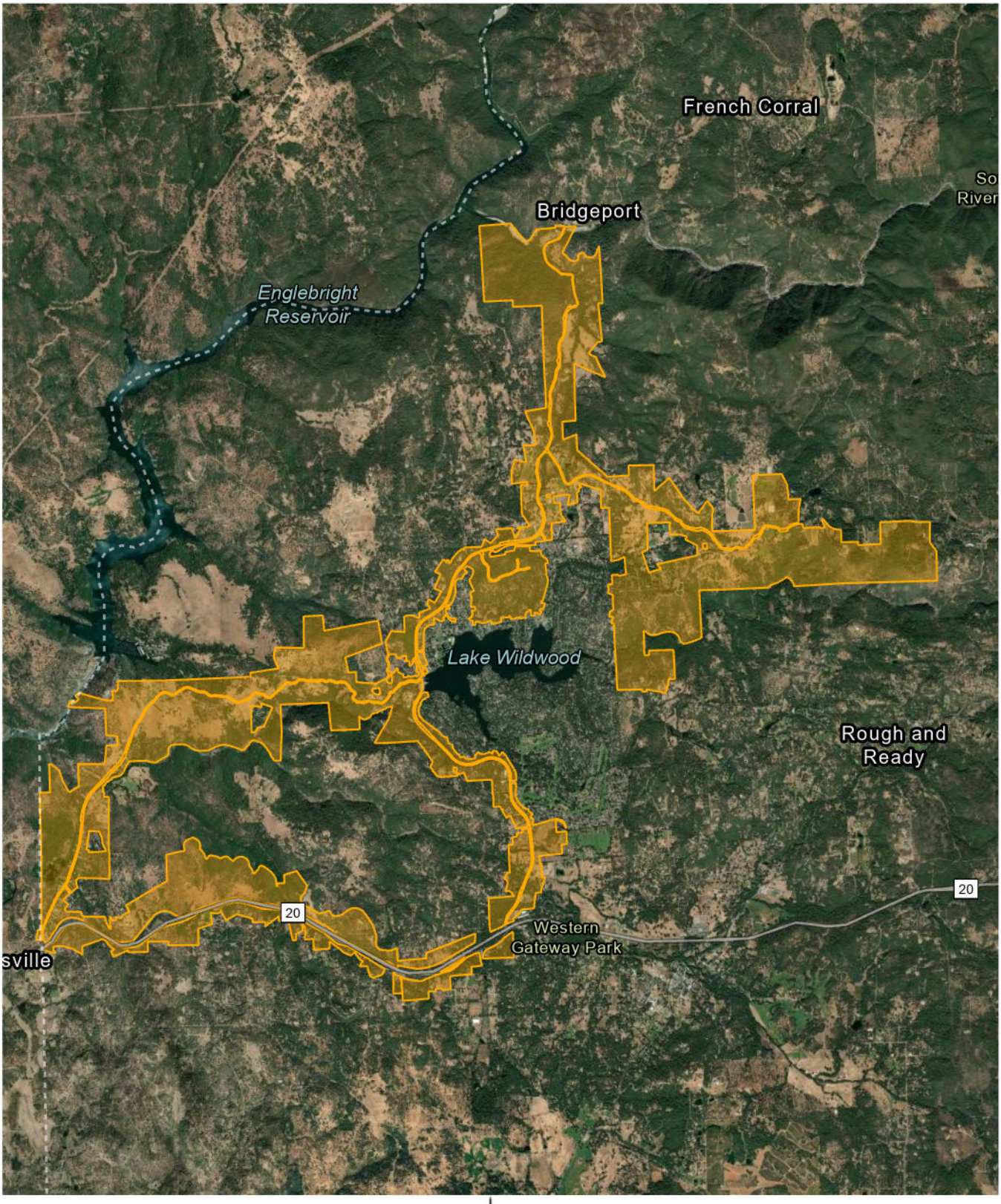
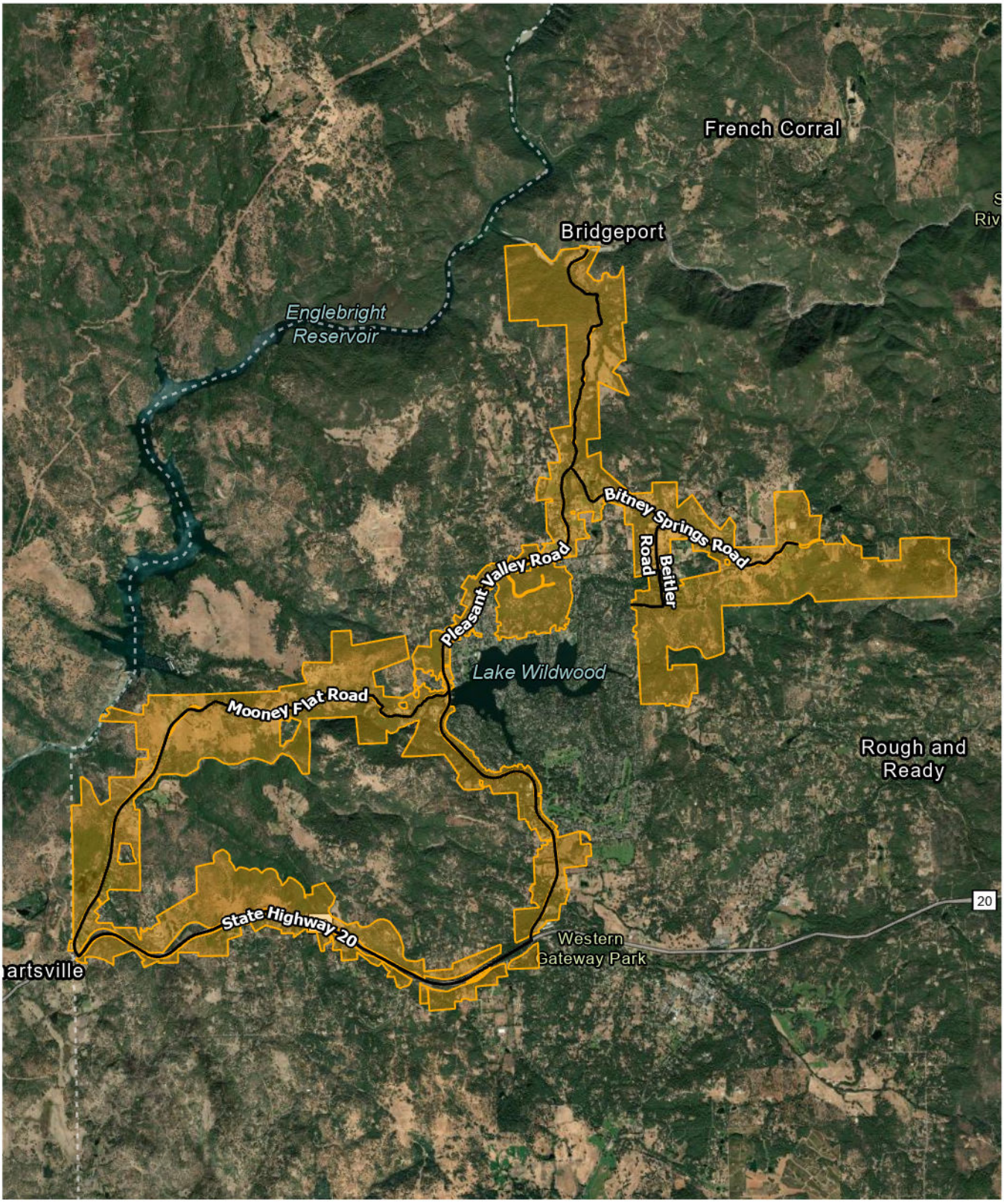


FIGURE 1
GENERAL SITE LOCATION
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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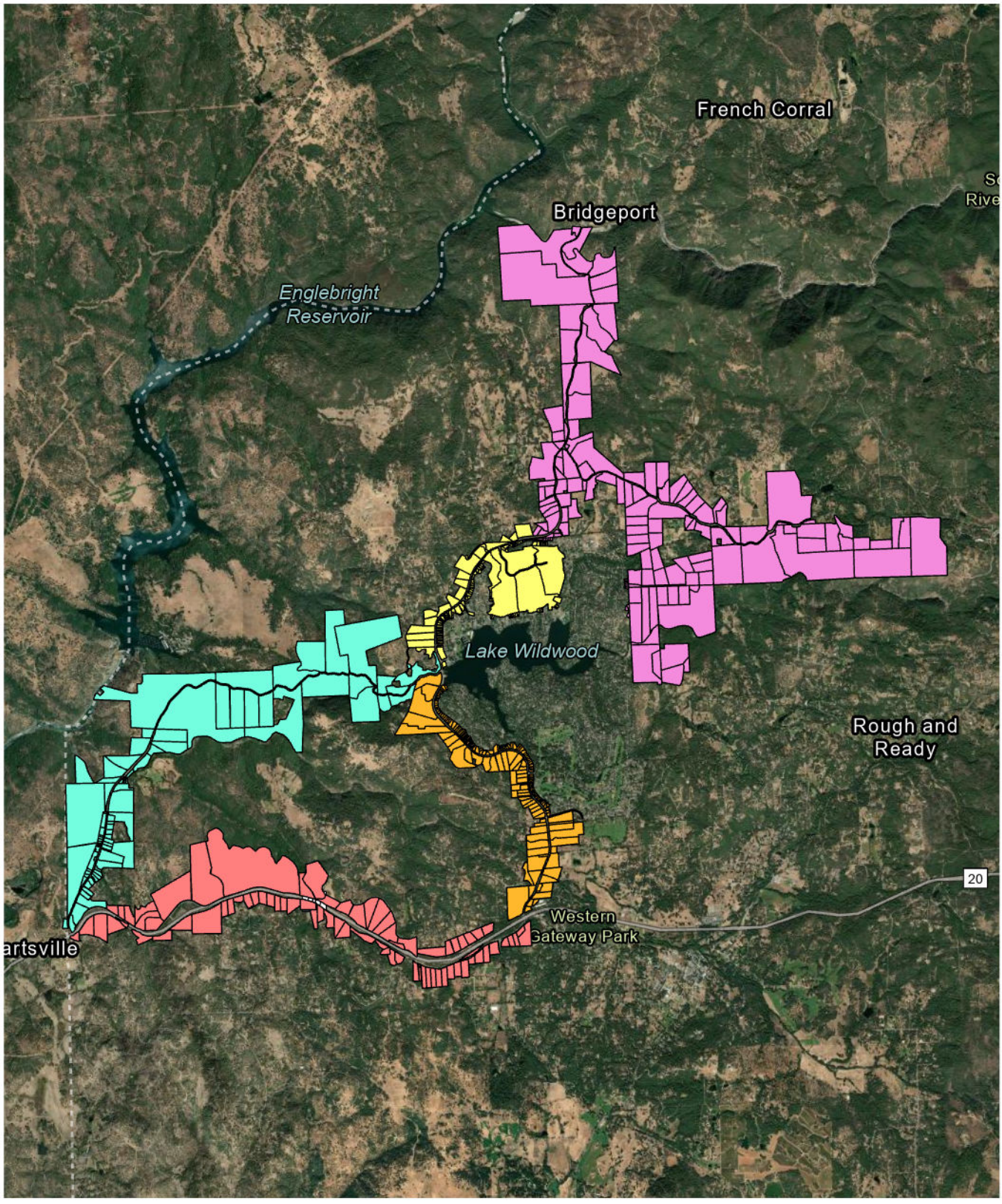
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SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 2
PROJECT AREA LOCATION
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUEL REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

P:\GIS\72545\LowerDeerCreek_CEQA\LowerDeerCreek_CEQA.aprx

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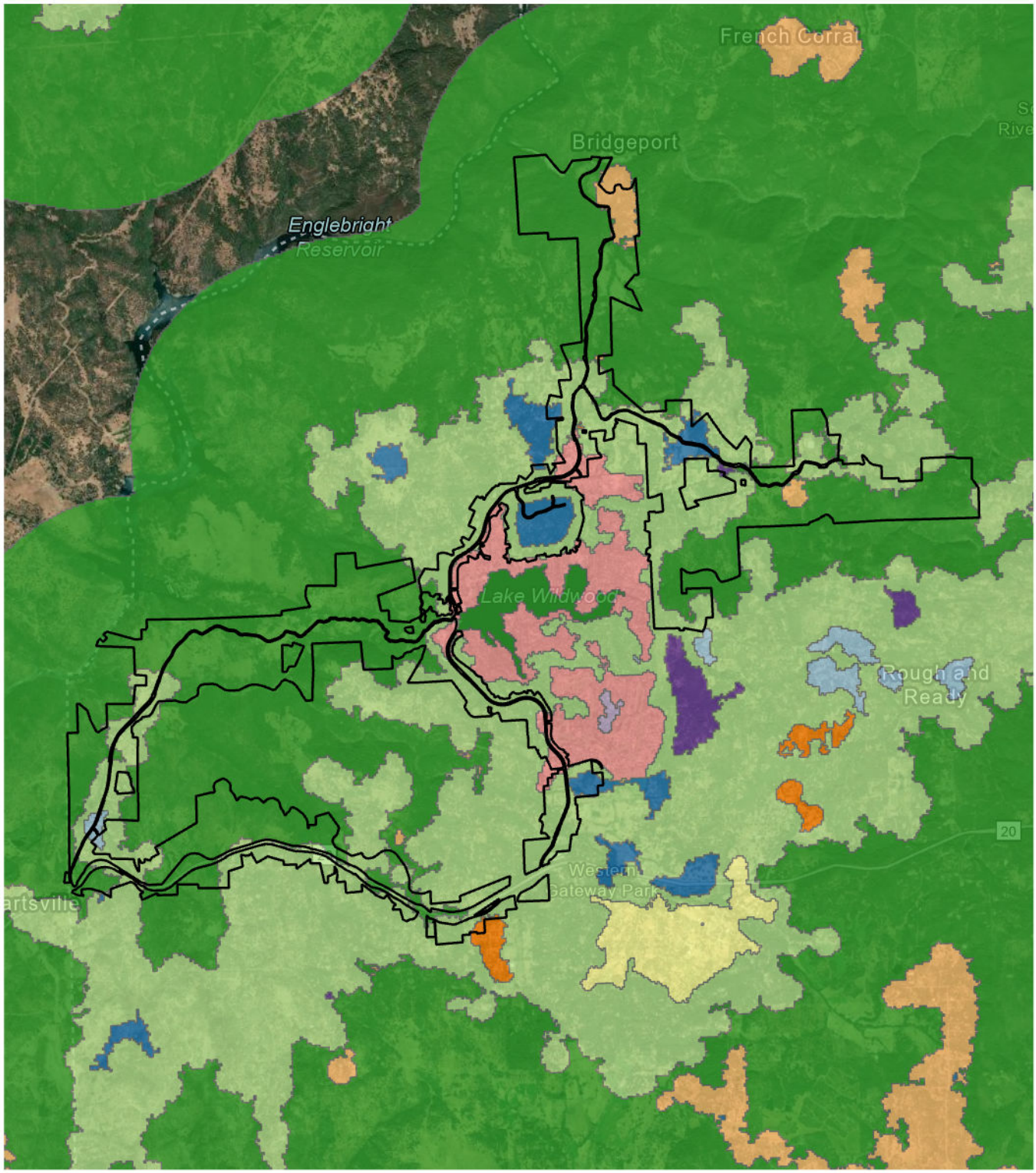


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; NEVADA COUNTY 2025

FIGURE 3
PROJECT ACTIVITY AREA ROAD SEGMENTS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

P:\GIS\72545\LowerDeerCreek_CEQA\LowerDeerCreek_CEQA.aprx

P:\GIS\72545\Figures\InitialStudy\72545_PAA_Segments.pdf



Project Activity Area
Influence Zone, Moderate Hazard
Influence Zone, High Hazard
Influence Zone, Very High Hazard
Interface, Not Zoned Hazard
Interface, Moderate Hazard
Interface, High Hazard
Interface, Very High Hazard
Intermix, Moderate Hazard
Intermix, High Hazard
Intermix, Very High Hazard

VESTRA

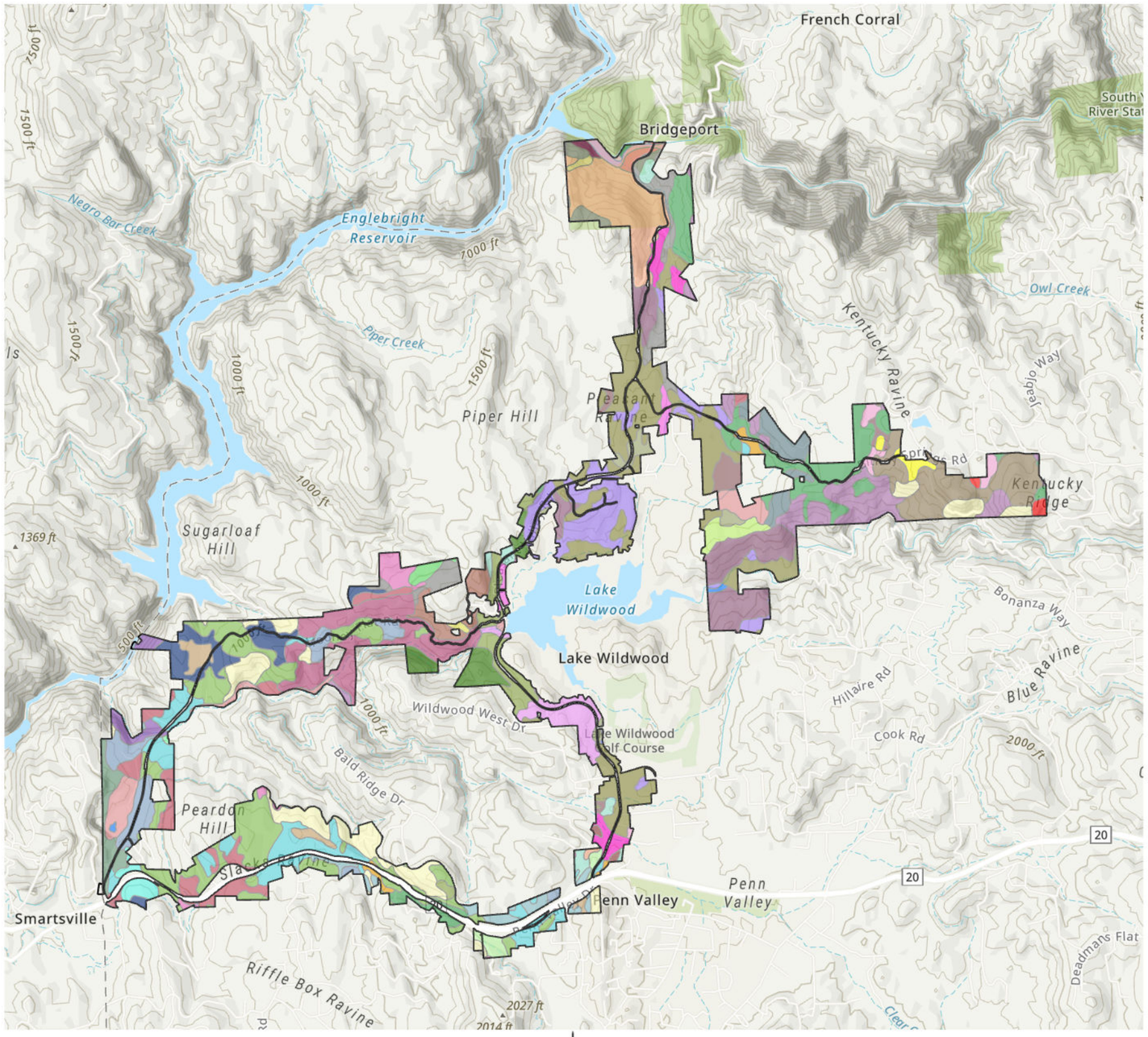
0 0.5 1 2 Miles

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 4
WILDLAND-URBAN INTERFACE AREAS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

P:\GIS\72545\LowerDeerCreek_CEQA\LowerDeerCreek_CEQA.aprx

P:\GIS\72545\Figures\InitialStudy\72545_WUIs.pdf



- 115, Auburn-Sobrante complex, gravelly, 15 to 30 percent slopes
- 120, Auburn-Sobrante-Rock outcrop complex, 50 to 75 percent slopes
- AdB, Ahwahnee sandy loam, 2 to 9 percent slopes
- AdC, Ahwahnee sandy loam, 9 to 15 percent slopes
- AeD, Ahwahnee-Rock outcrop complex, 15 to 30 percent slopes
- AfC, Aiken loam, 9 to 15 percent slopes, high precip
- Am, Alluvial land, loamy
- Ao, Alluvial land, clayey
- ArC, Argonaut gravelly loam, 2 to 15 percent slopes
- AsD, Argonaut-Rock outcrop complex, 2 to 30 percent slopes
- AtC, Auberry sandy loam, 5 to 15 percent slopes
- AuD, Auberry-Rock outcrop complex, 15 to 30 percent slopes
- AuE, Auberry-Rock outcrop complex, 30 to 50 percent slopes
- AvD, Auburn loam, 2 to 30 percent slopes
- AxD, Auburn-Rock outcrop complex, 2 to 30 percent slopes
- AxE, Auburn-Rock outcrop complex, 30 to 50 percent slopes
- BoC, Boomer loam, 5 to 15 percent slopes
- BoD, Boomer loam, hard bedrock, 7 to 28 percent slopes
- BrD, Boomer, hard bedrock - Rock outcrop complex, 5 to 30 percent slopes
- BrE, Boomer, hard bedrock - Rock outcrop complex, 15 to 60 percent slopes
- CkF, Chaix-Rock outcrop complex, 30 to 75 percent slopes, C Low-Mid Montane
- CsE, Cohasset-McCarthy cobbly loams, 15 to 50 percent slopes
- Gr, Granitic rock land
- HnE, Hoda sandy loam, 15 to 50 percent slopes
- HrC, Horseshoe gravelly loam, 9 to 15 percent slopes
- MrC, Musick sandy loam, 5 to 15 percent slopes
- MrE, Musick sandy loam, 15 to 50 percent slopes
- Pr, Placer diggings
- RkD, Rescue-Rock outcrop complex, 5 to 30 percent slopes
- Rn, Rock land
- RoE, Rock outcrop-Ahwahnee complex, 9 to 50 percent slopes
- RpD, Rock outcrop-Auburn complex, 2 to 30 percent slopes
- ScE, Secca-Rock outcrop complex, 2 to 50 percent slopes
- SdC, Shenandoah sandy loam, 2 to 15 percent slopes
- SfB, Sierra sandy loam, deep, 2 to 9 percent slopes, LRU 18XI
- SfC, Sierra sandy loam, deep, 9 to 15 percent slopes, LRU 18XI
- SfD, Sierra sandy loam, deep, 15 to 30 percent slopes, LRU 18XI
- SkD, Sierra-Rock outcrop complex, 15 to 30 percent slopes
- SkE, Sierra-Rock outcrop complex, 30 to 50 percent slopes
- SlD, Sites silt loam, 15 to 30 percent slopes, N low montane
- SmC, Sites very stony loam, 2 to 15 percent slopes
- SmE, Sites very stony loam, 15 to 50 percent slopes
- SoC, Sobrante loam, 2 to 15 percent slopes
- SoD, Sobrante loam, 15 to 30 percent slopes
- SrD, Sobrante-Rock outcrop complex, 2 to 30 percent slopes
- SrE, Sobrante-Rock outcrop complex, 30 to 50 percent slopes
- TrC, Trabuco loam, 5 to 15 percent slopes
- TuD, Trabuco-Rock outcrop complex, 15 to 30 percent slopes
- TuE, Trabuco-Rock outcrop complex, 30 to 50 percent slopes
- W, Water
- Project Activity Area

VESTRA

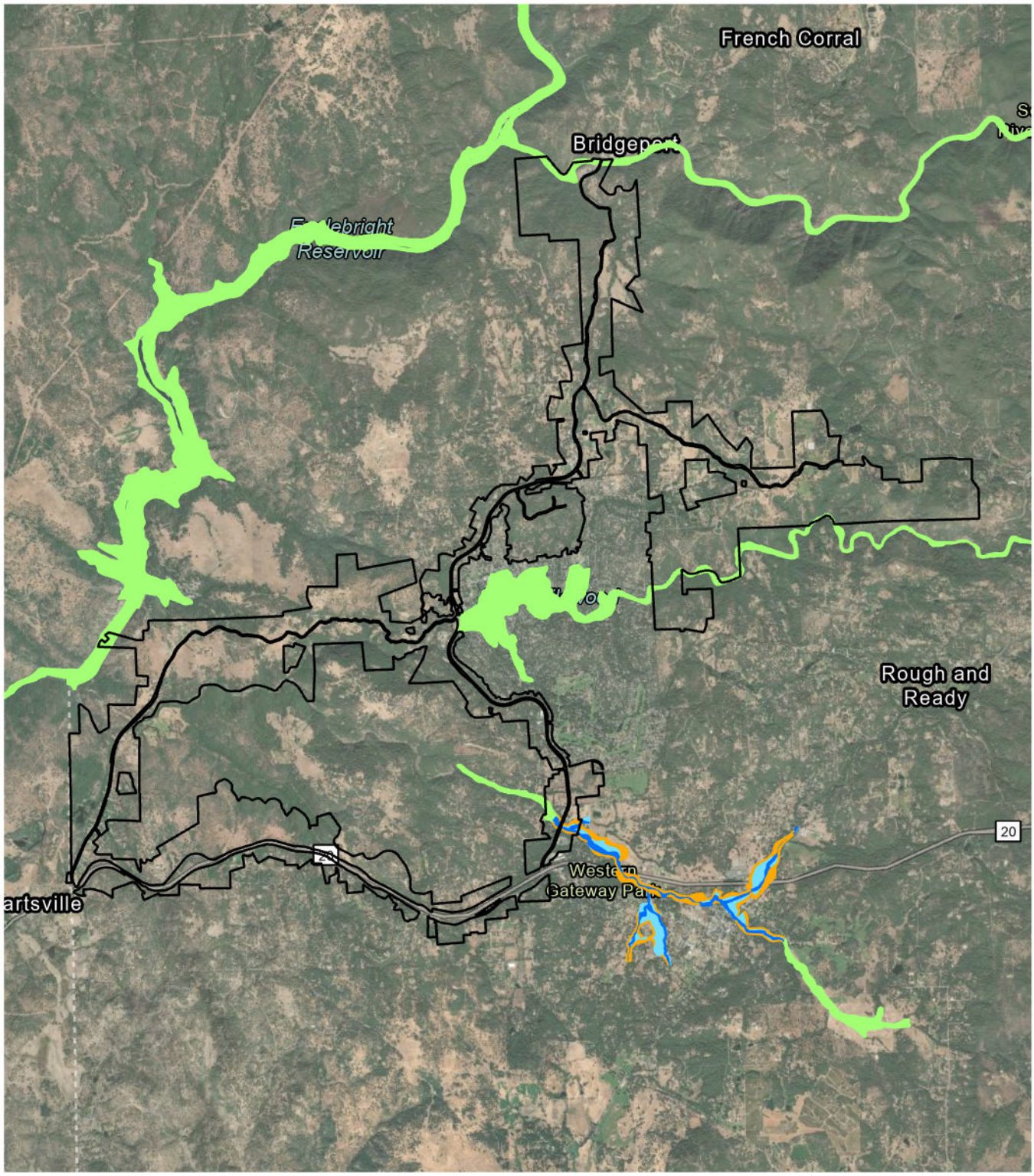
SOURCE: NRCS SSURGO SOILS 2025

0 0.5 1 2 Miles

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FIGURE 5
TOPOGRAPHY AND SOIL TYPES
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

P:\GIS\72545\Figures\InitialStudy\72545_Topo_Soils.pdf



Project Activity Area

Zone A: Special Flood Hazard Area without Base Flood Elevations

Zone AE, Special Flood Hazard Area

Zone AE, Special Flood Hazard Area, Floodway

Zone X: 0.2 Pct. Annual Chance FloodHazard

VESTRA

0 0.5 1 2 Miles

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; FEMA MSC 2025

FIGURE 6
FEMA FLOOD MAP DESIGNATIONS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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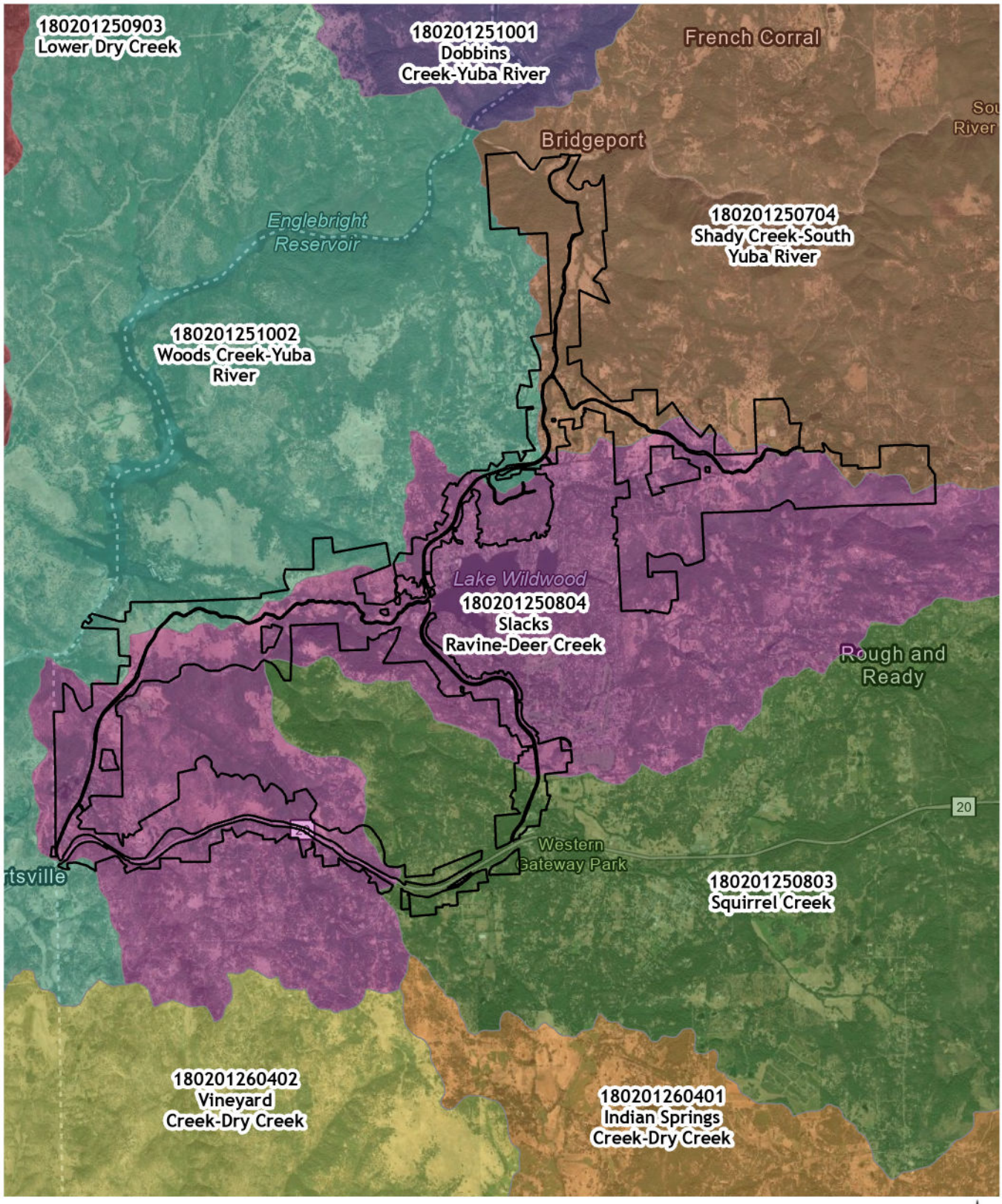
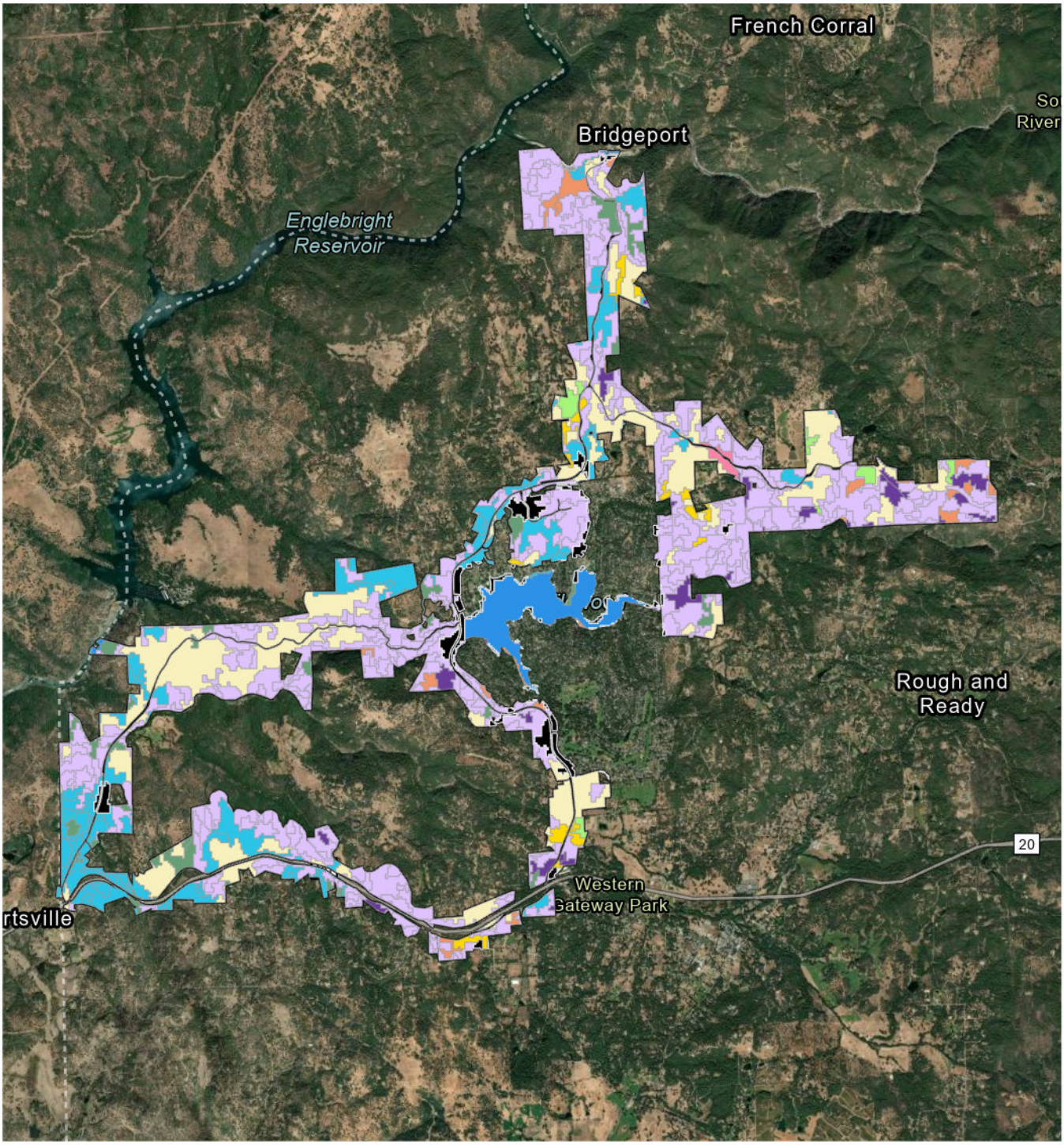


FIGURE 7
WATERSHED BOUNDARIES
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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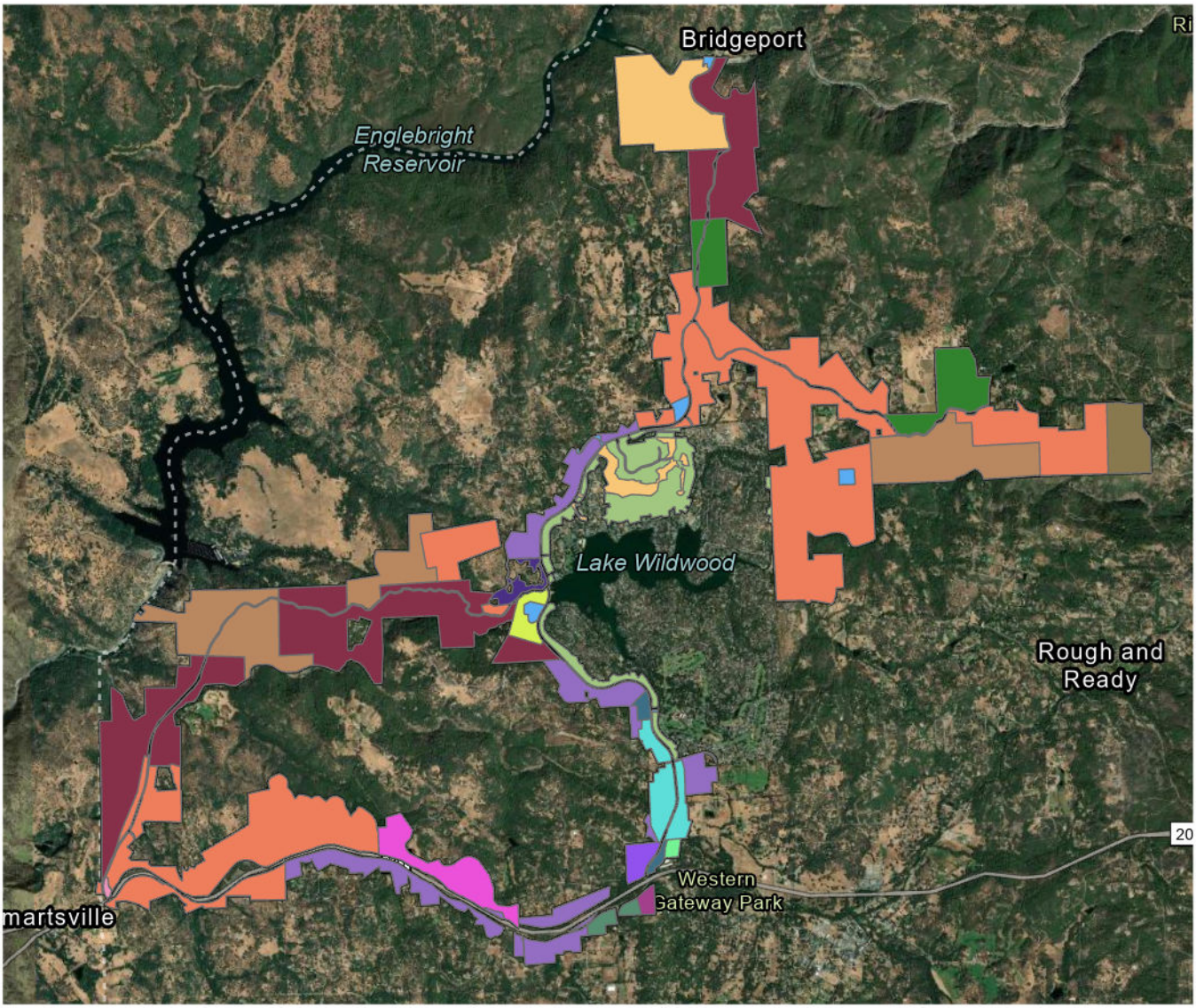
VESTRA

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 8
CWHR VEGETATION TYPES
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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P:\GIS\72545\Figures\InitialStudy\72545_CWHR.pdf



- AE-40: Agricultural Exclusive 40-Acre Minimum
- AG-5: General Agricultural 5-Acre Minimum
- AG-5-PD: General Agricultural 5 Acre Minimum Planned Development Base District
- AG-5-SP: General Agricultural 5 Acre Minimum Site Performance Combining District
- AG-10: General Agricultural 10 Acre Minimum
- AG-30: General Agricultural 30 Acre Minimum
- AG-40: General Agricultural 40 Acre Minimum
- AG-X: General Agricultural Subdivision Limitation Combining District
- BP: Business Park
- C1-SP: Neighborhood Commercial Site Performance Combining District
- CH: Highway Commercial
- IDR-SP: Interim Development Reserve Site Performance Combining District
- M1-SP: Light Industrial Site Performance Combining District
- OS: Open Space
- P: Public
- R1-PD: Single Family Residential Planned Development Combining District
- R1-X-PD: Single Family Residential Subdivision Limitation Combining District Planned Development Combining District
- RA-3: Residential Agricultural 3 Acre Minimum
- RA-X: Residential Agricultural Subdivision Limitation Combining District
- Project Activity Area

VESTRA

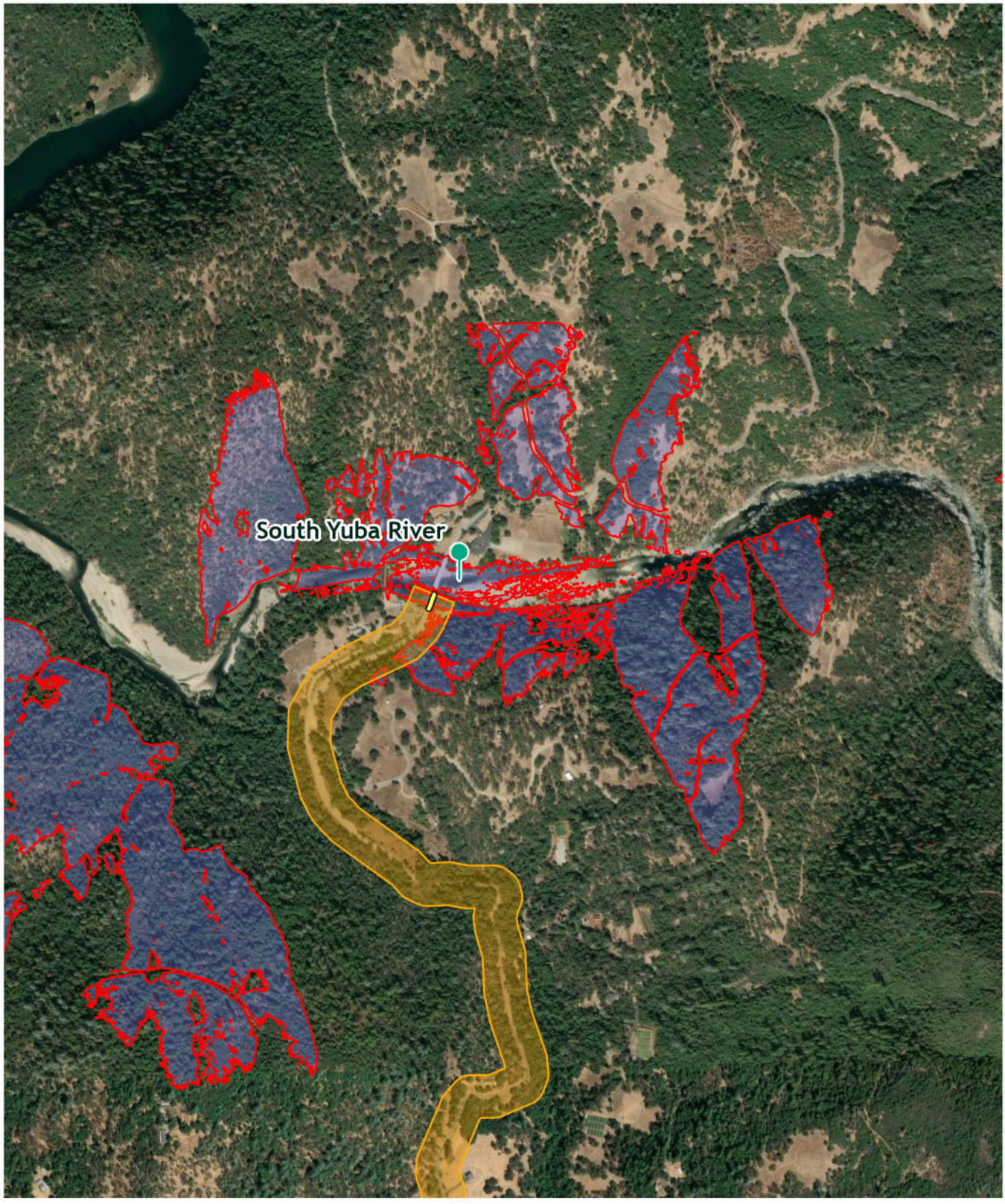
0 0.5 1 2 Miles

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; NEVADA COUNTY GIS 2025

FIGURE 9
LAND USE & ZONING DESIGNATIONS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

P:\GIS\72545\LowerDeerCreek_CEQA\LowerDeerCreek_CEQA.aprx

P:\GIS\72545\Figures\InitialStudy\72545_Zoning.pdf

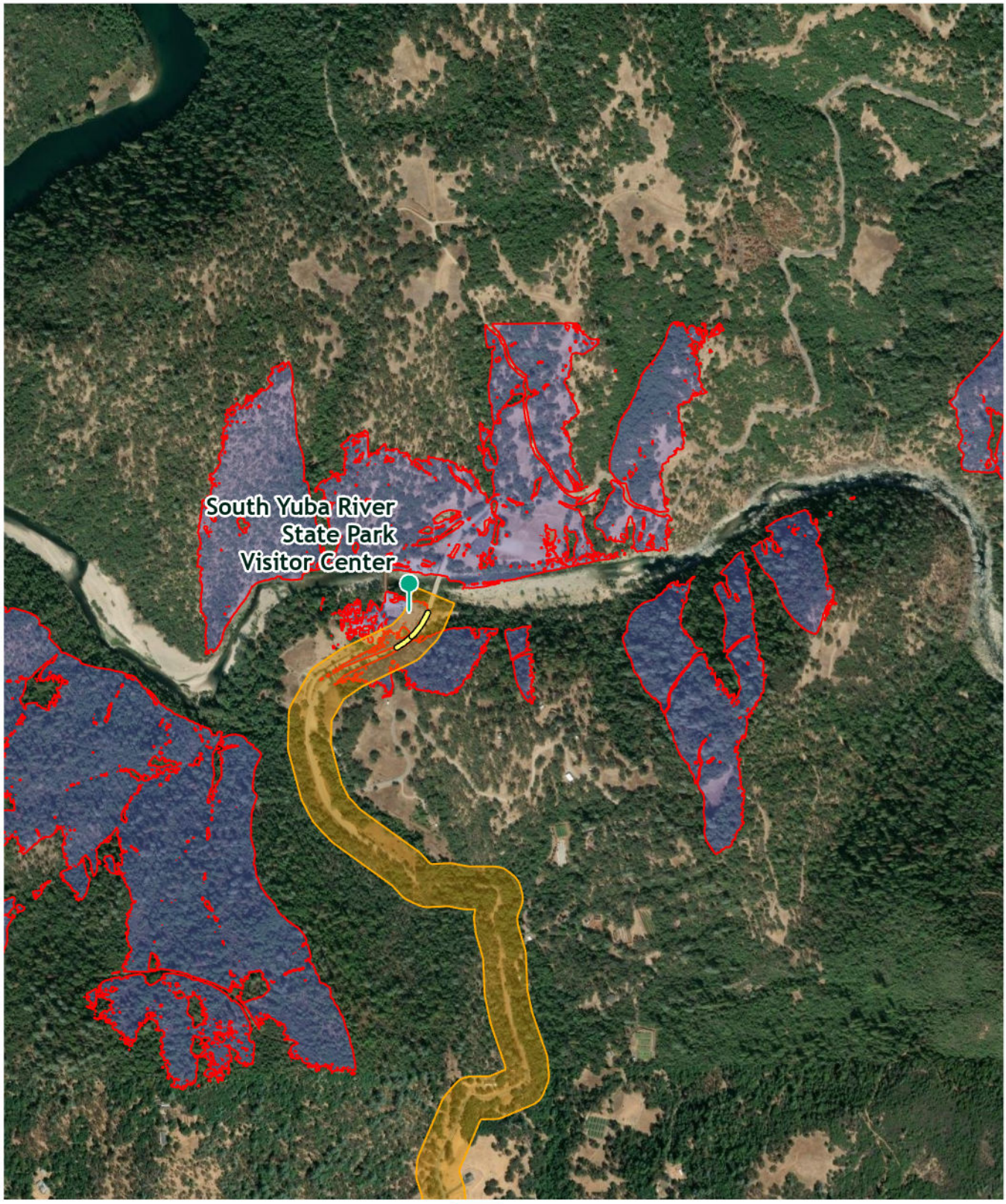


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 10
SOUTH YUBA RIVER VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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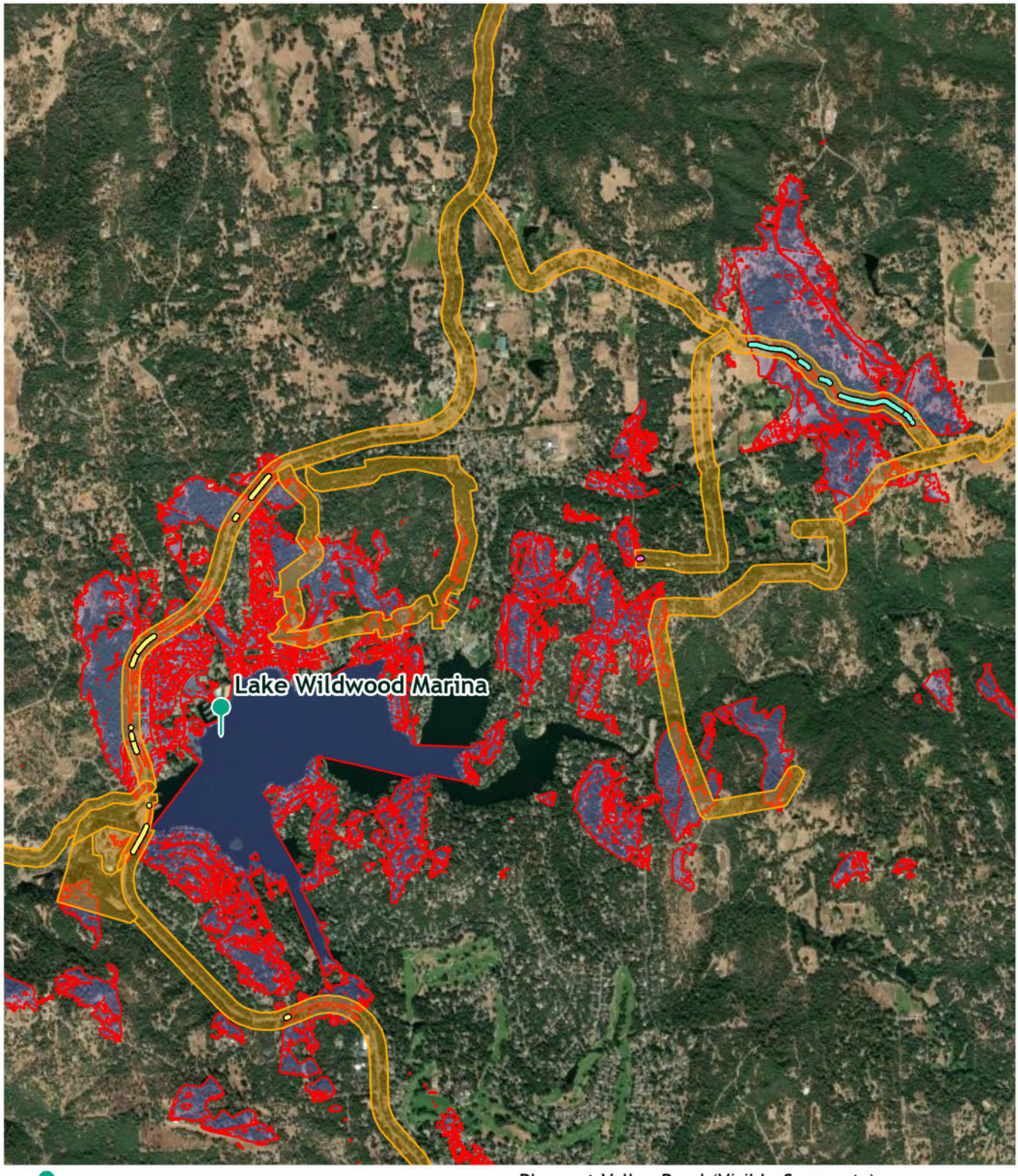


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 11
SOUTH YUBA RIVER STATE PARK VISITOR CENTER VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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P:\GIS\72545\Figures\InitialStudy\72545_VisitorCenter_Viewshed.pdf

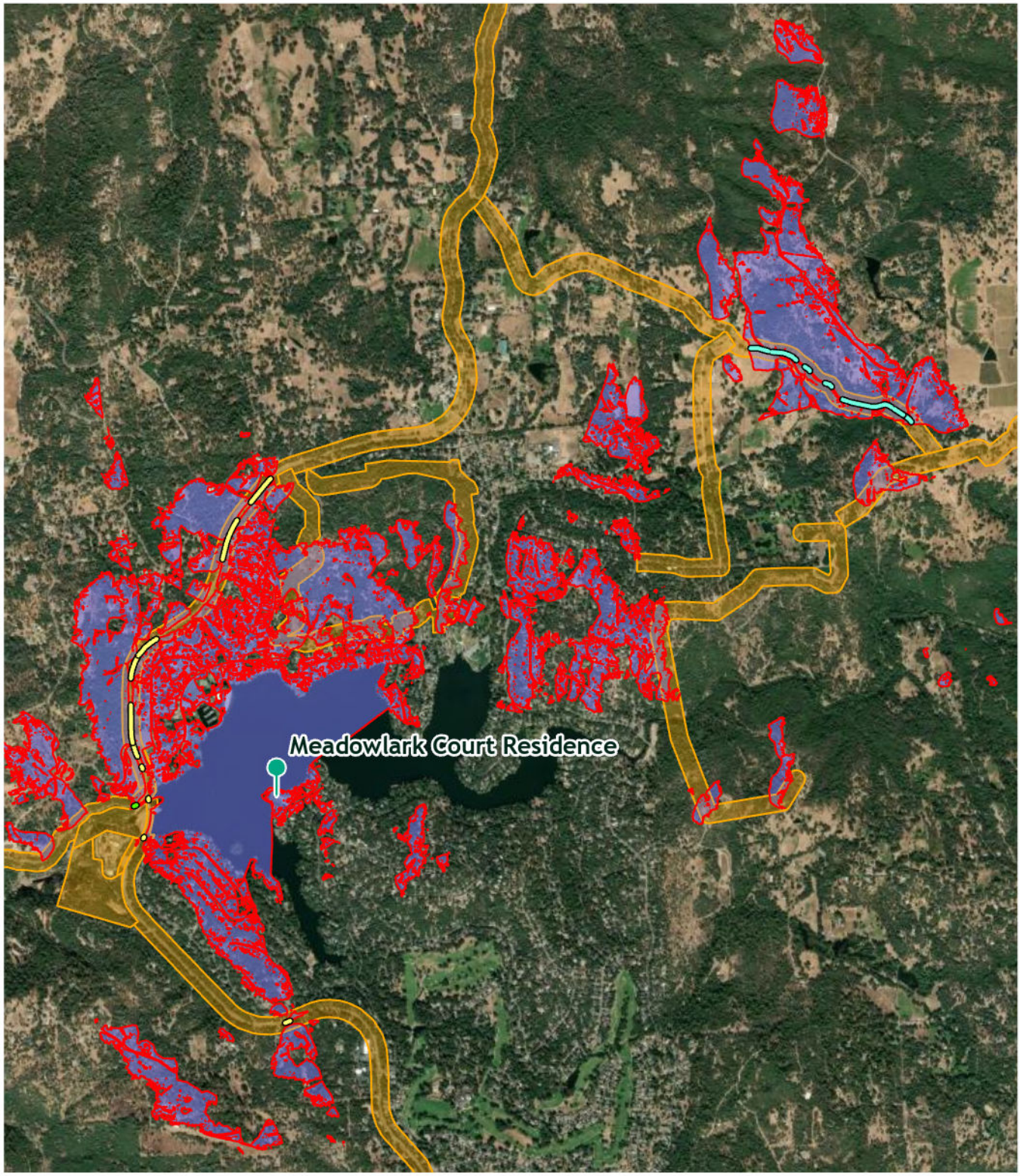


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 12
LAKE WILDWOOD MARINA VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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P:\GIS\72545\Figures\InitialStudy\72545_Marina_Viewshed.pdf

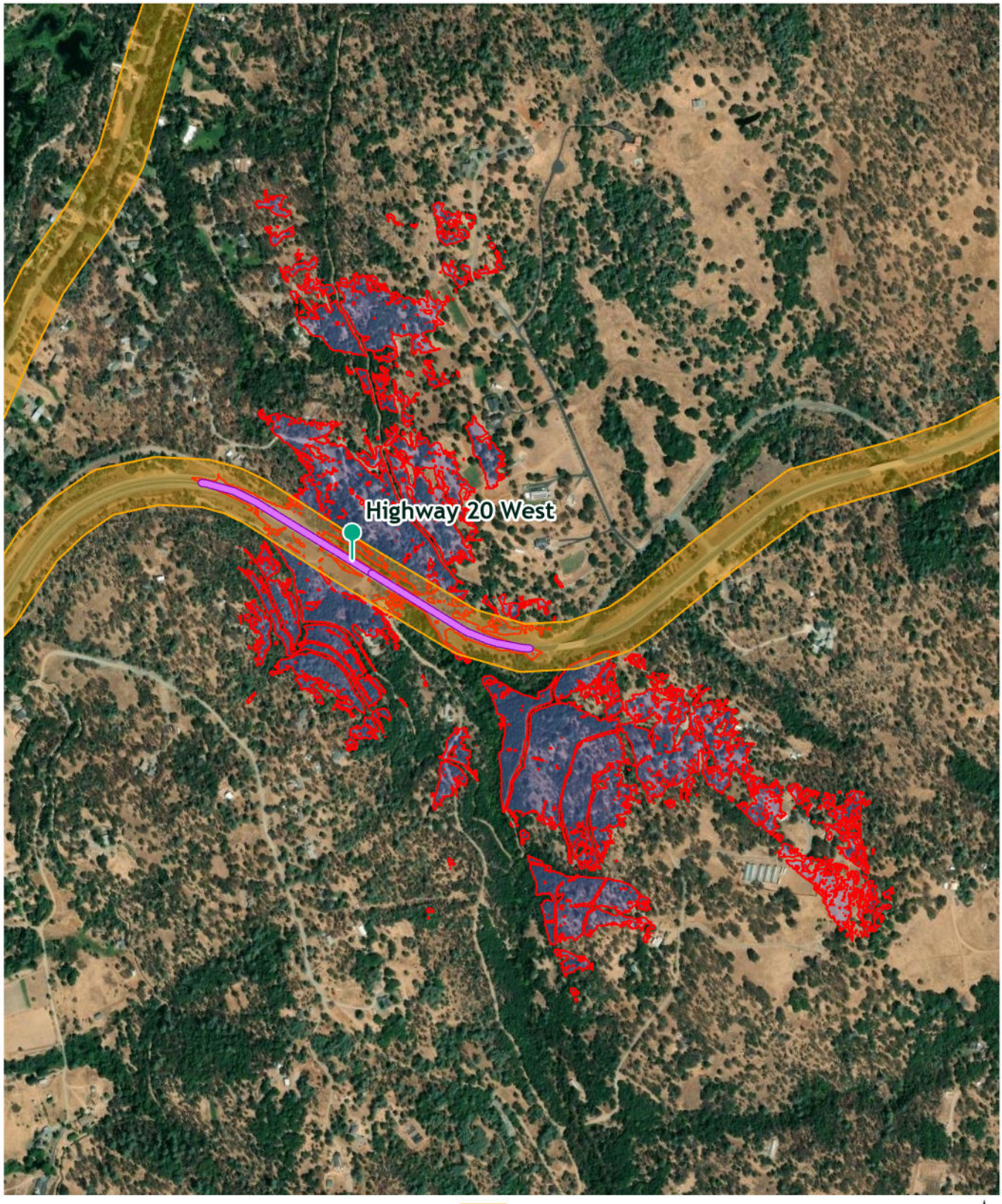


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 13
RURAL RESIDENTIAL VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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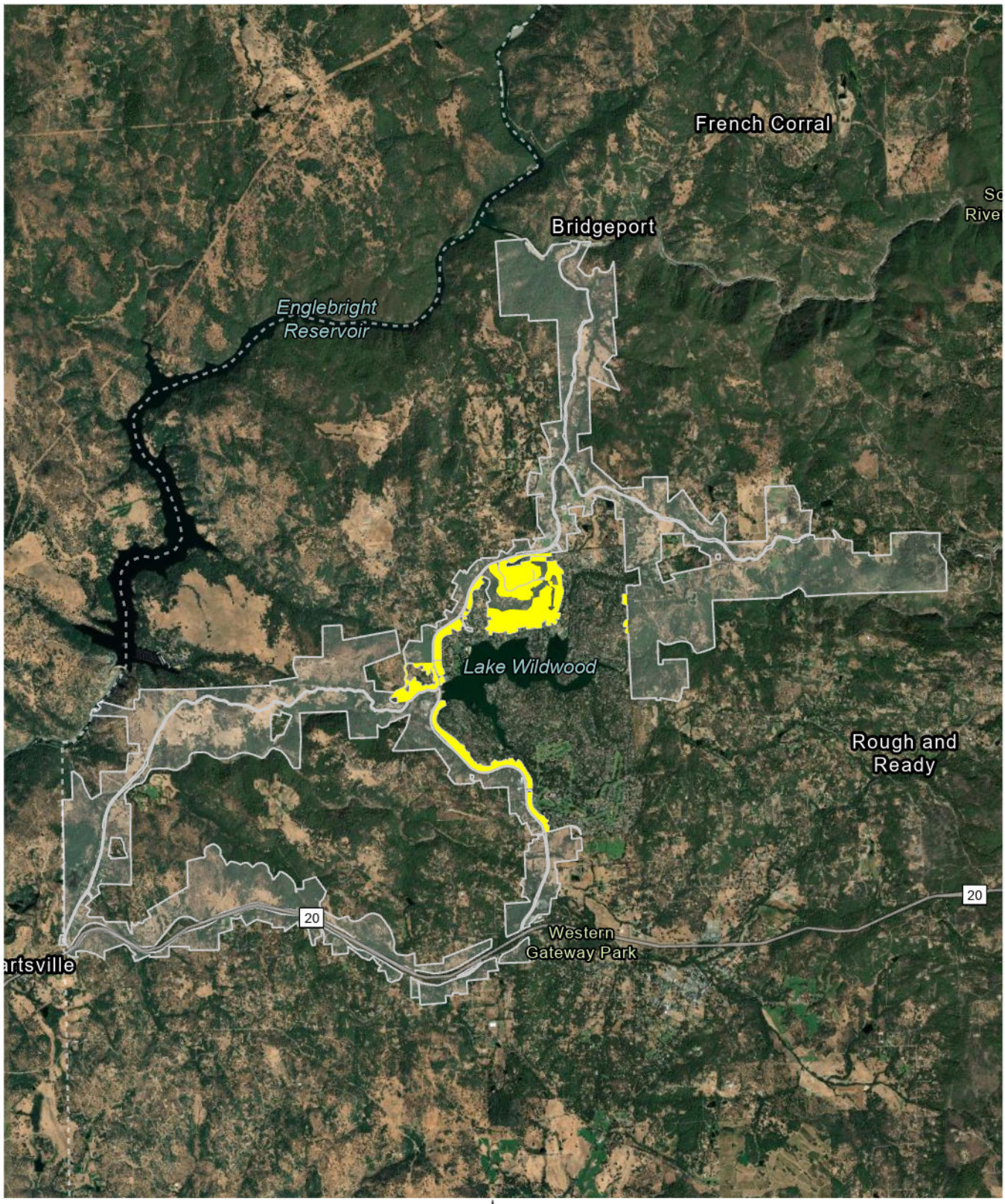


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 14
HIGHWAY 20 WEST VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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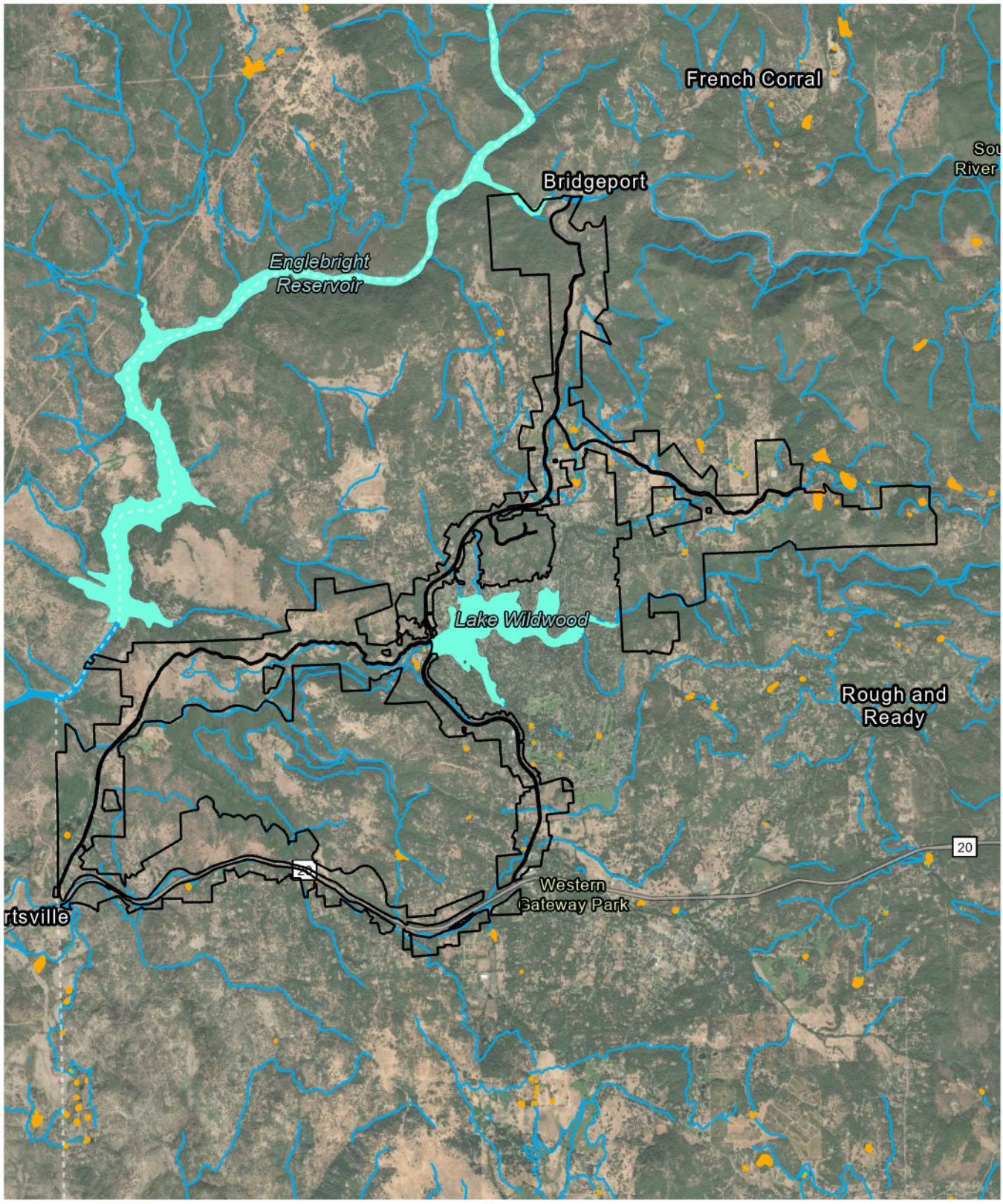
VESTRA

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; NEVADA COUNTY 2025

FIGURE 15
SENSITIVE RECEPTORS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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P:\GIS\72545\Figures\InitialStudy\72545_SensitiveReceptors.pdf



VESTRA

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; USFWS NWI 2025

FIGURE 16
NATIONAL WETLANDS INVENTORY
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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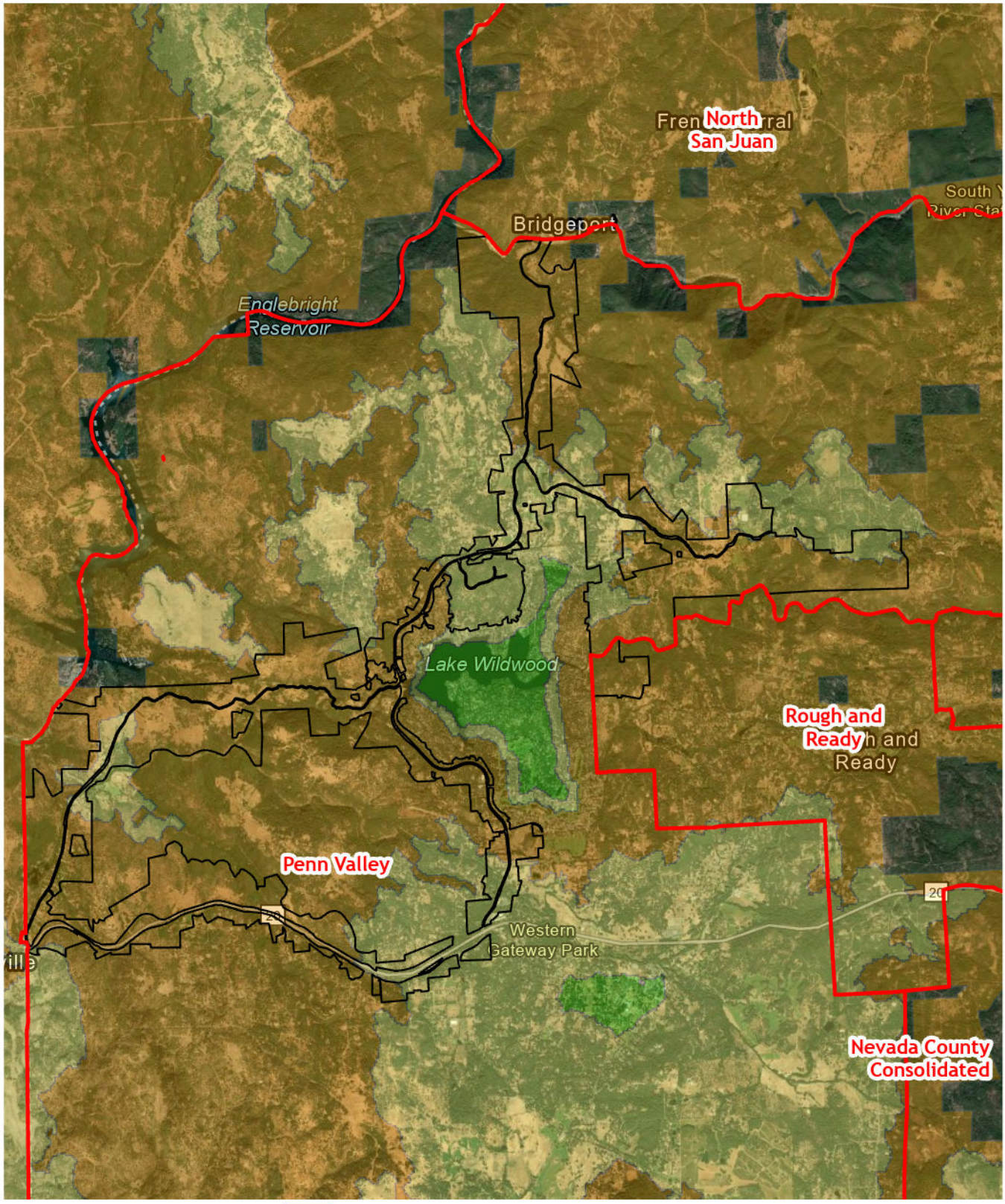


FIGURE 17
FIRE HAZARD SEVERITY ZONES AND FIRE DISTRICT BOUNDARIES
LOWER DEER CREEK-PENN VALLEY HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

SOURCE: CALFIRE 2025; NEVADA COUNTY 2025

P:\GIS\72545\LowerDeerCreek_CEQA\LowerDeerCreek_CEQA.aprx

P:\GIS\72545\Figures\InitialStudy\72545_FireZones_Districts.pdf

Attachment B

Biological Resources Assessment

BIOLOGICAL RESOURCES ASSESSMENT

LOWER DEER CREEK – PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

Prepared for

Nevada County Office of Emergency Services
950 Maidu Avenue, Suite 130
Nevada City, California 95959

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

FEBRUARY 2026

BIOLOGICAL RESOURCES ASSESSMENT

LOWER DEER CREEK – PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

Prepared for

Nevada County Office of Emergency Services
950 Maidu Avenue, Suite 130
Nevada City, California 95959

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

72545

FEBRUARY 2026

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4 Valley Elderberry Longhorn Beetle Range

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B National Wetlands Inventory Map
C Web Soil Survey Map
D USFWS IPaC Results

PROJECT DESCRIPTION

The proposed action consists of removing ground and ladder fuels at variable distances from each side of the Project Activity Area (PAA) roadway centerlines, thinning trees and brush to reduce crown closure, removing dead and dying trees less than 14 inches in diameter at breast height (DBH) along serviceable roadways or within landscape areas, and after removal activities, applying herbicide at regular intervals to control the future regrowth of unwanted vegetation and maintain an understory canopy without fire-prone fuels. Treatment areas will be 150 to 400 feet from the roadway centerline on each side and select landscape areas. The project location is shown on Figure 1.

Treatment Specifications

Work will focus on improving forest health, including vegetation management, forest undergrowth reduction, and biomass utilization. Treatment will reduce 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, living trees 14 inches DBH and less will be spaced to greater than 30 feet. These fuel reduction treatments will allow roadways to serve as areas where fire intensity decreases and can act as strategic locations to deploy firefighting resources in the event of fire, hampering fire's ability to jump roadways. Both mechanized and manual techniques will be deployed for the removal of fuels. Fuel reduction, biomass disposal, herbicide treatment, and site restoration activities are described in greater detail below. Commercial-sized trees will not be included in the thinning operations.

The Registered Professional Forester (RPF) will identify the hazardous fuels reduction techniques appropriate for each individual parcel as either mechanical or manual treatment. 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 (TP) will be developed for each parcel based on the PSA. Individual TPs will identify and exclude any riparian habitat present.

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.

- Class I watercourses and wetlands: 75 feet
- Class II watercourses: 50 feet
- Class III watercourses: 50 feet

Methods and Schedule

Fuel reduction will use mechanized or 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 considerations, and similar limitations that do not apply to the manual technique. Mechanical treatment will not

occur on slopes of 65 percent or greater or whenever site conditions require handwork. The RPF will determine which technique or combination of techniques will be appropriate for each road segment within the PAA.

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

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
- Placing mulch around desired vegetation to limit competitive growth

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

Herbicide Treatment
Treatment areas may require some level of pre-treatment with herbicide prior to or post-biomass 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 Adviser (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 susceptible to herbicide modes of action 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 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 (BMPs).

Biomass Disposal
Biomass waste generated is anticipated to include:

- Removal of woody debris up to 14 inches DBH, or vegetation present at an undesired density as determined by the RPF
- Green plant material from thinning and brush residuals
- Cut shrubs, branches, and saplings
- Branches and logs from dead or mortally diseased trees

Onsite Disposal
Some residual biomasses 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 will 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. Such biomass will be handled in the following manner:

- Green waste will be cut or chipped
- Chipped waste will be disposed of 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 in depth.
- Green waste from branches and logs from dead or mortally diseased trees, particularly those that might be infected with sudden oak death, will not be chipped. But will be left to decompose in place help prevent the spread of disease.

Key points for the above parameters include spreading to a depth of 4 inches and avoiding piling around remaining trees.

Offsite Disposal
Strategic use of biomass that is removed from the site can divert material from decay and open pile burning that landowners currently conduct; this will produce greenhouse gas reduction benefits outside of the forest. Use of this material can provide renewable electricity and potentially biofuels, offsetting consumption of fossil fuels. The project will use biomass facilities for the disposal of woody biomass generated by project activities. Biomass will be delivered to the nearest facility that is economically and contractually feasible to reduce transportation-related emissions. Delivery of biomass material (chips and logs) is estimated at a rate of 0.1 loads per acre on 10 percent of the project acreage.

Project activities will be limited to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 7:00 p.m. on Saturdays. No work will occur on Sundays.

CONSERVATION FRAMEWORK

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 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 ESA provide methods for permitting otherwise lawful actions that may result in "incidental take" of a federally listed species. Incidental take refers to the take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Section 10 provides a process for non-federal actions. The act is administered by the U.S. Fish and Wildlife Service (USFWS) for terrestrial species.

California Endangered Species Act

The California Endangered Species Act (CESA) lists species of plants and animals as threatened or endangered. Projects that may have significant impacts 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 (FGC). Authorization from the California Department of Fish and Wildlife (CDFW) is in the form of an incidental take permit, and measures can be identified to minimize take.

Invasive Species Control within Project Limits

Executive Order 13112 directs federal agencies to combat the introduction or spread of invasive species in the United States. Environmental review should include a discussion of the invasive species present within the project limits, their status, and measures to prevent the spread or infestation of invasive species. General measures can be taken to minimize the spread of invasive plants.

California Native Plant Protection Act

The California Native Plant Protection Act (Fish & G. Code, §1900 et seq.) states that a plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens. These plant species meet the criteria for determining endangered or rare species.

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA) (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). Measures can be identified to avoid or minimize adverse effects on migratory birds.

Birds of Prey

Birds of Prey ("raptors") are protected under California State law (FGC Sections 3503, 3503.5, 3505, and 3513 and CCR Title 14, Sections 251.1, 652, and 783-786.6). All raptors in the orders of Falconiformes or Strigiformes (birds of prey), including common species and their nests, are protected from "take" under the California FGC, Section 3503 and 3503.5, and the Federal Migratory Bird Treaty Act. Raptor species may nest in trees and other vegetation located within or in the immediate vicinity of the project area. Construction activities such as tree and vegetation removal or grading and paving occurring during the nesting season (February 1 through August 31) could result in direct impacts to nesting birds.

Migratory Birds

California FGC, 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.

Fully Protected Species

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

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 a waiver through the local Regional Water Quality Control Board (RWQCB) 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.

Lake or Streambed Alteration Agreement

California FGC, Section 1600, states that any activity that may have the potential to substantially divert or obstruct the natural flow of, or substantially change any river, stream, or lake, must enter a Lake or Streambed Alteration Agreement as managed by CDFW (CFG 1600 et Seq). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the floodplain of a water body.

California Forest Practice Rules

If removed biomass is to be sold for commercial purposes from any portion of the project site, California Forest Practice Rules will also apply to that portion of the project site.

SITE CONDITIONS

Habitat Types

Habitat types and vegetative communities within the project area were identified through consultation with the California Wildlife Habitat Relationships (CWHR) database and the USFWS National Wetlands Inventory. Detailed habitat characterization was completed onsite; references used include CWHR Habitat Descriptions as well as the California Native Plant Society (CNPS) Online Manual of California Vegetation Alliances. CWHR vegetation types within the project area are shown on Figure 2.

The treatment area is in western Nevada County in the foothills of the Sierra Nevada range. Habitat types within the project area include a mix of man-made development, historically disturbed areas, and natural habitats, including Annual Grassland, Blue Oak-Foothill Pine, Blue Oak Woodland, Mixed Chaparral, Montane Chaparral, Montane-Hardwood Conifer, Montane Hardwood, Perennial Grassland, Ponderosa Pine, Valley Oak Woodland, Barren, and Aquatic.

Annual Grassland
Annual Grasslands consist of a mix of native and non-native annual grasses and a 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*), and hairy vetch (*Vicia villosa* ssp. *villosa*).

Alliances which occur within this habitat type include Annual Brome, Birdfoot Trefoil, California Annual Grassland, California Annual Herb-Land, Cheatgrass, Fennel, Italian Ryegrass, Northern Claypan Vernal Pools, Northern Hardpan Vernal Pools, Northern Volcanic Mudflow Vernal Pools, Red Brome, Trifolium – Lessingia - Holocarpha Virgata Herbaceous, And Yellow Star Thistle.

Barren
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 pull-outs, driveways, and commercial and industrial developments. These barren areas may present existing barriers to wildlife migration within the survey area.

Blue Oak-Foothill Pine
Blue Oak-Foothill Pine (BOP) is characterized by a mix of hardwoods, conifers, and shrubs that are diverse in vertical and horizontal structure. The shrub component is typically composed of several species that are clumped with patches of annual grassland. Canopy cover ranges from 10 to 59 percent, and DBH ranges from 2.5 to 30 centimeters (1 to 12 inches). Blue oak (*Quercus douglassi*) and foothill pine (*Pinus sabiniana*) typically comprise the overstory of this habitat, with blue oak being most abundant.

Alliances that occur within this habitat type include Foothill Pine and Interior Live Oak Woodland.

In the foothills of the Sierra Nevada, tree species typically associated with this habitat are interior live oak and California buckeye. In the Coast Range, associated species are the coast live oak, valley oak, and California buckeye (Griffin 1977). Interior live oaks sometimes dominate the overstory, especially in rocky areas and on north-facing slopes at higher elevations. Understory may be comprised of annual grasses, forbs, and patches of shrubs. Shrub species include *Ceanothus* spp., mariposa manzanita (*Arctostaphylos viscida* ssp. *mariposa*), whiteleaf manzanita (*Arctostaphylos viscisa*), Parry manzanita redberry (*Arctostaphylos parryana*), California coffeeberry (*Rhamnus californica*), poison oak (*Toxicodendron pubescens*), silver lupine (*Lupinus albifrons*), blue elderberry (*Sambucus caerulea*), California yerbasanta (*Eriodictyon californicum*), rock gooseberry (*Ribes quercetorum*), and California redbud (*Cercis occidentalis*).

BOP woodlands provide breeding habitats for a large variety of wildlife species, although no species is totally dependent on this habitat for breeding, feeding, or cover. Most species breed during late winter and early spring – a factor to consider when planning management activities. Snags are less common and hence less critical to wildlife in this type of forest than in other forest types. Most species of cavity-nesting birds, for example, use living oaks. The cavities are often in scars where limbs have broken from the trunk or a main branch and have developed a level of decay that makes them more easily excavated by primary cavity nesters.

Blue Oak Woodland

Blue Oak Woodland (BOW) is characterized by an overstory of scattered trees, although the canopy can be nearly closed on better quality sites (Pillsbury and De Lasaux 1983). The canopy is dominated by broad-leaved trees 5 to 15 meters tall. Shrubs are often present but rarely extensive, often occurring on rock outcrops. Typical understory is composed of annual grassland-type vegetation. Blue oak is the dominant species (85 to100 percent of tree species). Common associates are live oak (*Quercus* spp.), valley oak (*Quercus lobata*), and western juniper (*Juniperus occidentalis*). Shrubs may include poison oak, California coffeeberry, buckbrush (*Ceanothus cuneatus*), redberry (*Rhamnus crocea*), California buckeye (*Aesculus californica*), and *Manzanita* spp.

Alliances that occur within this habitat type include Blue Oak Woodland, California Buckeye, and Interior Live Oak Woodland.

Cropland

Croplands consist of flat to gently rolling terrain. Vegetation in this habitat includes a variety of sizes, shapes, and growing patterns because of the variation in crop species. Most croplands support annuals that are planted in spring and harvested during summer or fall. More than 200 crop species are produced in California. Cropland vegetation is grown as a monoculture, using tillage or herbicides to eliminate unwanted vegetation.

Wildlife such as waterfowl, sandhill cranes, and other species that use waste grains after harvest are usually not discouraged. Croplands flooded for weed control, leaching, irrigation, or waterfowl hunting serve as freshwater wetlands for a variety of associated wetland wildlife, including shorebirds, wading birds, and gulls.

Mixed Chaparral

Mixed Chaparral is structurally homogenous brushland dominated by broad-leaved sclerophyll shrubs with thick, heavily cutinized evergreen leaves. It is typically a dense thicket with 80 percent absolute shrub cover, with canopy heights from 1 to 4 meters. Over 240 species of woody plants

can be found here. The dominant species include scrub oak (*Quercus ilicifolia*), chaparral oak (*Quercus* ssp.), and several species of ceanothus (*Ceanothus* ssp.) and manzanita (*Arctostaphylos* ssp.). No wildlife species are restricted to Mixed Chaparral, but many birds, lizards, and mammal species utilize these communities for foraging and dispersal.

Montane Chaparral
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 chaparrals. 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, and protection from predators and climate, as well as roosting and nesting sites. Many songbirds are adapted to living within dense shrubs and are tolerant of the proximity to the interstate.

Alliances that can occur within this habitat type include Birchleaf Mountain Mahogany Scrub, Bitter Cherry Scrub, Brewer Oak Chaparral, Bush Chinquapin Montane Chaparral, Chaparral Whitethorn Chaparral, Curlleaf Mountain – Mahogany Woodland and Scrub, Deerbrush Montane Chaparral, Giant Chinquapin Scrub, Greenleaf Manzanita Shrubland, Huckleberry Oak Chaparral, Mountain Whitethorn Montane Chaparral, Sadler Oak Montane Scrub, Scrub Oak Chaparral – Whitethorn Chaparral, Tobacco Brush Montane Chaparral, Wedgeleaf Ceanothus Chaparral, and Whiteleaf Manzanita Chaparral.

Montane Hardwood
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*). Acorns are a major food source for many other wildlife species, including deer, squirrels, and bears.

Alliances that occur within this habitat type include Black Oak Forest and Woodland, California Bay Forest, California Buckeye, Canyon Live Oak Forest, Interior Live Oak Woodland, Oregon White Oak Woodland, Pacific Madrone Forest, Red Alder, and Tanoak Forest.

Montane-Hardwood Conifer
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, bigleaf maple (*Acer macrophyllum*), Pacific madrone, and tanoak are common with ponderosa pine, incense-cedar (*Calocedrus decurrens*), Douglas-fir, 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 a similar habitat to the eastside pine habitat.

Alliances that can occur within this habitat type include Bigcone Douglas-Fir Forest, Black Oak Forest and Woodland, California Bay Forest, Canyon Live Oak Forest, Coulter Pine – Canyon Live Oak Woodland, Coulter Pine – Eastwood Manzanita, Douglas-Fir – Canyon Live Oak Forest, Douglas Fir – Ponderosa Pine Forest, Douglas Fir – Tanoak Forest, Oregon White Oak Woodland, Pacific Madrone Forest, Ponderosa Pine – Black Oak, Santa Lucia Fir Forest, and Tanoak Forest.

Perennial Grassland

Perennial Grassland habitats have mixed structures and a variety of plant species, including many shared grass species with wet meadows. Structure in Perennial Grassland habitat is dependent upon the mix of plant species at a particular site and can range from low to the ground to taller, more distinguished layers. Typical species may include California oatgrass (*Danthonia californica*), Pacific hairgrass (*Deschampsia cespitosa*), and sweet vernal grass (*Anthoxanthum odoratum*). Perennial Grassland provides optimal habitat for many species.

Ponderosa Pine

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, Jeffrey pine, sugar pine, Douglas-fir, bigcone Douglas-fir (*Pseudotsuga macrocarpa*), canyon live oak (*Quercus chrysolepis*), California black oak, Oregon white oak (*Quercus garryana*), Pacific madrone, and tanoak.

Ponderosa Pine offers a similar habitat to the Eastside Pine habitat and is sometimes a transitional or migratory habitat for deer. This habitat can be extremely important to deer nutrition in migration holding areas.

Alliances which occur within this habitat type include Antioch Dunes Stands, Ashy Ryegrass Bunch Grass Grassland, Big Galleta Bunchgrass Grassland, Blue Wildrye Grassland, Brewer's Sedge, California Oatgrass, Congdon's Sedge, Creeping Ryegrass Grassland, Crested Wheatgrass, Desert Needlegrass Grassland, Eureka Valley Dunegrass, European Beachgrass, Foothill Needlegrass, Galleta Grassland, Green Fescue, Harding Grass Riparian Grassland, Heller's Sedge, Idaho Fescue, Indian Ryegrass, Intermediate Oatgrass Grassland, Introduced Perennial Grassland, Joshua Tree Wooded Grassland, Lemmon's Needlegrass, Native Dunegrass, Needle And Thread, Nodding Needlegrass, One-Sided Bluegrass, Pacific Reedgrass, Pampas Grass, Parry's Rush,

Purple Needlegrass, Purple Reedgrass, Red Fescue, Shorthair Reedgrass, Shorthair Sedge, And Squirreltail.

Urban

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 within the mosaic. Bird species include wrentits (*Chamaea fasciata*), bushtits (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), chestnut-backed chickadee (*Poecile rufescens*), and California quail (*Callipepla californica*). Common mammals are black-tailed deer (*Odocoileus hemionus*), ringtail (*Bassariscus astutus*), and black-tailed jackrabbit (*Lepus californicus*).

Valley Oak Woodland

Valley Oak Woodland (VOW) habitat varies from savanna-like to forest-like stands with partially closed canopies, comprised mostly of winter-deciduous broad-leaved species. Tree density decreases with the transition from lowlands to the less fertile soils of drier uplands. Valley oak almost exclusively dominates VOW. Valley oak stands experiencing little or no grazing tend to develop a partial shrub layer of bird-disseminated species, such as poison-oak, toyon (*Heteromeles arbutifolia*), and California coffeeberry (J. R. Griffin, pers. comm.). Ground cover consists of a well-developed carpet of annual grasses and forbs. Mature valley oaks with well-developed crowns range in height from 15 to 35 meters (49 to 115 feet) (Cheatham and Haller 1975, Conard et al. 1977).

These woodlands provide food and cover for many species of wildlife, particularly mammals and birds. In decreasing order, the most common species were European starling (*Sturnus vulgaris*), California quail, plain titmouse, scrub jay, rufous-sided towhee (*Pipilo maculatus*), Bewick's wren (*Thryomanes bewickii*), bushtit, and acorn woodpecker (*Melanerpes formicivorus*). Foxes, squirrels, and mule deer (*Odocoileus hemionus*) have been documented using valley oaks for food and shelter.

Alliances associated with this habitat type include California Walnut and Valley Oak Woodland and Forest.

Freshwater Emergent Wetland (Aquatic)

Freshwater Emergent Wetlands are characterized by erect, rooted herbaceous hydrophytes. 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. The vegetation may vary in size from small clumps to vast areas covering several kilometers. On the upper margins of fresh emergent wetlands, saturated or periodically flooded soils support several moist soil plant species, including bigleaf sedge (*Carex macrophalla*), Baltic rush (*Juncus balticus*),

redroot nutgrass (*Cyperus erythrorhizos*), and, on more alkali sites, saltgrass (*Distichlis spicata*). On wetter sites, common cattail (*Typha latifolia*), tule bulrush (*Schoenoplectus acutus*), river bulrush (*Schoenoplectus fluviatilis*), and arrowhead (*Sagittaria* spp.) are potential dominant species.

Fresh Emergent Wetland habitats within the project area often occur in association with terrestrial habitats or aquatic habitats, including riverine and lacustrine. Freshwater Emergent 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.

Lacustrine (Aquatic)
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).

Lake Wildwood is a dammed Lacustrine body in the center of the project area that feeds several tributaries throughout the project area. Additionally, Englebright Reservoir is another dammed water body that sits in the northwestern corner of the project area, fed by the Yuba River. These low-flow, deep-water habitats will likely provide habitats for birds, fish, reptiles, and mammals.

Riverine (Aquatic)
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. Riverine habitats are also contiguous to manmade ditches and conveyances of natural watercourses. Some streams flow offsite where they feed wet meadows, fens, or lakes.

Lake Wildwood has several tributaries that run through the treatment area, including Deer Creek. Additionally, the Yuba River runs through the western part of the project area. The cool, oxygen-rich water and gravel substrate of these waters may provide habitat for fish, amphibians, reptiles, birds, and mammals. The Yuba River is known habitat for special-status fish such as the Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*), and amphibians such as the foothill yellow-legged frog (*Rana boylii*) (FYLF). The South Yuba River north of the Englebright Reservoir is known to host the special-status northwestern pond turtle (*Actinemys marmorata*). Squirrel Creek, a tributary of Deer Creek, is also known to host FYLF.

Class IV conveyances support seasonal (i.e., ephemeral or intermittent) hydrology, but due to their lack of natural substrate and/or vegetation, they do not provide habitat for wildlife. This includes concrete-lined culverts and roadside ditches.

Class II and III stream conveyances support perennial or seasonal (i.e., ephemeral or intermittent) hydrology. Although the hydrology or geography may not allow for the presence of fish, class II or III streams within the project area may be upstream from Class I watercourses adjacent to the

project area. Additionally, their natural substrate and/or vegetation do provide habitat for wildlife such as aquatic insects or amphibians. This includes vegetated, unmaintained roadside ditches, as well as two small streams passing under the interstate.

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, some Associations further define specific plant communities. These Associations and their sensitivity ranking are listed on the California Sensitive Communities List. A CNDDB Summary Table of special-status species is included as Appendix A.

Sensitive Natural Communities that potentially occur within the project area include valley oak woodland and forest, Goodding's willow – red willow riparian woodland and forest, canyon live oak – interior live oak chaparral, and Fremont cottonwood forest and woodland.

Valley Oak Woodland and Forest
Valley oak woodlands include *Quercus lobata* as the dominant tree, covering at least 50 percent of the canopy, or 30 percent with associate tree species such as *Q. agrifolia* and *Q. douglassi*. The shrub layer is usually sparse and includes *Toxicondendron californica.* The herbaceous layer may be grassy, with common species being *Bromus diandrus* and *Bromus hordeaceus*. Many associations are found within this habitat, and all are listed as sensitive according to the California Sensitive Communities List. Any area with more than 50 percent cover of *Quercus lobata* or 30 percent with associate tree species is considered a part of this community. These are typically found in valley bottoms, summit valleys, and on gentle to steep slopes/ridgetops.

Goodding's Willow – red willow riparian woodland and forest
Red willow riparian areas typically have either *Salix goodinggii* or *Salix laevigata* as the dominant species, or they are co-dominant in the tree/shrub canopy. Common shrubs include *Baccharis salicifolia*, *Cornus sericea*, *Rosa californica*, *Rubus armeniacus*, *Salix exigua*, *Salix lasiolepis,* or *Sambucus nigra*. The canopy is open to continuous with trees less than 30 meters tall. All associations within this alliance are listed as sensitive according to the California Sensitive Communities List.

If *Salix goodinggii* or *Salix laevigata* are found in more than 50 percent of the canopy cover, then the area is considered a part of this alliance. Habitats include river terraces, canyons, and floodplains.

Canyon Live Oak – Interior live oak chaparral
Oak chaparrals in this alliance have *Quercus chrysolepis*, *Quercus palmeri*, *Quercus parvula*, or *Quercus wislizeni* as the dominant or co-dominant species in the shrub canopy. Sparse emergent cover of trees may be present, and shrubs of less than 6 meters have an intermittent to continuous canopy cover. The listed sensitive associations are *"Quercus chrysolepis shrub," "Quercus chrysolepis – Ceanothus integerrimus," "Quercus wislizeni* var. *frutescens," and "Quercus (parvula, wislizeni) – Arctostaphylos glandulosa."* Typically, this alliance is found in a habitat with steep slopes.

Fremont Cottonwood Forest and Woodland
Populus fremonitii is the dominant or co-dominant tree in the canopy. This alliance can occur in a variety of habitats, including floodplains, lower canyons in desert mountains, along low-gradient rivers and streams, and in valleys. Trees are less than 25 meters tall, and the canopy is continuous to open, as is the shrub layer. All associations within this alliance are listed as sensitive on the California Sensitive Communities List.

Hydrology

Hydrology within the project area includes Class I, II, III, and IV watercourses (per the California Forest Practice Rules). Class I watercourses include Lake Wildwood, the Yuba River, and Englebright Reservoir. The Yuba River feeds tributary Deer Creek, which is dammed at Lake Wildwood and runs throughout the project area. Multiple Class II, III, IV stream conveyances support perennial or seasonal (i.e., ephemeral or intermittent) hydrology. The National Wetlands Inventory map is included in Appendix B.

Soils

Many soil types are found within the project area. Dominant soil types are those covering more than 5 percent of the area. Other types cover less than 5 percent.

Dominant soil types within the project area are Boomer, hard bedrock – rock outcrop complex, 5 to 30 percent slopes; Boomer, hard bedrock – rock outcrop complex, 15 to 60 percent slopes; Secca-Rock outcrop complex, 2 to 50 percent slope; and Trabuco loam, 5 to 15 percent slopes. A Web Soil Survey Map is included as Appendix C.

PROJECT IMPACT ASSESSMENT

Survey Methods

Special-status animal 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.

Special-status plant species include plants that are (1) designated as rare by CDFW or USFWS or are listed as threatened or endangered under CESA or ESA; (2) proposed for designation as rare or listing 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 (RPR) 1A, 1B, 2A, or 2B.

Sensitive flora and fauna with the potential to occur in the area were determined during a pre-survey desktop review of available resource databases, including the California Natural Diversity Database (CNDDB) (Appendix A), National Wetlands Inventory (Appendix B), USFWS Information for Planning and Consultation (iPAC) database (Appendix D), USFWS Critical Habitat Mapper (Figure 3), Calflora Database, and the CNPS Rare Plant Query. The resource lists produced by desktop review were assessed for the potential for species or their habitat to occur within the assessment area. The assessment area includes the proposed project area plus the surrounding perimeter where project activities could have a direct or indirect impact.

A reconnaissance survey was completed within the project area on December 4, 2025. The survey was conducted by vehicle along roadway treatment areas. The purpose of the survey was to characterize biological resources onsite and determine the presence of special-status species' habitats and sensitive resources within the area. Survey methods included visually surveying the project area while driving.

Wildlife observations were recorded, including species and behaviors observed during the survey. Plants were identified to the level necessary to determine the habitat types present onsite. Any sensitive biological resource that was encountered was documented. The presence of habitat characteristics for potentially occurring special-status wildlife was documented.

Survey Results

The following avian species were detected during the survey: quail (*Coturnix* ssp.), turkey vulture (*Cathartes aura*), ruby-crowned kinglet (*Corthylio calendula*), European starling, lesser goldfinch (*Spinus psaltria*), song sparrow (*Melospiza melodia*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), California scrub jay, Cooper's hawk (*Astur cooperii*), wild turkey (*Meleagris gallopavo*), and downy woodpecker (*Picoides pubescens*).

The dominant plant species observed onsite include oak (*Quercus* spp.), foothill pine, Himalayan blackberry (*Rubus armeniacus*), manzanita, toyon, and invasive broom (*Fabaceae*, unidentified). Other plant species observed include ponderosa pine, Pacific madrone, willow (*Salix* spp.), coyote brush (*Baccharis pilualaris*), buckbrush, pampas grass (*Cortaderia selloana*), rush (*Juncaceae*, unidentified), California buckeye (*Aesculus californica*), and California coffeeberry.

Potentially Occurring Special-Status Species

The regionally occurring species identified during the pre-survey consultation were assessed based on the potential for their habitat to occur within the project area. The results of the consultation include the habitat of each species and a determination of whether the species is likely to occur within the project area. These results are summarized in Table 1 for wildlife species and Table 2 for plant species.

Table 1
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES

Common Name	Scientific Name	Conservation Status (CDFW/State/Fed)	Habitat Description	Potential to Occur in Project Area
Birds				
Bald eagle	*Haliaeetus leucocephalus*	FP/SE/FD	Near open water, nesting habitat consists of large trees usually within riparian forests near lakes and rivers	Yes, nesting and foraging habitat exists around Lake Wildwood.
California black rail	*Laterallus jamaicensis coturniculus*	FP/ST/--	A scarce resident species of California found in saline and fresh emergent wetlands. Typically, prefers areas with pickleweed in coastal areas, or bulrushes, cattails, and saltgrass inland.	Yes, falls within the species range. Potential to occur within 500 feet of emergent wetland habitat.
California spotted owl – Sierra Nevada DPS	*Strix occidentalis occidentalis*	SSC/--/FPT	Mixed conifer forest, often with an understory of black oaks and other deciduous hardwoods. Canopy closure >40%. Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	Yes, falls within the species' winter range. A portion of the project area contains suitable mixed conifer habitat.
California condor – experimental population	*Gymnogyps californianus*	FP/SE/FE	Nesting habitats range from scrubby chaparrals to forested mountain regions up to about 6000 feet in elevation. Foraging areas are open grasslands that can be far from primary nesting sites. Nest mainly in natural cavities or caves in cliffs, though they sometimes also use trees, such as coast redwood and, historically, the giant sequoia.	Yes, falls within the range of the experimental population. Project area may provide foraging habitat, but lacks nesting habitat. Unlikely to be present due to distance from nearest known occurrence.
Yellow-breasted chat	*Icteria virens*	SSC/--/--	Summer resident in California, found in riparian areas with willows and brush tangles near watercourses. Requires dense shrubbery.	Yes, potential nesting habitat in riparian areas in tributaries running through the project area.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES				
Common Name	**Scientific Name**	**Conservation Status (CDFW/State/Fed)**	**Habitat Description**	**Potential to Occur in Project Area**
Mammals				
Gray wolf	*Canis lupis*	--/SE/FE	Habitat generalists historically occupying diverse habitats, including tundra, forests, grasslands, and deserts. Primary habitat requirements are the presence of adequate ungulate prey, water, and low human contact.	Yes, individual wolves may disperse within this area. The nearest pack's home range is over 50 miles away.
Ringtail	*Bassariscus astutus*	FP/--/--	Rocky areas are required in riparian, forest, woodland, and shrub habitats. Usually found within 0.6 miles of a permanent water source. Nocturnally active.	Yes, may occur and den in habitat surrounding permanent watercourses.
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC/--/--	Species associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forests. Females form maternity colonies in buildings, caves, and mines; males roost singly or in small groups. Foraging occurs in open and wooded habitats where moths are specialized prey.	Yes, may occur in trees within the project area. Most of the habitat suitability within the project area is considered low.
Western red bat	*Lasiurus frantzii*	SSC/--/--	Roosting habitat includes trees in forests and woodlands adjacent to fields, streams, or urban areas. Feeds across a variety of habitats, including grasslands, shrublands, and woodlands.	Yes, may occur in trees within the project area.
Reptiles & Amphibians				
California red-legged frog	*Rana draytonii*	SSC/--/FT	Inhabits quiet pools of streams, marshes, and ponds, typically with extensive shoreline vegetation. Requires nearly permanent pools for larvae; intermittent streams must retain surface water all year for habitat.	Yes, small patches of intermittent stream habitat exist within the project area. Final critical habitat within 5 miles of the project area.
Coast (Blainville's) horned lizard	*Phrynosoma blainvillii*	SSC/--/--	Inhabits a range of habitats, including valley-foothill hardwoods, conifer forest, riparian, pine-cypress, juniper, and annual grasslands.	Yes, high-suitability habitat exists within the eastern portion of the project area. High elevations required.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES				
Common Name	**Scientific Name**	**Conservation Status (CDFW/State/Fed)**	**Habitat Description**	**Potential to Occur in Project Area**
Foothill yellow-legged frog	*Rana boylii pop. 3*	--/ST/--	Perennial, fast-flowing streams; deposit eggs on undersides of rocks; adults and metamorphs may migrate in ephemeral tributaries in winter.	Yes, habitat exists within the project area. Reported observation near Rough and Ready within the project area.
Northwestern pond turtle	*Actinemys marmorata*	SSC/--/PT	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.	Yes, lakes, ponds, and streams within riparian habitat exist within the project area. Falls within species range.
Western spadefoot	*Spea hammondi*	SSC/--/FPT	Vernal pools within grasslands and valley foothill hardwood woodlands. Rarely found on the surface, present in friable soil. Burrows up to 1 meter deep, usually in grasslands.	Yes, range is within 5 miles of the project area. The actual project area falls outside, but potential to occur if vernal pools exist with grassland habitat.
Fish and Aquatic Vertebrates				
Chinook Salmon – Central Valley spring-run ESU	*Oncorhynchus tshawytscha pop. 11*	--/ST/FT	Anadromous life history. Cool water streams with riffle pool complexes and appropriate gravel for spawning. Known to run the Yuba River up to the passage barrier at the Englebright Dam, where spawning occurs below.	Yes, fish passage barrier exists on the Yuba River just within the project area near Sugarloaf Mountain. Spawning may occur below the barrier or in Deer Creek, a tributary. Final Critical Habitat and NOAA Essential Fish Habitat are designated below the Englebright Lake Dam.
Steelhead – Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	SSC/--/FT	Anadromous life history; Cool water streams with riffle pool complexes and appropriate gravel for spawning. Known to run the Yuba River up to the passage barrier at Englebright Dam, with spawning occurring below.	Yes, fish passage barrier exists on the Yuba River just within the project area near Sugarloaf Mountain. Spawning may occur below the barrier or in Deer Creek, a tributary. Final Critical Habitat and NOAA Essential Fish Habitat are designated below the Englebright Lake Dam.

Table 1 POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES				
Common Name	**Scientific Name**	**Conservation Status (CDFW/State/Fed)**	**Habitat Description**	**Potential to Occur in Project Area**
Invertebrates				
Crotch's bumblebee	*Bombus crotchii*	--/SC/--	Lives in a variety of hotter, drier habitats, including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings.	Yes, falls within range. Habitat exists within the project area.
Monarch butterfly	*Danaus plexippus*	--/--/FC	Forages on nectar-producing plants. Milkweed is required for egg deposition and larval development.	Yes, within summer range; milkweed could occur. Survey needed to determine if the plant exists
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	--/--/FT	Lives in riparian areas where it is entirely dependent on the elderberry shrubs (*Sambucus* spp.) for feeding, habitat, and reproduction.	Yes, the western part of Nevada County is within species range. Riparian areas within project area. Need elderberry surveys in range to determine if habitat exists.
Vernal pool fairy shrimp	*Branchinecta lynchi*	--/--/FT	Vernal pools	Yes, potential to occur if suitable vernal pool habitat exists.

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

Table 2 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status (State/Fed)**	**Conservation Status - CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**
Pine Hill flannelbush	*Fremontodendron decumbens*	--/FE	1B.2	Perennial, evergreen shrub that grows wider than it is tall. Occurs in chaparral stands, cismontane woodland, and rocky ridgetops. Orange flowers bloom in early April through July. Found at elevations from 425 to 760 meters.	Yes, northwestern corner of the project area falls within the species range. Observations in Nevada County are outside of the project area.
Stebbins' morning-glory	*Calystegia stebbinsii*	SE/FE	1B.1	Low-growing perennial rhizomatous herb that relies on disturbance regimes to persist. Prefers little shade canopy in chaparral openings and cismontane woodland. Found in two areas of the	Yes, falls within the species range. Calflora recorded observations near Rough and Ready and Penn Valley.

Table 2 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status (State/Fed)**	**Conservation Status - CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**
				northern foothills in El Dorado and Nevada counties. Large white flowers bloom May to June. Found at elevations from 185 to 1090 meters.	
Spiked western rosinweed	*Calycadenia spicata*	--/--	1B.3	Annual herb that is found in Cismontane woodland and valley/foothill grassland. White flowers bloom from May to September. Found at elevations from 40 to 1400 meters.	Yes, may occur in grassland and woodland habitats in the project area. One Calflora record in Newton and near Grass Valley outside project area.
Scadden Flat checkerbloom	*Sidalcea stipularis*	SE/--	1B.1	Perennial rhizomatous herb that grows in wet montane marshes and swamps. Three small populations have been found near Grass Valley. Pink flowers bloom from July to August. Found at elevations from 700 to 730 meters.	Yes, within species range. Calflora observations near Grass Valley.
Cantelow's lewisia	*Lewisia cantelovii*	--/--	1B.2	Perennial herb that occurs in broadleafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Blooms from May to October. Found at elevations from 330 to 1370 meters.	Yes, northwestern portion of the project area falls within the species range. Calflora observations recorded northeast of Newton and in the project area.
Dubious pea	*Lathyrus sulphureus* var. *argillaceus*	--/--	3	Perennial herb occurring in Cismontane woodland, lower montane, and upper montane coniferous forest. Found at elevations between 150 and 930 meters. Flowers in April and May.	Yes, habitat exists within project area. Calflora observation near Penn Valley within project area. Area falls within species range.
Dwarf downingia	*Downingia pusilla*	--/--	2B.2	Annual herb found near vernal pools, wetlands, and valley/foothill grasslands. Blooms March to May. Elevations from 1 to 445 meters.	Yes, western portion of project area around Mooney Flat Rd falls within range. Calflora observation south of Timbuctoo outside of project area.

Table 2 POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES					
Common Name	**Scientific Name**	**Conservation Status (State/Fed)**	**Conservation Status - CA Rare Plant Rank**	**Habitat Description**	**Potential to Occur in Project Area**
Chaparral sedge	*Carex xerophila*	--/--	1B.2	Perennial herb found in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms from March to July. Prefers dry gabbro or serpentine soils. Found at elevations from 279 to 779 meters.	Yes, habitat exists within the project area. Calflora observations near Penn Valley within the project area.
Finger rush	*Juncus digitatus*	--/--	1B.1	Annual herb found in vernal pools, cismontane woodland and lower montane coniferous forest openings. Primarily occurs near spring-moist habitat. Blooms from late April to June. Found at elevations from 660 to 1097 meters.	Yes, may occur near moist open areas within the project area. Observations south of Grass Valley where there is an isolated population.
Brownish beaked-rush	*Rhynchospora capitellata*	--/--	2B.2	Perennial herb found in wet habitats such as swamps, spring meadows, and moist lower montane coniferous forests. Blooms from July through August. Found at elevations from 45 to 2000 meters.	Yes, may occur in marshes or wet forests within the project area. Known occurrences east of the project area.
Butte County fritillary	*Fritillaria eastwoodiae*	--/--	3.2	Perennial bulbiferous herb in the Liliaceae family. Endemic to foothills of the northern Sierra Nevada and Cascade mountains in chaparral, cismontane woodland, and lower montane coniferous forest. Blooms March to June. Found at elevations from 50 to 1500 meters.	Yes, range falls within northern portion of the project area. No observations in Nevada County.
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					

Project Impact Discussion

A discussion of the potential project impacts to each species that was determined to be potentially occurring within the proposed project area follows. Project impact determinations are considered as either direct change, which may be caused by and is immediately related to the project, or indirect change, which is a reasonably foreseeable consequence of the project.

Special-status species that were determined to have no potential to occur in the project area due to a lack of habitat onsite (indicated as "No" in the Potential to Occur in Project Area column of Tables 1 and 2) are not discussed further in this report.

Potential Impacts to Special-Status Plants

A desktop habitat assessment was completed to determine the potentially occurring special-status plant species within habitat types onsite. Potentially occurring special-status plant species include Pine Hill flannelbush (*Fremontodendron decumbens*), Stebbins' morning-glory (*Calystegia stebbinsii*), spiked western rosinweed (*Calycadenia spicata*), Scadden Flat checkerbloom (*Sidalcea stipularis*), Cantelow's lewisia (*Lewisia cantelovii*), dubious pea (*Lathyrus sulphureus* var. *argillaceus*), dwarf downingia (*Downingia pusilla*), chaparral sedge (*Carex xerophila*), finger rush (*Juncus digitatus*), brownish beaked-rush (*Rhynchospora capitellata*), and Butte County fritillary (*Fritillaria eastwoodiae*).

Pine Hill flannelbush
Fremontodendron decumbens
Pine Hill flannelbush is a perennial evergreen shrub that is endemic to California. It is listed as endangered federally and has a California Rare Plant Rank of 1B.2. It grows in chaparral and cismontane woodland at elevations from 425 to 760 m. The species blooms from April to July. It prefers sunny slopes and peaks of gabbro outcrops and rocky ridgetops. It mainly reproduces vegetatively from root sprouts. The plant can grow from seeds, but the seed coat needs to be broken mechanically or by fire to stimulate germination. Fire additionally stimulates resprouting of the plant if the vegetation is burnt. It is predominantly threatened by land development and road construction. Fire exclusion is an additional threat to the species.

Pine Hill flannelbush has been recorded east and north of the project site, with the closest occurrence being from 2016. The elevation of the project falls within the known elevation range of the species. There are slopes and rocky outcrops within the project area. The species is associated with foothill pine, often found in this area. There is a possibility for the species to occur in the project area. However, areas with slopes greater than 65 percent grade are to be excluded from treatments, which may reduce some impacts to Pine Hill flannelbush. Additionally, treatments will focus on vegetated areas, not rocky areas where this species is likely to grow.

This species depends on fire to aid in its reproduction due to the thick outer coating on its seeds. A reduction in fire frequency could negatively impact the species. However, the project is intended to reduce conditions for catastrophic fire that would lead to lower plant survivorship from high heat intensity. Fire of a catastrophic nature is not a part of the naturally occurring fire regime.

Stebbins' morning-glory
Calystegia stebbinsii
Stebbins' morning-glory is an herbaceous perennial vine that is listed as endangered at the federal and state levels and has a California Rare Plant Rank of 1B.1 This species is mainly limited to the Pine Hill Preserve, with a few occurrences outside of El Dorado County, including some in Nevada County. It grows from 185 to 1090 meters in chaparral on gabbro-derived soils. Flowers form from May through June and are pollinated by insects. The plant maintains a rootstock and dormant seed bank that depends on fire to germinate. It is adapted to a fire regime and can be shaded out in older stands of chaparral that have not been recently burned. Stebbins' morning-glory is threatened by urbanization and development. Suppression of natural disturbances and fire is decreasing the species' reproductive ability.

Stebbins' morning-glory has 13 recorded observations on Calflora in Nevada County, with one within Penn Valley. It grows in open chaparral, which does occur in patches throughout the project area. There is the potential for the species to occur onsite within suitable chaparral habitat.

Since this species is adapted to a fire regime, a reduction in fire frequency could negatively impact the species. However, the project is intended to reduce conditions for catastrophic fire that would lead to low plant survivorship from high heat intensity. Fire of this nature is not a part of the naturally occurring fire regime. The clearing of vegetation could improve the viability of the species, as it is susceptible to being overcrowded.

Spiked western rosinweed
Calycadenia spicata
Spiked western rosinweed is an endemic annual herb that has a Rare Plant Rank of 1B.3. It is primarily found in the Central Valley and the adjacent Sierra Nevada foothills. It grows in foothill and valley woodlands and grasslands. It is typically found in dry habitats that are rocky, open, gravelly, or disturbed, but has also been observed on roadsides and sometimes in clay habitats. It grows at an elevation of 40 to 1400 meters. This species blooms from May through September with small, white flowers. Threats to this species include vehicles, development, habitat loss, grazing, alteration of fire regimes, and non-native plants.

Spiked western rosinweed can grow in a variety of dry woodland and grassland habitats. It has been observed south of Grass Valley and near Newton. The proximity to these observations of the species and presence of suitable foothill grassland and woodland habitat, particularly along roadsides, means there is a potential for spiked western rosinweed to occur within the project area.

Vegetation clearing may remove invasive species that threaten this species. Since this species is reliant on the natural fire regime, a reduction in fire frequency could negatively impact the species. However, the project is intended to reduce conditions for catastrophic fire that would lead to lower plant survivorship from high heat intensity. Fires of this nature are not a part of the naturally occurring fire regime.

Scadden Flat checkerbloom
Sidalcea stipularis
Scadden Flat checkerboard is an endemic perennial herb that is state-listed as endangered with a California Rare Plant Rating of 1B.1. There are only three known populations of this species, all of which occur in the vicinity of Grass Valley. It grows at around 700 meters in elevation in wet,

spring-fed montane marshes and can tolerate heavy soils. This herb flowers from June to August, reproducing through rhizome or relying on insect pollination. Most of the known plants for this species are growing on privately owned land or land owned by the California Department of Transportation. The species is threatened by highway widening, herbicide application, alterations to natural hydrology, and non-native plants like Himalayan blackberry.

Scadden Flat checkerbloom grows only in wetlands and freshwater marshes. This species has only been observed around Grass Valley in small populations. Due to the project's proximity to Grass Valley, there is the potential for Scadden Flat checkerbloom to occur near wetland areas. This plant is an obligate wetland plant, meaning that it requires high water content and will not be found far outside of flooded areas. Due to the 75-foot buffer zones surrounding wetlands, it is highly unlikely that any direct impacts to this plant occur during treatments.

Cantelow's lewisia

Lewisia cantelovii

Cantelow's lewisia is a perennial herb that is endemic to California and has a Rare Plant Rank of 1B.2. It grows in a variety of habitats, including granite cliffs, rocky outcrops, serpentine seeps, chaparral, and conifer forest. It is typically found on granitic and metamorphic rocks, though it can also grow on ultramafic rock. It grows at elevations from 330 to 1370 meters, mainly in the northern High Sierra Nevada bioregion, with additional occurrences in the Klamath Range. It blooms from May to October and attracts and is pollinated by generalist insects. Most occurrences of the species are on U.S. Forest Service land. It is threatened by horticultural collecting, road construction, mining, and logging.

Cantelow's lewisia is associated with ponderosa pine, which grows throughout the project area. Occurrences of *L. cantelovii* in the Sierra Nevada are typically found in river canyons. Deer Creek runs through the project area and has steep slopes alongside it in the southern portion of the treatment areas that may provide suitable habitat. Areas of steep slopes are going to be excluded from project activities, along with exclusion buffers around watercourses. Treatments will also focus on vegetated areas and will not disturb rocky outcrops, making the direct impacts to this species low. Many occurrences of this species are south of Highway 20, an area that is included within some treatment areas. The highway runs along the southern limits of the project. There is the possibility for the species to occur, especially in the Lower Penn Valley section of the PAA near known occurrences.

Dubious pea

Lathyrus sulphureus var. *argillaceus*

The dubious pea is a perennial herb that is a variety of the snub pea. It has a California Rare Plant Rank of 3. The species grows on slopes in cismontane woodland and lower and upper montane conifer forest at elevations from 150 to 930 meters. It is mainly dispersed across the foothills of the Sierra Nevada Mountain range from Calaveras to Shasta County. Dubious pea blooms in April and May. It is primarily pollinated by bees and reproduces through seeds. The *argillaceus* variety of *L. sulphureus* is not well understood, and its validity as a variety is still questioned. It is threatened by grazing, foot traffic, and road construction.

Dubious pea has the potential to occur within the site. An observation of the species was made within the project area in 2019, though the exact location was not specified. It grows in forest and mixed oak-pine woodlands, which are present throughout the project area.

Dwarf downingia
Downingia pusilla
Dwarf downingia is an annual herb found in California and elsewhere that has a Rare Plant Rank of 2B.2. It is found at an elevation of 1 to 445 meters in valley and foothill grassland, as well as vernal pools. It is found near wet areas such as ditches, marshes, and riparian wetlands. It can also be found in wet areas of foothill woodlands. Dwarf downingia blooms from March to May with small tubular flowers that are white or blue with yellow spots near the mouth of the tube.

Dwarf downingia has been observed west of the project area near Smartville. Due to the presence of suitable foothill grasslands and woodlands, there is potential for it to occur within the project area. However, this species is restricted to wet areas near marshes and wetlands. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Chaparral sedge
Carex xerophila
Chaparral sedge is a perennial herb that is endemic to California and has a Rare Plant Rank of 1B.2. It is found at 280 to 770 meters in elevation in chaparral, cismontane woodlands, and lower montane conifer forest. The species is restricted to dry gabbroic and serpentine soils along the northern Sierra Nevada range. It blooms from March to June and is pollinated via wind. Threats to the chaparral sedge include development, non-native plants, and fire. Development is a particular risk in Nevada County on Bureau of Land Management land, where areas of known occurrences and habitats that the species has the potential to occur on are threatened.

The project site contains chaparral, woodlands, and conifer forest throughout the area, all of which have the potential for growth of chaparral sedge. The site is within the elevation range of the species. It has been observed growing along the roadside on the southern edge of the project limit in the Lower Penn Valley section of the PAA. There are several other occurrences south of the project area.

Finger rush
Juncus digitatus
Finger rush is an annual herb that is endemic to California and has a Rare Plant Rank of 1B.1. It is found at elevations of 660 to 1097 meters in openings in woodlands and montane coniferous forest as well as vernal pools. This species blooms from April to June with reddish-purple flowers. It is a wetland plant and requires access to water. Alterations to the hydrologic regime are a major threat to this species. There are limited observations of this species across the foothills of the Sierra Nevada.

Observations of this species have occurred near Grass Valley, east of the project area. However, there is a suitable habitat within the project area and therefore potential for this species to occur. This species is restricted to wetlands and occurs only in areas with access to water. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Brownish beaked-rush
Rhynchospora capitellata
Brownish beaked-rush is a perennial herb that has a Rare Plant Rank of 2B.2. It is found at elevations of 45 to 2000 meters in montane coniferous forests, marshes, swamps, and meadows. This species blooms in July and August and produces reddish-brown flowers. This species requires access to water and is found only in wetlands and riparian areas. Threats to this species include grazing and development.

Brownish beaked-rush has been observed in Bridgeport near the project area, as well as near Grass Valley. Coniferous forest habitat occurs within the project area, and therefore, the project area has the potential to host this species. This species only occurs in wetland areas. The 75-foot buffer that will be implemented around wetlands and the avoidance of riparian habitat within the project area will avoid treatment within the potential habitat for this species.

Butte County fritillary
Fritillaria eastwoodiae
Butte County fritillary is a perennial, bulbiferous herb. It is moderately threatened in California with a Rank Plant Rank of 3.2. Occurrences of this species are concentrated in the northern Sierra Nevada and the Cascades Ranges, with few observations further south. It typically flowers from March to April. It can reproduce asexually or sexually through insect pollination by bee species. It is generally found growing on dry slopes in chaparrals. The species will also grow in cismontane woodland or lower elevation coniferous forest. It will inhabit elevations ranging from 50 to 1500 meters. It has been recorded growing on serpentine, granitic, volcanic, and, rarely, limestone soils. The main threats to the species are caused by logging, road construction, and development on private land. The bulbs have been observed quickly regrowing after wildfire and are therefore suspected to be able to survive fires.

The habitats in which Butte County fritillary will grow are present in the project area. Dry, sloping chaparral, woodlands, and low-elevation coniferous forest occur throughout the project area and have the potential to host this species. The closest recorded occurrence of the species is just to the north. Since this species also grows in a variety of soil types, there is a high probability that Butte County fritillary will be present within project areas.

Potential Impacts to Special-Status Wildlife

Project-level impacts to a listed (rare, threatened, or endangered) species are generally considered to be significant. Sections 15063 and 15065 of the CEQA Guidelines, which address how an impact is identified as significant, are particularly relevant to CDFW Species of Special Concern (SSCs). In determining the "impact significance" to populations of non-listed species, such as SSCs, analysis considers factors such as population-level effects, proportion of the taxon's range affected by a project, regional effects, and impacts to habitat features. Below is a discussion of wildlife species that were determined to have the potential to occur onsite based on the presence of habitat characteristics for the species (Table 1) and/or their known presence onsite.

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 "take" prohibitions, including disturbance, such as injury, decreasing productivity, or substantially interfering with normal breeding, feeding, or sheltering, or nest abandonment. Under the CESA, 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, or sheltering, or nesting.

Available data on CNDDB show that the nearest bald eagle occurrence is approximately five miles northwest of the project area near Collins Lake. A bald eagle observation was also reported by CDFW's Bald Eagle Observations Database within the Englebright Reservoir near Bridgeport, less than a mile outside of the project area. Bald eagles may forage along Lake Wildwood, the Englebright Reservoir, and the Yuba River, and are likely to scavenge or fly over the proposed project location. Likely nesting habitat for bald eagles exists in the eastern portion of the project area in the Bitney Springs section of the PAA.

California black rail

Laterallus jamaicensis coturniculus

The California black rail is listed as Threatened under CESA and a Species of Special Concern by CDFW. This species is a year-long resident species of California that inhabits the San Francisco Bay area, Sacramento-San Joaquin Delta, the Salton Sea, the lower Colorado River area, and some areas of coastal southern California. The black rail inhabits wetlands, both saline and freshwater, and is rarely seen even in areas within its range.

Black rail inhabits perennial wetlands with dense emergent vegetation. Freshwater plant species where they can be found include bulrushes, cattails, and saltgrass. They typically prefer higher wetland zones without large influxes of water, with shallow water and gently sloping shorelines. Nests are deep, loose cups that are concealed in dense vegetation at ground level or elevated by a few inches. Reproduction occurs from March through June.

Over 30 observations of black rail are recorded in CNDDB within five miles of the project area. No occurrences are within the roadside treatment area. The project area falls within the species' yearlong range.

California condor

Gymnogyps californicus

The California condor is listed as Endangered under the ESA, Endangered under CESA, and Fully Protected by CDFW. However, the population that is in range of this project is a non-essential experimental population that consists of condors released from captivity throughout Oregon,

northwestern Nevada, and northern California within their historic range. This population is distinct from the population that occurs in southern California, Arizona, and Utah.

The condor is a habitat generalist, as it can fly large distances in search of food. Foraging habitats include open grasslands, oak savanna foothills, and beaches adjacent to coastal mountains. Roosting takes place in large trees/snags or on rocky outcrops/cliffs. Condors are carrion eaters that consume carcasses they come across. Nests are found on ledges of large, steep cliffs, in caves, or on the broken tops of old-growth conifers with no additional nesting material added. Females lay a single egg but may produce a replacement egg if an egg is lost early enough in the breeding season. Both parents are responsible for the care of the chick, and the young are dependent on the parents for up to two years.

While rock outcroppings and cliffs do not occur within the project area to provide suitable nesting habitat, there is potential for condor foraging, considering the large distances that they travel for food.

California spotted owl
Strix occidentalis occidentalis
The California spotted owl (CSO) is proposed as threatened under the ESA and a CDFW Species of Special Concern. CSOs are found in eastern California throughout the Sierra Nevada range and in southern coastal California. They are distinct from the northern spotted owl (*Strix occidentalis caurina*), which is found in northwestern California and throughout the Pacific Northwest.

Spotted owls typically inhabit mature forests with a mixed canopy comprised of conifer and oak species. Nesting habitat requires important stand elements, including high canopy closure (60 to 80 percent), a multi-layered, multispecies canopy with large overstory trees (20-plus inches DBH), and a presence of broken-topped trees or other nesting platforms (e.g., mistletoe clumps) (USFWS 1992). Most CSOs are found nesting in the "mixed conifer belt" at elevations from 3000 to 7000 feet (Shuford and Gardali 2008). Foraging habitat provides foraging opportunities for spotted owls but lacks the structure to support nesting and roosting (USFWS 1992).

Owls also use a broader range of forest types for foraging than they do for nesting. Urbanized and developed portions of the project area are less likely to provide appropriate habitat because of the degree of human presence, low canopy cover, lack of old-growth forest habitat, and proximity to major roadways and the railroad. However, if nesting, roosting, or foraging (NRF) habitat is identified onsite, then all montane-hardwood conifer, montane hardwood, sierran mixed conifer, and riparian habitats (even those lacking NRF habitat characteristics) could potentially be dispersal habitat for CSO.

CSOs forage over a wide area and subsequently return to a nest or roost location that is often centrally located within the home range, called an Activity Center. Outside of Activity Centers, owls utilize a more general habitat for dispersal. For example, juvenile owls often must disperse through a range of forest types prior to finding habitat on which to establish a territory. All CSO habitat types require a dense canopy forest with conifer and oak tree components. Small open areas of low canopy cover (less than 40 percent) and edges adjacent to high-quality habitat are considered important for owl foraging and habitat diversity.

The project area falls within the CSO range, specifically their winter habitat. Winter habitat is generally considered suitable for foraging but not typical for nesting, as the project area is at lower elevations than downslope of higher Sierra Nevada nesting sites. Owls are likely to disperse in these areas from October to March outside of breeding season. There is still a chance for owl breeding to occur in these areas, though it is uncommon. Typically, CSOs inhabit foothill oak woodlands, notably the Blue Oak-Gray Pine Woodland association in their winter range. Spotted owls in the Sierra Nevada are known to nest less often on privately owned lands, typically avoiding edge habitats (USDA, 2017). Within the project area, the majority of the habitat will be edge habitat due to the focus on roadway treatment. A dense, herbaceous shrub layer making up a multi-story woodland habitat is required for prey for an area to be considered a suitable foraging habitat for owls. In a study of CSOs nesting in foothill riparian and oak woodlands, it was found that a canopy cover of over 75 percent and large nest trees (greater than 30 inches DBH) with a mean height of 59 feet were required characteristics of CSO nesting habitat (Steger et al. 1997). The study characterized areas of suitable nesting cover as having at least 100 oaks per acre that are 5 to 30 inches DBH and 31 to 60 feet in height.

The nearest activity center to the project area is approximately five miles to the east. Blue Oak-Gray Pine Woodland habitat occurs throughout the project area. Suitable nesting and foraging areas may exist within the Bitney Springs section of the PAA in parcels near Bitney Springs Road, where there is higher conifer density. However, treatments within the winter range are unlikely to occur near nesting habitat.

Yellow-breasted chat
Icteria virens
Yellow-breasted chat is listed as a Species of Special Concern by CDFW. They are a summer resident of California that inhabits coastal areas in the north and south, as well as the foothills of the Sierra Nevada range. Yellow-breasted chats inhabit riparian habitats surrounding watercourses.

Yellow-breasted chat is found in elevations of up to 1459 meters in valley foothill riparian areas. During their migration, they may be found at lower elevations in riparian habitat. They require thickets of willow and other brushy tangles near watercourses. They typically glean from the foliage of shrubs and low trees. Yellow-breasted chats usually arrive in April and depart for wintering grounds in late September. Their nests are 0.6 to 2.4 meters above the ground in dense shrubs around a stream or river. Reproduction occurs from May through August.

One observation of the yellow-breasted chat was recorded on CNDDB within five miles of the project area. The entire project area falls within the species range.

Gray wolf
Canis lupis
The gray wolf is recognized as endangered by the State of California and the ESA. In 2016, CDFW prepared a *Conservation Plan for Gray Wolves in California*, with a goal of managing 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 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 Grizzly Pack located over 50 miles from the project area. This pack was recently detected by CDFW using camera traps, scat, and visual observation, and established in the July to October 2025 Wolf Report. The Beyem Seyo pack, which was located nearby in eastern Sierra and southern Plumas County, is no longer active, as four wolves were lethally removed as a management action in October 2025.

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.

Ringtail

Bassariscus astutus

Ringtails are a Fully Protected Species by CDFW. In California, the ringtail is widely distributed throughout the state, with its range only excluding parts of the Central Valley.

Ringtail habitat is found throughout riparian forest, brush stands, and shrublands in lower to middle elevations. They can be found nesting and living in natural cavities, snags, and sometimes buildings near a permanent water source. They are nocturnally active and typically feed primarily on rodents and rabbits.

The project area falls within the range of ringtail cats and provides suitable habitat in riparian areas and MHC habitat. Ringtail cats may likely occur in the project area. Denning sites have the potential to be disturbed by project activities.

Townsend's big-eared bat

Corynorhinus townsendii

Townsend's big-eared bat is listed as a Species of Special Concern by CDFW. This species is found year-round throughout California in all habitats except subalpine and alpine.

Townsend's big-eared bats are nocturnal and can live in a variety of structures for roosting, including caves, mines, tunnels, buildings, or other human-made structures. Foraging occurs in open and wooded areas where they consume moths as their principal food source. Roosting sites do not reach below freezing. Females form maternity roosts with small clusters of females and young, usually in warmer areas. Males roost alone or in small groups. Birthing of young occurs in May and June, and maternity roosts begin to disperse in August. Hibernation occurs from October to April.

Two observations of Townsend's big-eared bat have been recorded on CNDDB within five miles of the project area. The project area falls within the species range, which covers all of California. While roost habitat may occur in buildings and other structures in the area, treatments are focused on vegetation and would not disturb the thermal quality or protective cover and therefore would not harm roost habitat.

Western red bat
Lasiurus frantzii
The western red bat is listed as a Species of Special Concern by CDFW. The red bat is locally common in some areas and occurs from Shasta County to the Mexican border, west of the Sierra Nevada/Cascade crest, and in deserts. They migrate between summer and winter ranges and can be found outside of their normal range. Western red bats are most commonly associated with riparian habitats.

Western red bats are nocturnal and roost primarily in trees, and occasionally in shrubs. Roosts are found only within the foliage of trees, typically among dense clusters of leaves within which they hang. Roosting habitat includes forest and woodlands from sea level up through mixed conifer forests. They often choose roost sites within edge habitat adjacent to streams, fields, or urban areas. Roost sites are typically protected from above, open below, and located above dark ground cover from 0.6 to 13 meters from ground level. Maternity roosts and day roosts are found in very similar locations, although nursing colonies with females and their young are often in higher sites than male roosts. Birthing occurs from late May through early July, and young are capable of flight within six weeks of age. Western red bats have twins or multiple births within a year. Hibernation occurs in the winter, with arousal occurring on warm days.

One occurrence of the western red bat has been recorded in CNDDB within five miles of the project area. The project area falls within the species' yearlong range.

Western red bats roost primarily in tree foliage throughout a variety of habitat types, making them likely to occur within the project area. Noise disturbance has the potential to temporarily disturb roosting bats, and felling of trees may cause disturbance to individuals within roosts or hibernating and cause fleeing of the nest during the day. Project activities during winter hibernation are of concern. Pre-construction surveys will be conducted within the project area to identify bat roosting structures prior to treatment. If roosting habitat is identified, the tree will be removed at the appropriate time of year or avoided for removal.

California red-legged frog
Rana draytonii
The California red-legged frog (CRLF) is listed as Proposed Threatened under the ESA and a Species of Special Concern by CDFW. This frog resides along the Sierra Nevada range, some portions of the Cascades range, and throughout coastal California from Mendocino County south.

Red-legged frogs inhabit pools of streams, marshes, and ponds. They are highly aquatic and prefer 3 feet or more of water to take cover in, as well as dense vegetation. CRLF are almost always found in very close proximity to water. Larval individuals are aquatic and require pools that are full of water for at least 11 weeks. Water bodies must retain some amount of surface water throughout the year to provide a suitable habitat. Populations in the Sierra Nevada are highly restricted and consist of small numbers of individuals.

No CNDDB occurrences have been recorded within the project area. The project area falls within the species' range, and small pockets of suitable habitat exist, particularly along the Yuba River. Final critical habitat has been designated nearby in the greater surrounding area, with one area of final critical habitat occurring within 6 miles of the project area.

Red-legged frogs may occur in wetland areas or intermittent streams that may occur within the project area. Wetland and riverine buffers, alongside riparian exclusions, will reduce any direct impacts to breeding or migrating individuals. Nearby noise disturbance from project activities may cause stress for individuals who prefer quiet marsh habitat and may cause frogs to temporarily seek refuge.

Coast (Blainville's) horned lizard
Phyrnosoma blainvillii
The coast horned lizard is listed as a Species of Special Concern by CDFW. This species is found throughout the Central Valley and southern coastal California. It occurs in Valley-Foothill Hardwood, Conifer and Riparian areas, and Pine-Cypress, Juniper, and Annual Grassland habitats.

Coast horned lizards typically bask in the early morning on the ground or low boulders/rocks. They are found in open areas with sparse vegetation with sandy, loamy soils where they can easily burrow. Camouflage is one of the major defenses of the species, and it stays still in the face of a threat. Periods of inactivity and hibernation are spent burrowed into the soil or under objects. Reproduction varies, but it is believed to occur in California from late May through June. Nests are constructed in loose soil.

Five occurrences have been recorded in CNDDB within five miles of the project area, all in the east direction towards Grass Valley. The project area falls within the species' range and contains suitable habitat.

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. 3, which is the North Sierra Population. *R. boylii population 3* is listed as Threatened under CESA.

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). 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.

One observation of *R. boylii* is recorded in CNDDB within the project area near Rough and Ready in Squirrel Creek. The project area is within the species range, and *R. boylii* may occur in other Class II streams within the project area. Work is proposed in parcels in the Lower Penn Valley section of the PAA through which Squirrel Creek runs. Squirrel Creek has connectivity to Deer Creek, as well as other ephemeral streams throughout the project area.

If surface water is present, then there is potential for FYLF to occur since adults disperse widely throughout watercourses in the spring through summer seasons wherever cool running surface water and adequate riparian cover are present.

Northwestern pond turtle

Actinemys marmorata

The northwestern pond turtle is listed as a CDFW Species of Special Concern and a Proposed Threatened species under the ESA. Northwestern pond turtles are habitat generalists and can occupy a wide range of aquatic habitats. The most limiting factor of habitat suitability is a lack 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 as far as a few hundred feet from water.

Seven observations of *A. marmorata* are recorded in CNDDB within five miles north and west of the project area. The project area falls within range and contains suitable habitat. *A. marmorata* may occur in Class 1 and Class 2 streams and emergent wetlands within the project area.

Watercourse protections are included in the project design, which will avoid disturbance to the aquatic environment. 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. 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.

Western spadefoot

Spea hammondi

The western spadefoot is listed as Threatened under the ESA and as a Species of Special Concern by CDFW. Their range falls throughout the Central Valley of California and the adjacent foothills.

The western spadefoot is found primarily in Grasslands and occasionally Valley-Foothill Hardwood Woodlands with shallow temporary pools. They spend most of their time in self-constructed underground burrows or mammal burrows up to 1 meter deep. Spadefoots emerge from their burrows to reproduce after suitable rain events, typically from January through March. One study in 2019 found that burrow distances from breeding ponds ranged between 1 and 262 meters, with an average distance of 40 meters (Baumberger et al. 2019). Larvae of the spadefoot are fully aquatic tadpoles, which are laid in shallow temporary ponds created by rainfall. Metamorphosed juveniles will seek refuge around ponds in mud cracks, under boards, and other surface objects.

No CNDDB recorded observations exist within or around the project area. However, the southwestern portion of the project area in the Mooney Flat, Lake Wildwood South, and Lower Penn Valley road segments falls within the range of the species and hosts potentially suitable habitat where appropriate seasonal pools occur. Wetland buffers of 75 feet will prevent any disturbances to breeding individuals. If work occurs during or immediately following heavy rain events in the breeding season, migrating individuals may be dispersing outside of pools.

Central Valley Spring-Run Chinook salmon
Oncorhynchus tshawtytscha pop. 11
Chinook salmon in the Central Valley spring-run are listed as Threatened under the ESA and the CESA. Chinook salmon are known to migrate in streams throughout California at multiple times of year for spawning. Salmon are anadromous fish, meaning that adults travel up freshwater streams to spawn, and then juveniles migrate downstream to grow and mature in the ocean. Spawning occurs in cool water streams with riffle pool complexes with gravel bottoms.

In the Central Valley spring-run, there are four distinct runs of chinook salmon that spawn in the Sacramento-San Joaquin River system. Spring-run chinook enter the Sacramento River from late March through September. Adults will hold in cool water habitats through the summer, then spawn in the fall from mid-August through early October. Spring-run juveniles migrate soon after emergence or remain in the freshwater to migrate as yearlings. Spring-run chinook was historically the most abundant race in the Central Valley, but now only remnant runs remain in Butte, Mill, Deer, Antelope, and Beegum creeks.

The Yuba River is passable to chinook up to the Englebright Dam, a passage barrier located within the project area. As a result, spawning and large groups of salmon occur just below the dam. The USFWS has designated this area of the Yuba River as Final Critical Habitat for the chinook, and NOAA has similarly identified it as Endangered Fish Habitat. Deer Creek is connected to the Yuba River in the Mooney Flat Road segment, and chinook are able to run upstream to the Wildwood Dam. This is as far upstream as salmon can run in this area.

Central Valley Steelhead
Oncorhynchus mykiss irideus pop. 11
Steelhead in the Central Valley are listed as Threatened under the ESA and as a Species of Special Concern by CDFW. Coastal rainbow trout/steelhead are the most widely distributed native trout form and are found on the western slopes of the Sierra Nevada in waters draining to the Pacific Ocean. Steelhead are anadromous fish, meaning that adults travel up freshwater streams to spawn, and then juveniles migrate downstream to grow and mature in the ocean. The same fish are referred to as rainbow trout when they remain in freshwater all their lives.

In California, steelhead spawning usually occurs from December through April. All steelhead spawn in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams where they spend the first one to three years of their lives.

Central Valley steelhead, a distinct population segment, includes all populations in the Sacramento and San Joaquin rivers and their tributaries. Major threats to steelhead are impediments or blockages to appropriate habitat.

The Yuba River is passable to steelhead up to the Englebright Dam, a passage barrier located within the project area. As a result, spawning and large groups of steelhead occur just below the dam. The USFWS has designated this area of the Yuba River as Final Critical Habitat for the steelhead, and NOAA has similarly identified it as Endangered Fish Habitat. Deer Creek is connected to the Yuba River in the Mooney Flat Road segment, and steelhead are able to run upstream to the Wildwood Dam. This is as far upstream as steelhead can run in this area.

Crotch's bumblebee
Bumbus crotchii
Crotch's bumblebee is listed as a Candidate Endangered species under CESA. The species inhabits most of California from Redding south. It inhabits grasslands, shrublands, chaparral, desert margins, and semi-urban settings.

Crotch's bumblebee prefers hotter and more arid climates than other bumblebee species. It is characterized as a "short-tongued species" and prefers certain plants, including milkweed, lupines, medics, phacelias, sages, clarkias, poppies, and wild buckwheat (Los Padres Forestwatch). Nests for their colonies are often found underground in abandoned rodent nests or aboveground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Workers are active from April to August. Only mated queens overwinter and establish the colony in the early spring.

One recent occurrence has been recorded in CNDDB within the project area, and another recent occurrence within one mile of the project area. The project area falls within the species' range and contains suitable habitat.

Monarch butterfly
Danaus plexippus
The monarch butterfly is a Candidate species for listing by the ESA. In western North America, the monarch butterfly can be found anywhere during migration but require 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 herbicides.

Monarch butterfly larvae are dependent on native milkweed (*Asclepias* spp.) to complete the early development portion of their life cycles. Monarch caterpillars can only feed on milkweed, so they are essential for reproduction. Monarch butterflies do not overwinter in interior California. It is possible that monarchs will occur in the project area during migration, especially where flowering plants are found. Additionally, their caterpillars or cocoons may occur on milkweed plants (*Asclepias* spp.). According to the Xerces Society, monarch butterflies are least likely to reproduce between October 31 and March 15 in the Central Valley and foothills.

Valley elderberry longhorn beetle
Desmocerus californicus dimorphus
The valley elderberry longhorn beetle (VELB) is listed as Threatened under the ESA. It is found throughout the Central Valley in riparian areas and foothill oak woodlands. VELB range within the project area is shown on Figure 4.

Elderberry plants (*Sambucus* spp.) are the obligate host species for all portions of the VELB's life cycle. Females lay their eggs on the bark, and larvae hatch and burrow into the stems. It can take up to two years for larvae to mature into adults. Larvae feed on the pith of the plant, and adults feed on leaves, flowers, and nectar of the host plant. Adults emerge from March through June when the elderberry blooms and die quickly afterward, with a maximum of three weeks of activity.

No CNDDB occurrences have been recorded within or around the project area. In the Mooney Flat Road segment, the riparian corridor surrounding the Yuba River, Englebright Reservoir, and a portion of Deer Creek and its tributaries fall within the species range. Riparian exclusions are likely to exclude VELB habitat from treatment areas.

Vernal pool fairy shrimp
Branchinecta lynchi
Vernal pool fairy shrimp are listed as Threatened under the ESA. They are found in vernal pool habitats in California and southern Oregon. Vernal pools are temporary waterbodies that fill up with water from rainfall and dry out during the warmer portion of the year. Vernal pool fairy shrimp hatch from eggs called cysts when the pool fills with water. Cysts remain in the dry pool bed throughout the year until conditions are favorable to hatch. Vernal pool fairy shrimp require 40 days to reproduce and have an average lifespan of 91 days.

No CNDDB occurrences have been recorded within or around the project area, and Final Critical Habitat does not exist within the project area. The project area contains rolling foothills throughout, which are not typically consistent with the flat topography conducive to the formation of vernal pools. No emergent wetlands have been mapped within the project area by the National Wetland Inventory, suggesting that there is suitable habitat, nor were any vernal pools observed during the reconnaissance survey. However, there is still a chance that vernal pools could occur within treatment areas that have not yet been identified. These habitats would be avoided due to the 75-foot wetland buffer.

Thresholds of Significance

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in the 2025 CEQA Guidelines. The proposed project area would result in a significant impact related to biological resources if they were to 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 Habitat Conservation Plan (HCP), natural community conservation plan, or other approved local, regional, or state HCP.

Direct Impacts

Sensitive Habitats

USFWS Critical Habitat
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. Critical habitat for steelhead trout and chinook salmon has been designated in the Yuba River below the Englebright Lake dam within the project area. This area has also been designated as Essential Fish Habitat by NOAA.

Essential fish habitat for chinook salmon and steelhead occurs within the project area. This project includes no in-water work, buffer zones surrounding watercourses, and exclusion of riparian areas from project treatment. No direct impacts will occur as a result of project work to any final critical fish habitat. However, the habitat may be impacted by surrounding vegetation removal within the project areas. Large tree and snag retention incorporated into the project design will reduce impacts to habitat quality in treated areas and lessen any edge effects that could indirectly affect final critical habitat areas. All branches and logs from dead or mortally diseased trees will be left to decompose in place. All felled and removed vegetation will be chipped or moved outside of the treatment areas for offsite disposal, reducing any potential impacts to soil nutrient levels or water quality.

There will be no impacts to USFWS Critical Habitat.

Sensitive Natural Communities
Protection measures are included for any rare plants and sensitive natural communities, including valley oak woodland and forest, Gooding's willow – red willow riparian woodland and forest, Canyon live oak – interior live oak chaparral, California buckeye groves, California sycamore – coast live oak riparian woodland, and Fremont cottonwood forest and woodland. These communities will be avoided if found. Avoidance areas will be established for vehicle and equipment traffic, and no treatment will occur within 15 feet of the occurrence. Project-level avoidance or modified treatment will ensure the absolute cover within these sensitive natural communities is not reduced to a level that would convert or result in loss of the community. If treatment does occur, the vegetation community will not be reduced below the criteria outlined in the Alliance description (see Sensitive Natural Communities definitions). **Impacts to Sensitive Natural Communities will be less than significant.**

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. Mature riparian areas have distinctly different vegetative species than upland areas, and they contribute to the

physical structure and nutrient cycle of the stream corridor. Less-developed riparian habitats may have the same species as adjacent upland areas but exhibit more vigorous or robust growth.

All watercourses will be buffered, and riparian areas identified and excluded from treatments. There may be indirect impacts due to the disturbances adjacent to riparian vegetation, but while avoiding excessive ground disturbance or vegetation removal, the project would not lead to degradation of this sensitive community. **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.

Wetlands
Treatment areas may contain a variety of wetland areas. The project proposes to place a 75-foot non-disturbance buffer surrounding wetland areas that occur within the project area. No vegetation removal, use of machinery, human foot traffic, or any other project-related activities will occur in these areas.

This buffer zone will preserve emergent vegetation that provides important habitat to many forms of wildlife, including special-status birds, amphibians, and invertebrates. Treatments will avoid the removal of any wetland emergent vegetation, and buffers larger than 75 feet will be implemented in areas where it is deemed necessary.

A Qualified Biologist will identify wetland areas during the botanical survey period and Preliminary Site Assessments (PSA) and notify personnel of their existence prior to treatments in site-specific work plans. Buffer zones will be marked with flagging tape or pin flags. **Impacts to wetland communities will be less than significant.** Impacts to special-status species that inhabit wetlands from the proposed treatments were discussed previously.

Plants
The proposed treatments could impact special-status plants and sensitive natural communities within the project area. Direct impacts to plants include the potential removal of individual plants during ground-disturbing activities, vegetation removal, and herbicide application within treatment areas. Rare plant surveys will occur prior to project activities to identify any rare plants. Any rare plants known onsite or identified during surveys would be avoided. Therefore, no direct impacts to rare plants would occur.

Impacts to rare plant species are less than significant with the incorporation of mitigation.

Birds
The potentially occurring special-status birds are the bald eagle (*Haliaeetus leucocephalus*), California black rail (*Laterallus jamaicensis*), California spotted owl (*Strix occidentalis*), California condor (*Gymnogyps californianus*), and the yellow-breasted chat (*Icteria virens*). Many passerine (songbirds) are also likely to occur. Direct impacts that could occur to nesting bird species include disrupting nesting birds or disturbing active nests during onsite construction, ground disturbance, or vegetation removal. Bird nest abandonment can occur because of continued exposure to increased noise or vibrations from treatment activities. **Direct impacts to nesting birds would be reduced to less than significant with the incorporation of mitigation** through nesting bird protection measures and an LOP for the nesting bird season.

Bald eagle nesting habitat likely exists within the project area and has the potential to be impacted by disturbances within several hundred feet of their nest sites. Protection measures for 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. Protection measures will prevent direct mortality and impacts to nesting bald eagles. **Direct impacts to bald eagle are less than significant with mitigation incorporated.**

Black rails inhabit perennial freshwater wetlands, which occur within the project area and may be included in designated treatment areas. If dense emergent wetland vegetation is present, black rail may nest in these areas. Adequate vegetation cover is a habitat requirement of this species, and any removal or disturbance within proximity of such may cause displacement, migration, or nest abandonment. Direct impacts that would result from vegetation removal will be reduced to a less-than-significant impact through the implementation of 75-foot wetland buffer zones that exclude such habitat from treatments. Additional protection measures will be implemented if black rails are observed in the treatment areas during work in the nesting season. **Direct impacts to California black rail are less than significant with mitigation incorporated.**

There is potential for California condor foraging within the project area due to its traveling abilities; however, nesting habitat is sparse. California condors are considered to be widespread due to recovery efforts and reintroduction of the species in Northern California. It is unlikely that project activities would disturb any visiting condors, as noise and human activity would likely deter their presence. Though the condor nesting habitat is limited because few rock outcrops or large-topped conifer trees are present, if an occupied condor nest is found within the project area, a 200-meter buffer will be placed around the nest as possible or a smaller buffer will be used if needed. According to the USFWS guidelines for the California condor, emergency fuels treatment activities by federal, state, and local agencies and Tribes to reduce the risk of catastrophic wildfire and emergency response services are exempt from the creation of nest buffers near the non-essential population. **Direct impacts to California condor are less than significant.**

California spotted owl foraging or nesting may occur within multi-story oak woodland throughout the project area. However, the focus on roadway treatment means project parcels consist of edge habitat that is typically undesirable for nesting spotted owls. The Bitney Springs section of the PAA falls close (within 5 miles) of CSO range and an occurrence and therefore is the most likely portion of the project area to host nesting and foraging owls. Operations in proximity to suitable nesting habitat (trees of >20 inches DBH) within the Bitney Springs section of the PAA will adhere to an LOP to avoid direct impacts to the spotted owl during nesting season (February 1 to August 15). If an LOP is not feasible, then surveys will be required to confirm the absence of CSO nests or activity centers within NRF habitat. Additionally, if a CSO nest is observed within any portion of the project area, 0.25-mile non-disturbance buffer will be implemented around the nest during breeding season. Therefore, no direct impacts to nesting or foraging spotted owls or their young will occur as a result of project activities. **Direct impacts to California spotted owl are less than significant with mitigation incorporated.**

Yellow-breasted chat inhabits riparian areas present within the project area surrounding the many rivers, streams, and other water bodies. Non-work buffer zones of 75 feet and 50 feet will surround all watercourses, and riparian habitat will be identified and excluded from treatments. As a result,

all potential nesting and foraging habitat for the yellow-breasted chat will be excluded from treatments. **Direct impacts to yellow-breasted chat are less than significant.**

Mammals

Potentially occurring special-status mammals are gray wolf (*Canis lupus*), ringtail, Townsend's big-eared bat (*Corynorhinus townsendii*), and the western red bat (*Lasiurus blossevillii*). Due to the nature of fuel reduction treatment, potential bat day roost locations in trees may be temporarily reduced as a result of tree thinning project activities. Western red bats prefer to roost in trees, and Townsend's bats prefer human structures, making both species likely to occur within the project area. Due to the focus of the project on vegetation removal, there will not be any removal of roosting habitat for the Townsend's big-eared bat. **Direct impacts to Townsend's big-eared bat will be less than significant.**

Western red bats prefer roosts in dense tree foliage, usually in riparian areas. Riparian areas will be excluded from project activities, which will preserve future roost habitat. However, there is still potential for impacts to existing roosting western red bats and maternity roosts within the treatment areas. Bat roost trees will be documented during PSAs. Wherever roost habitat occurs, bat hibernacula/roosting tree surveys will occur pre-construction, and any suitable habitat will not be removed during maternity season (April 1 through August 31) or flagged to avoid during vegetation removal as outlined in the bat protection measures. **Direct impacts to western red bat are less than significant with mitigation incorporated**.

Ringtail habitat will not be degraded by project activities, considering the expansive range of the species and exclusion of all riparian areas from treatments. However, if a den occurs within the project area, then activities may have an adverse impact on breeding individuals and young. Protection measures will include surveys for active den sites and avoidance of such areas. Removal or disturbance of dens will be avoided. **Direct impacts to ringtail cat are less than significant with mitigation incorporated**.

For the gray wolf, the site lacks habitat suitable for denning or rendezvous behaviors. No wolf sighting has been recently reported in Nevada County. However, due to the proximity to the Grizzly Pack's known boundary and the likelihood of wolf dispersal due to the recent establishment of the pack, the project area 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. **Direct impacts to gray wolves are less than significant.**

Reptiles and Amphibians

Potentially occurring special-status reptiles and amphibians are western spadefoot, California red-legged frog (*Rana draytonii*), coast horned lizard (*Phyrnosoma coronatum*), foothill yellow-legged frog, and northwestern pond turtle.

Red-legged frogs spend most of their time in wetlands, making any disturbances to wetlands or intermittent streams potentially harmful for adult, juvenile, and breeding frogs. Since no in-water work is occurring as a part of this project, frog eggs will not be impacted by project activities. The

75-foot buffers being placed around wetland areas within the treatment area will reduce impacts to breeding frogs. Exclusion of all riparian habitat will also reduce any treatment impacts to migratory frogs in the surrounding area. **Direct impacts to California red-legged frogs are less than significant.**

Foothill yellow-legged frogs inhabit perennial and intermittent streams throughout their life cycle, making any disturbances within or adjacent to these waterbodies potentially harmful. No in-water work is occurring as a part of this project. 75-foot buffers will be placed around Class I water bodies and wetlands, and 50-foot buffers will be placed around Class II and III water bodies, reducing any direct impacts to eggs and reproducing individuals. Despite the exclusion of streams, there is potential for migratory individuals to occur within riparian areas that are being treated outside of exclusionary areas. Exclusion of all riparian habitats from treatments will prevent direct impacts to migrating individuals. **Direct impacts to FYLF are less than significant.**

In general, ground-disturbing activities that occur in western pond turtle nesting sites would cause detrimental impacts to eggs or juveniles and habitat modification of the nest sites. Migrating adults could potentially encounter project vehicles, equipment, or falling trees, which could lead to injury or mortality. The project includes watercourse buffers that limit the disturbances that could impact pond turtle nesting sites. Additional protection measures for pond turtles are included to identify and protect individuals and their nests within 100 feet of suitable aquatic habitat if project work occurs during nesting season (May through August). **Direct impacts to northwestern pond turtles are less than significant with the incorporation of mitigation.**

Western spadefoots occasionally emerge from burrows in grassland areas to migrate to breeding ponds throughout the winter and spring. Individuals exhibiting migratory behavior may be impacted by project activities due to the presence of machinery and vehicles in these areas. Grassland areas where spadefoots emerge from their burrows are being excluded from treatment activities, reducing any direct impacts of machinery or human presence near burrows on individuals. Because spadefoots are nocturnally active and project activities would occur above ground during the daytime, treatments are unlikely to encounter individuals. Additionally, 75-foot buffer zones around wetlands and ponds will eliminate any impacts to breeding or larval spadefoot. However, there is still potential that migratory spadefoot could be impacted by project activities. Protection measures will be put in place to survey treatment areas in proximity to suitable breeding habitat after a heavy rain event during the breeding season, when frogs will be migrating. Therefore, **direct impacts to western spadefoot are less than significant with the incorporation of mitigation.**

Coast horned lizards are known to freeze in place in response to threats, meaning project activities, including vegetation treatments and use of machinery within suitable habitat, may result in impacts to individuals. However, this lizard is most often found in areas with very sparse vegetation, making their overlap with overgrown treatment areas unlikely. In areas where suitable habitat is identified, pre-treatment surveys will be conducted for individuals, and nest surveys will be conducted prior to project activities during nesting season (May through August). Exclusion buffers of 50 feet will be placed around any nests that are observed to avoid impacts to young or reproducing individuals. Because of their widespread use of upland habitats, horned lizards could occur in treatment areas. Pedestrian surveys would avoid direct impacts to lizard nests. Individual lizards may be impacted by mastication activities. The relatively small project area compared to the species range would restrict these impacts to a portion of the species populations and is not

likely to cause trends toward population decline or extirpation. **Direct impacts to coast horned lizards are less than significant with the incorporation of mitigation.**

Fish

Special-status steelhead trout (*Oncorhynchus mykiss*) and spring-run chinook salmon (*Oncorhynchus tshawtyscha*) have the potential to occur within the project area in passable areas of the Yuba River and its tributaries. It is likely that steelhead and chinook will be present in the project area within the Yuba River and Deer Creek up to the Wildwood Dam, a fish passage barrier. In-water work will not be performed as a part of this project, and Class I watercourses will have a 75-foot non-work buffer placed around the shoreline. The buffer would prevent herbicides from entering watercourses, prevent the removal of shade that creates fish habitat, and retain nutrient cycling and water quality during project activities. **There are no direct impacts to Central Valley spring-run chinook salmon and Central Valley steelhead.**

Invertebrates

Invertebrates with potential to occur within the project area include Crotch's bumblebee (*Bombus crotchii*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), monarch butterfly (*Danaus plexippus*), and vernal pool fairy shrimp (*Branchinecta lynchi*).

Crotch's bumblebee may be impacted by the removal of plants that it uses for nectar sources. Open areas of grassland will be excluded from project activities where many of these plants occur. The use of machinery and human activity during treatments also has the potential to disturb ground nests or nests found in trees. If an active bumblebee nest is observed within the project area in vegetation that is slated for removal, removal will occur under an LOP, avoiding the time period from April 1 to August 30 when bees are active. Protection measures to retain milkweed plants will also ensure retention of nectar sources, as this is a major food source of Crotch's bumblebee. **Direct impacts to Crotch's bumblebee are less than significant with the incorporation of mitigation.**

VELB may occur within the project area in riparian areas that fall within the range where elderberry occurs. Surveys for elderberry plants will be conducted in treatment areas within the species range during botanical surveys, and any plants identified will be flagged and marked with a 20-foot buffer to eliminate any direct impacts to beetles per guidance provided by USFWS. **Direct impacts to VELB are less than significant with the incorporation of mitigation.**

Monarch butterflies do not overwinter within the project area but are likely to be present in warmer months for feeding and reproducing. Removal of milkweed plants may result in direct harm or mortality to monarch eggs or caterpillars. Treatments within proximity to milkweed plants will be done outside of their reproductive season (October 31 through March 15) to 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 life cycle. Protection measures for this species include the avoidance of milkweed plants. Surveys would be completed for milkweed concurrently with the rare plant surveys. If milkweed is found, then avoidance buffers would 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. **Direct impacts to monarch butterflies are less than significant with the incorporation of mitigation.**

Vernal pool fairy shrimp may occur if a vernal pool is found within the project area. Additionally, a dried vernal pool may exist that is not easily identifiable within the fill season. The 75-foot wetland buffer will be applied to any vernal pools identified. **Therefore, there are no direct impacts to vernal pool fairy shrimp.**

Indirect Impacts

Indirect impacts are those impacts caused by the action but that are later in time or farther removed in distance but are still reasonably foreseeable. Generally, the project would reduce the chance of spreading major wildfire and could prevent catastrophic loss of habitat.

Plants
Ground disturbance can alter hydrology and pedology by causing soil compaction and stratification, which may in turn change the availability of water and nutrients for plants and affect germination conditions. Saturated soils near wetlands are particularly prone to compaction. Ground disturbance can also lead to the exposure of the roots of shallowly rooted plants and the direct mortality of plants. Removal of vegetation alters the availability of water, nutrients, heat, and sunlight for nearby vegetation. Removal of vegetation and soil compaction will not occur near wetlands.

Alteration of the fire regime has the potential to negatively impact fire-dependent species. Pine hill flannel bush, western spiked rosinweed, and Stebbins' morning-glory depend on a natural fire regime to either trigger germination or clear vegetation to prevent overcrowding. If the project resulted in the elimination of wildfires in the area, these species could be negatively impacted over time. However, the goal of the project is to prevent catastrophic wildfires in residential areas and would not prevent regular fires in chaparral habitats in the area. **Therefore, indirect impacts to rare plants are less than significant.**

Birds
Indirect impacts that could occur to these species from the proposed project include some loss of available nesting and foraging habitat that would result from human presence, vegetation removal, or noise pollution from project treatments. In general, these factors can influence the selection of habitat which can negatively impact population dynamics over time for avian species. However, large trees would be retained during treatments, leaving suitable nesting habitat in treated areas despite some loss of smaller vegetation and trees.

The project may result in temporary loss of potential nesting and foraging habitat for songbird species after treatments occur. However, the project area only includes habitat within roadside corridors. Considering the highly mobile nature of birds and the expansive range of habitat available across the general landscape in the area, the loss of habitat will be temporary and less than significant. Additionally, the project intends to reduce the chances of catastrophic wildfire which would create a complete loss of habitat for many bird species. **Therefore, indirect impacts to bird species are less than significant.**

Mammals
Indirect impacts may occur to the western red bat and Townsend's big-eared bat within the project area. For both species, noise during the treatments will indirectly impact any day-roosting individuals. There is potential for nearby roosting bats to move as a result of this noise disturbance.

For western red bats, these impacts include a loss of suitable roost and nesting habitat within treatment areas as a result of vegetation removal. This has the potential to decrease suitable habitat within the project area. However, given the general habitat requirements of the western red bat and the large availability of habitat in the surrounding areas, the impacts to bat species will be less than significant. Additionally, the exclusion of riparian areas will ensure retention of suitable habitat areas, as this species tends to prefer roosting in riparian tree species. **Therefore, indirect impacts to western red bats are less than significant.**

Indirect impacts to ringtail may also occur as a result of project activities. As nocturnal mammals, daytime noise from machinery caused by project treatments may cause stress for individuals. This may result in temporary avoidance of habitat in proximity to treatment areas. However, these impacts will be temporary and will not permanently deter ringtails from areas of suitable habitat. **Indirect impacts to ringtail cats are less than significant.**

Reptiles

Indirect impacts to northwestern pond turtles and coast horned lizards could include temporary losses of foraging habitat or reproductive sites. The disturbances that would cause this are increases in noise and human presence during project activities. Individuals may temporarily avoid areas with such activities until treatments have concluded, which may result in the adoption of new nesting or foraging locations. This has the potential to temporarily disrupt individuals in critical life stages. There will be no permanent alterations in human disturbance or noise levels that will persist in reptile habitat after project completion, as project treatments will only occur over a short period of time to remove vegetation. Avoidance measures would be implemented such that these impacts would not cause localized extirpation of reptile species of special concern. Therefore, the **indirect impacts to reptiles are less than significant.**

Amphibians

Potential indirect impacts to the foothill yellow-legged frog, California red-legged frog, and western spadefoot include temporary disturbances to migration patterns. Although these species remain close to water throughout their life history, occasional migration for foraging or during wet weather into upland areas is possible. Noise and human presence during treatments may deter migration into these areas. These disturbances will be temporary and will not impact habitat selection or migration after project activities conclude.

For western spadefoot, migration from burrows to breeding ponds occurs during suitable rainfall conditions. Project treatment disturbances may disrupt which ponds are chosen or when migration occurs. However, since disturbances will only occur during a short period of time during vegetation removal, this impact will not persist and will not cause continual disruptions to the migration patterns of these species.

The indirect impacts to amphibians are less than significant.

Fish

Special status steelhead trout and chinook salmon may temporarily avoid areas because of noise from project activities. Such behavioral avoidance may alter habitat usage for migration or spawning in the area. Noise and human-related disturbances generally only temporarily impact fish while treatments take place over a short period. The watercourse buffers and exclusion of riparian

areas will avoid any alterations to the shade canopy over streams and rivers and maintain suitable habitat for fish species. Therefore, **indirect impacts to fish are less than significant.**

Invertebrates

Initial vegetation clearing has the potential to reduce foraging habitat for Crotch's bumblebee and monarch butterfly. This impact will be temporary, as annual and perennial forbs will likely grow back quickly after initial vegetation clearing. Additionally, the generalist habitat requirements and high migratory abilities combined with the large amounts of surrounding grassland habitat means this loss of foraging opportunity is relatively small in comparison. Therefore, **indirect impacts to invertebrates are less than significant.**

PROTECTION MEASURES

The following protection measures will be required prior to and during project implementation. Protection 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 3.

General Wildlife Protections

- Prior to beginning project work, a Qualified Biologist will conduct an education program for all personnel who will complete project work. At a minimum, the training will include a description of the potentially occurring special-status species and their habitats, including key habitat requirements that may occur within the project area, their listing status, and an explanation of measures to be implemented to conserve any listed species as they complete project work. A visual shall be provided (e.g., posterboard, pamphlets, or photograph pages) that shows the species' appearance.
- Activities that could be considered to cause "take" of a state or federally listed species would require consultation with CDFW or USFWS. Any recovery of a Species of Special Concern may require the procurement of a scientific collection permit or incidental take permit from CDFW.
- 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.
- Trash generated by covered activities should be promptly and properly removed from the site.
- Any project-related fencing installed during project implementation shall not cause entrapment of wildlife and shall not result in animals being diverted toward or trapped on roadways. Equipment and vehicle storage, fueling, and staging areas will be sited on disturbed areas, areas of compacted soils, or on non-sensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types. Equipment and vehicles operating outside of existing roads, compacted soils, or disturbed areas will be minimized to the maximum extent practicable.

Raptor, Migratory, and Special-Status Birds

- 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 is disturbed during the nesting season, then a Qualified Biologist shall conduct pre-construction surveys within 150 feet of the project area no more than seven days prior to the start of such activities. Surveys will begin before sunrise and continue until all vegetation and nesting habitat have been sufficiently observed.

- 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 establishment of a buffer is not feasible, CDFW will be consulted for further avoidance and minimization guidance; alternatives to the buffer may include biological monitoring of work within the buffer or seasonal avoidance of the site (i.e., returning to complete work at that site outside of the nesting season). 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 after construction begins, the project's Qualified Biologist or CDFW shall be notified, and an appropriate buffer shall be implemented.
- If an active California black rail nest is observed, a buffer of 500 feet will be implemented until the nest is determined to be no longer active by the biologist.
- If an active raptor, California condor, or bald eagle nest is observed onsite at any time, then the appropriate buffer (250 to 500 feet for raptors, up to 0.5 miles for the bald eagle, 656 feet for condor) shall be established, 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 non-active bald eagle nest is observed, the nest structure shall be left undisturbed if feasible to preserve the nest due to site fidelity by this species.

California Spotted Owl

- If a CSO nest is observed within the project area at any time, a 0.25-mile non-disturbance buffer will be implemented around the nest during CSO breeding season (February 1 through August 15).
- In areas of the Bitney Springs section of the PAA with suitable habitat (conifer and hardwood trees greater than 20 inches DBH), an LOP will be implemented during CSO breeding season (February 1 through August 15). If an LOP is not feasible, protocol level surveys will be done to confirm no presence of CSO before project work begins.

Special-Status Reptiles

Northwestern Pond Turtle

- In areas where work occurs within 100 feet of ponds, streams, or rivers during northwestern pond turtle breeding season (between May and August) when turtles may be migrating or nesting, then riparian corridor and Annual Grassland habitat adjacent to the water body will be surveyed by a Qualified Biologist for the presence of turtles or their nests within three days of beginning project activities.
    - If nesting turtles or their nests are found, then a 50-foot (or greater) buffer shall be installed between the work area and the nest where no activities, equipment

access, or foot traffic shall occur. The buffer perimeter shall be demarcated with a high-visibility, low-disturbance method such as flagging tape or pin flags. The non-disturbance area(s) shall be communicated to personnel, so all workers onsite are aware of the exclusion area.

- If adult or juvenile pond turtles are detected at any time within an active work area or walking across access routes, then project activities and/or project traffic will stop until the turtle has left the work area unharmed on its own accord, or until a permitted biologist can relocate humanely to an appropriate location (e.g., riparian corridor) out of harm's way.

Coast Horned Lizard

- If work occurs in a suitable habitat for the coast horned lizard, pre-treatment surveys will be conducted in the work area within 3 days prior to the beginning of treatment activities. If a coast horned lizard is observed, project work will be temporarily paused, and CDFW will be contacted immediately to determine next steps.
- If work occurs in a suitable open, sandy habitat during nesting season (between May and August), then a Qualified Biologist will survey for the presence of lizard nests on the ground within three days of beginning project activities
    - If nesting lizards are found, then a 50-foot (or greater) buffer shall be installed between the work area and the nest, where no activities, equipment access, or foot traffic shall occur. The buffer perimeter shall be demarcated with high-visibility, low-disturbance methods such as flagging tape or pin flags. The non-disturbance area(s) shall be communicated to personnel, so all workers onsite are aware of the exclusion area. Personnel will also be informed of lizard behavior, as they tend to freeze in the threat of a predator, so that care will be taken to look for lizards in the area.
- If a coast horned lizard is observed during treatments, then it shall be avoided or relocated by a Qualified Biologist, if feasible.

Special-Status Amphibians

Western Spadefoot

- If a heavy rain event occurs (more than 1 inch of rain within 48 hours) in the breeding season (January through March), within three days prior to starting work that occurs within 200 feet of annual wetlands, a Qualified Biologist will survey the work area and nearby waterbody for the presence of western spadefoot within the three days prior to starting work.
    - If adults are observed emerging from burrows within the project area, or if tadpoles or suitable habitat for egg masses are identified within the work area, then the work area will be avoided until a dry period of 3 days occurs, and another survey confirms the lack of presence of spadefoot migrating to the reproduction pond.

Mammals

Ringtail

- For treatment areas within 200 feet of riparian corridors, within seven days of starting any vegetation disturbance, the treatment area will be surveyed by a Qualified Biologist for trees with potential ringtail den structures. If potential den structures are identified, then their occupancy shall be determined, and the den structure will be avoided. Avoidance will involve implementing an LOP from April 15 to June 30 while denning occurs, or by implementing a 0.25-mile non-disturbance buffer around the den.

Western Red Bat

- Prior to project activities, potential bat maternity roost structures (i.e., dense foliage clumps on trees and shrubs in riparian areas and oak woodlands) shall be identified by a Qualified Biologist. If no potential roost structures are identified, no further measures are necessary. If a roost structure is present, then one of the following shall occur for any work within 50 feet of the structure:
    - Treatment will be completed between September 1 and March 1;
    - Prior to treatments during the bat maternity season, when young are non-volant (March 1 to August 31), or during 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 tree trunk on the second day; or
    - Emergence surveys shall be completed by a Qualified Biologist to determine if the roost structure is occupied. If it is not occupied, then no further measures are required. If it is determined to be occupied, then the humane exclusion described above must be implemented.

Invertebrates

Monarch Butterfly

- Surveys will be completed concurrently with the botanical survey period to determine if native milkweed (*Asclepias* sp.) is present within work areas. If milkweed is identified onsite, the plants shall be flagged, and a 10-foot non-disturbance buffer shall be implemented to preserve habitat for monarch butterflies.
- On sites where milkweed is present, one of the following shall occur:
    - Milkweed plants shall be thoroughly surveyed by a qualified professional within three days of any vegetation or ground disturbing activities to determine if monarchs at any life stage (adult, egg, or caterpillar) are present on the plant(s). If no monarchs are present, then only the 10-foot plant avoidance buffer is required. If monarchs are present, then an LOP from October 31 to May 1 shall be implemented within 25 feet of the plant(s) in addition to leaving the milkweed undisturbed.

Crotch's Bumblebee

- Ground-based mechanical equipment will be excluded from meadows or annual grasslands.
- If a bumblebee nest is observed on a tree to be removed, then removal will follow an LOP between September 1 and March 31.
- If an LOP is not feasible, a Qualified Biologist shall implement focused surveys of the project area in suitable riparian areas and meadows to determine if special-status bumblebees are present or if their burrows exist. If the bees onsite are determined to be non-special-status species, then work may continue.

VELB

- Surveys will be completed concurrently with the botanical survey period to determine if elderberry (*Sambucus* spp.) is present in treatment areas that fall within the species range. If elderberry is identified onsite, the plants shall be flagged, and a 20-foot non-disturbance buffer shall be implemented to preserve habitat for valley elderberry longhorn beetles.
    - If work is done during the VELB flight season, 165-foot buffers will be placed around any elderberry shrubs identified to avoid any impacts to flying beetles.

Vernal Pool Fairy Shrimp

- A 50-foot buffer will be placed around any vernal pool identified within the project area. If a buffer cannot be implemented around vernal pools, then surveys for listed vernal pool invertebrate species shall be conducted by a Qualified Biologist in coordination with CDFW and/or USFWS. If a buffer cannot be implemented around vernal pool or swale features where listed species are present, then permits for incidental "take" and mitigation for impacts to their habitat may be required.

Special-Status Plants and Plant Communities

- Prior to treatment activities on properties that have habitat that could support special-status plants (see Table 2), protocol-level rare plant surveys shall be conducted by a Qualified Biologist within the treatment area. Surveys shall follow protocols outlined in CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (2018). If no special-status plants or communities are found, no further measures pertaining to special-status plants are necessary. If special-status plant species or communities are identified during the botanical surveys, a 15-foot non-disturbance buffer shall be flagged onsite to establish the avoidance area during project implementation.
- Treatments within Sensitive Natural Communities shall not degrade the community composition as defined by the 2009 Manual of California Vegetation.

- The onsite biologist or Registered Professional Forester will identify any sensitive natural communities to be avoided. Avoidance areas will be established for vehicle and equipment traffic, and no treatment will occur within the habitat.
- A plan for avoiding the spread of non-native invasive plant species shall be prepared to provide guidance that prevents the spread of noxious weeds. If a significant population of Cal-IPC-listed invasive species is observed, then equipment shall be cleaned in between sites before proceeding to any other sites.
- All off-road construction equipment will be cleaned of potential noxious weed sources (mud, vegetation) before entry into the project area. Equipment will be visually inspected to verify that it is free of soil, seeds, and other earthen debris. Disassembly of equipment components or tools is not required.
- If straw is used for erosion control, then it will be certified weed-free straw.

Table 3
RECOMMENDED LIMITED OPERATING PERIODS

Species	Avoidance Time Period	Location Where LOP may be Needed
Western red bat	February 28 – August 31	Wherever there are potential roosting trees
Bumblebee	April 1 – August 31	Where a colony is observed
California spotted owl	February 1 – August 15	Within suitable habitat in the Bitney Springs section of the PAA
Nesting birds and raptors	February 1 – August 31	Wherever nesting habitat is present
Monarch butterfly	October 31 – May 1	Wherever milkweed is present
Ringtail	April 15 – June 30	Where a den occurs

SUMMARY STATEMENT

The project would result in less-than-significant impacts with mitigation measures implemented for nesting birds, bald eagle, California black rail, California spotted owl, western red bat, ringtail cat, coast horned lizard, northwestern pond turtle, western spadefoot, Crotch's bumblebee, monarch butterfly, valley elderberry longhorn beetle, and potentially occurring rare plant species.

The project would result in less-than-significant impacts to California condor, yellow-breasted chat, gray wolf, Townsend's big-eared bat, California red-legged frog, foothill yellow-legged frog, Central Valley spring-run chinook salmon, Central Valley steelhead, sensitive natural plant communities, riparian corridor, and wetlands.

The project would have no impact on any other potentially occurring species.

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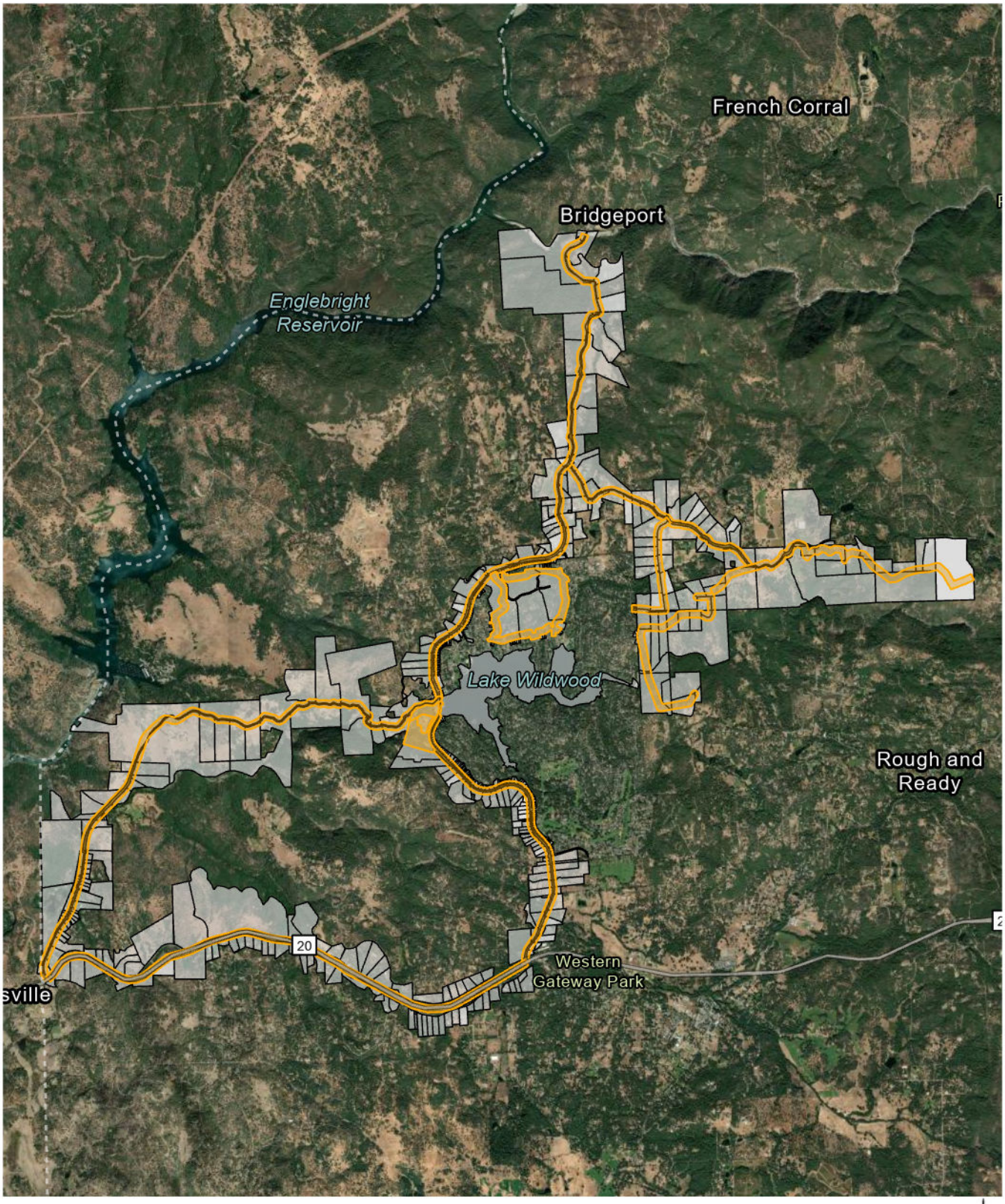
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Figures

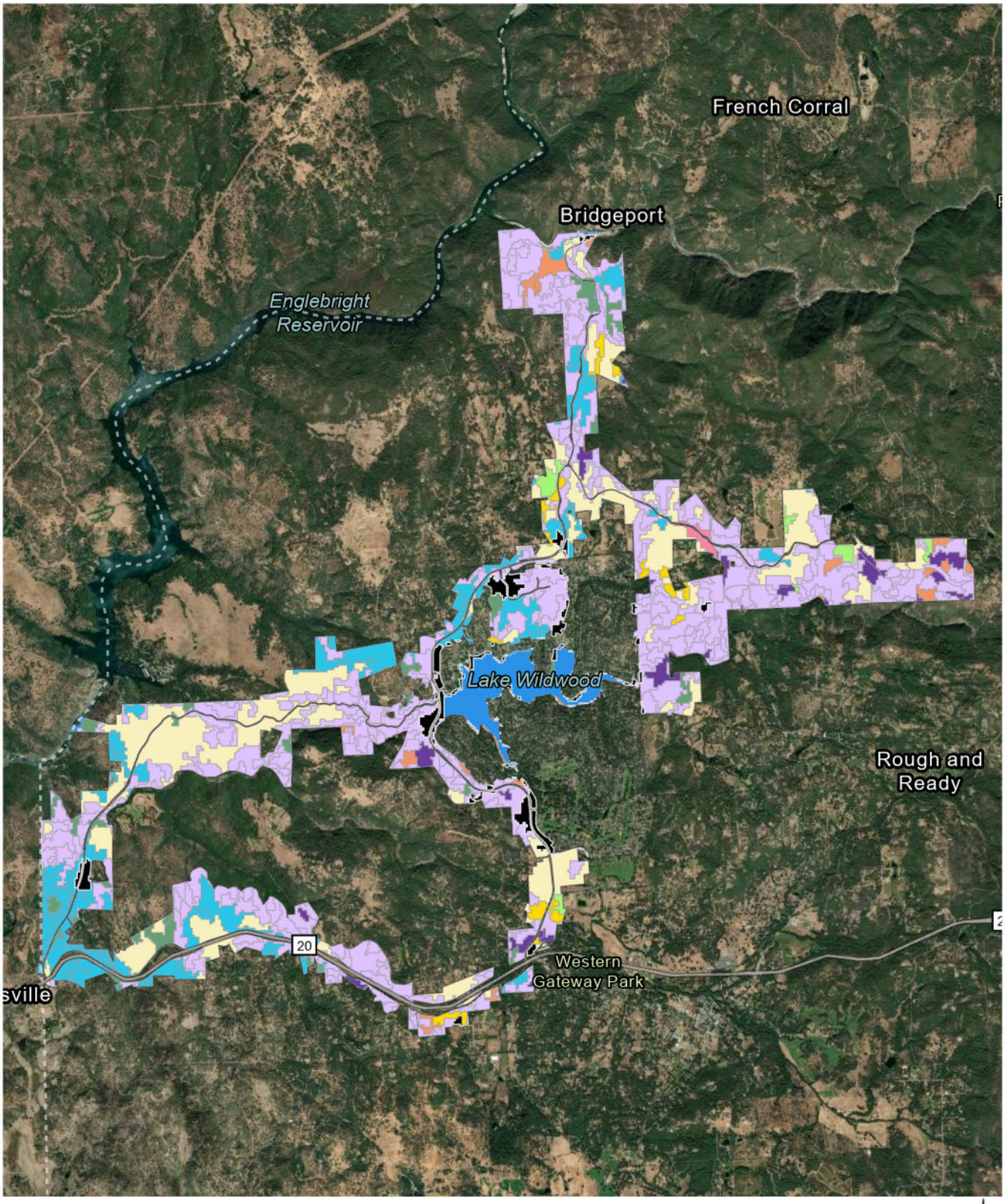


SOURCE: EARTHSTAR 2024 AERIAL PHOTOGRAPH

FIGURE 1
PROJECT LOCATION
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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Final Project Parcels
AGS: Annual Grassland
BAR: Barren
BOP: Blue Oak-Foothill Pine
BOW: Blue Oak Woodland
CRP: Cropland
LAC: Lacustrine
MCH: Mixed Chaparral
MHC: Montane Hardwood-Conifer
MHW: Montane Hardwood
PPN: Ponderosa Pine
URB: Urban
VOW: Valley Oak Woodland

VESTRA

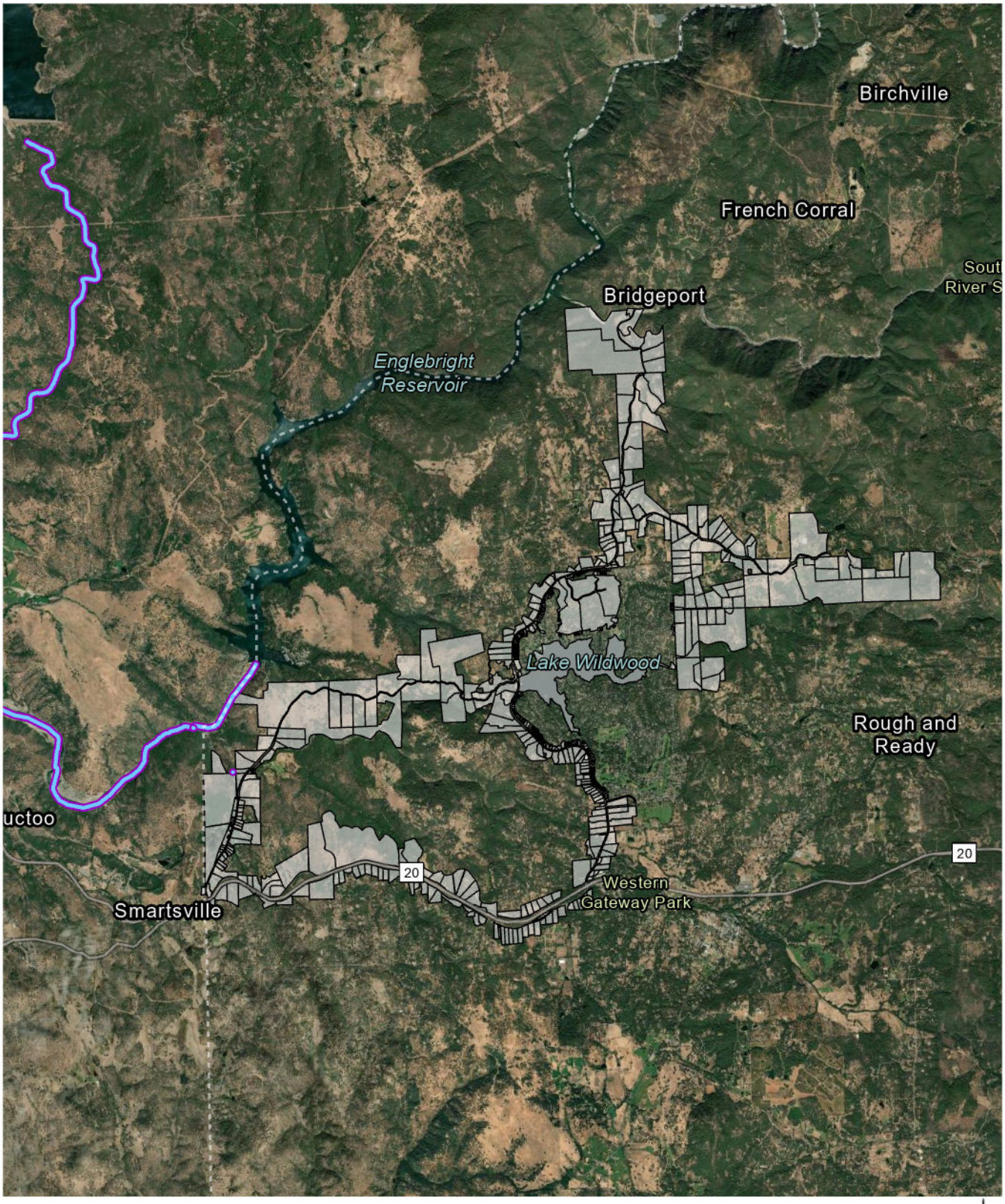
0 0.5 1 2 Miles

SOURCE: EARTHSTAR 2025 AERIAL PHOTOGRAPH, USFS CALVEG

FIGURE 2
CWHR TYPES
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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Final Project Parcels

Chinook and Steelhead Critical Streams

N

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0 0.5 1 2 Miles

SOURCE: EARTHSTAR 2025 AERIAL PHOTOGRAPH, USFWS ECOS

FIGURE 3
CRITICAL HABITAT
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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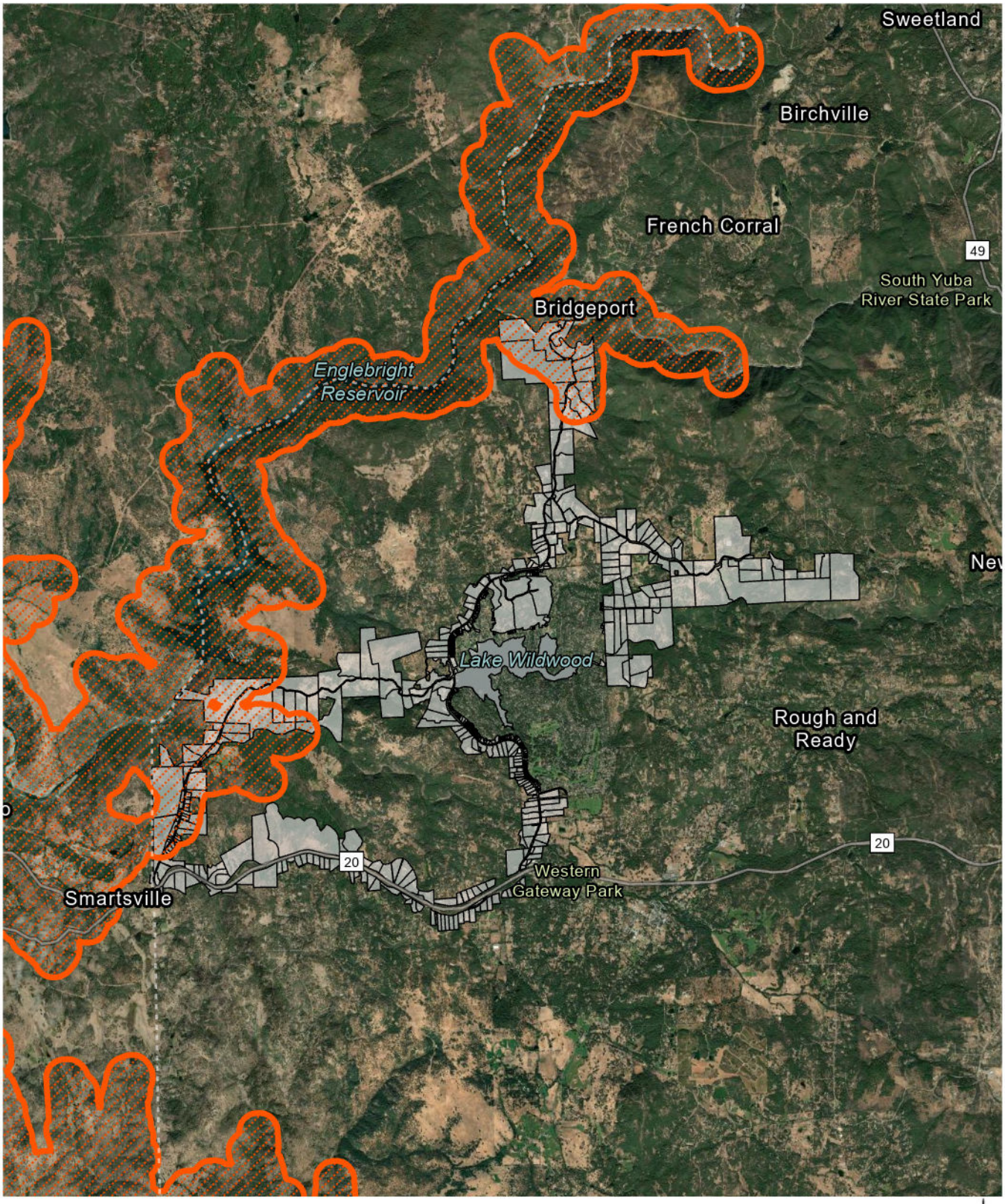


FIGURE 4
VALLEY ELDERBERRY BEETLE RANGE
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

VESTRA

SOURCE: EARTHSTAR 2025 AERIAL PHOTOGRAPH, USFWS ECOS

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Appendix A

CNDDB Summary Table

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: BIOS selection

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Actinemys marmorata northwestern pond turtle	G2 SNR	Proposed Threatened None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	240 1,300	1160 S:6	1	2	1	0	0	2	3	3	6	0	0
Bombus crotchii Crotch's bumble bee	G2 S2	None Candidate Endangered	IUCN_EN-Endangered	572 1,177	880 S:2	0	2	0	0	0	0	0	2	2	0	0
Bombus pensylvanicus American bumble bee	G3G4 S2	None None	IUCN_VU-Vulnerable	752 752	810 S:1	0	0	0	0	0	1	1	0	1	0	0
Calycadenia spicata spicate calycadenia	G3? S3	None None	Rare Plant Rank - 1B.3	2,374 2,374	41 S:1	0	0	0	0	0	1	0	1	1	0	0
Calystegia stebbinsii Stebbins' morning-glory	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,640 2,300	15 S:7	0	1	3	1	2	0	2	5	5	2	0
Carex xerophila chaparral sedge	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	2,250 2,370	15 S:3	0	0	0	0	0	3	0	3	3	0	0
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	G4G5T4 S4	None None	Rare Plant Rank - 4.2 SB_UCSC-UC Santa Cruz	650 2,900	89 S:13	7	1	0	0	0	5	11	2	13	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	566 2,600	635 S:2	0	2	0	0	0	0	0	2	2	0	0
Downingia pusilla dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	250 250	132 S:1	0	0	0	0	0	1	1	0	1	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	574 824	523 S:2	0	0	0	0	0	2	1	1	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Fremontodendron decumbens Pine Hill flannelbush	G1 S1	Endangered Rare	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	2,260 2,520	12 S:3	0	0	2	1	0	0	1	2	3	0	0
Fritillaria eastwoodiae Butte County fritillary	G3Q S3	None None	Rare Plant Rank - 3.2 USFS_S-Sensitive	2,500 2,500	235 S:1	0	0	0	0	0	1	1	0	1	0	0
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	1,200 1,200	334 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,492 2,492	101 S:1	0	1	0	0	0	0	0	1	1	0	0
Juncus digitatus finger rush	G1 S1	None None	Rare Plant Rank - 1B.1	2,620 2,620	3 S:1	1	0	0	0	0	0	0	1	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	580 580	238 S:1	0	1	0	0	0	0	0	1	1	0	0
Lasiurus frantzii western red bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	580 580	128 S:1	0	1	0	0	0	0	0	1	1	0	0
Laterallus jamaicensis coturniculus California black rail	G3T1 S2	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered	250 2,225	304 S:32	0	1	0	0	0	31	12	20	32	0	0
Lathyrus sulphureus var. argillaceus dubious pea	G5T1T2Q S1S2	None None	Rare Plant Rank - 3	1,600 1,600	7 S:2	0	1	0	0	0	1	2	0	2	0	0
Lewisia cantelovii Cantelow's lewisia	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz USFS_S-Sensitive	1,100 1,450	73 S:2	1	0	0	0	0	1	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

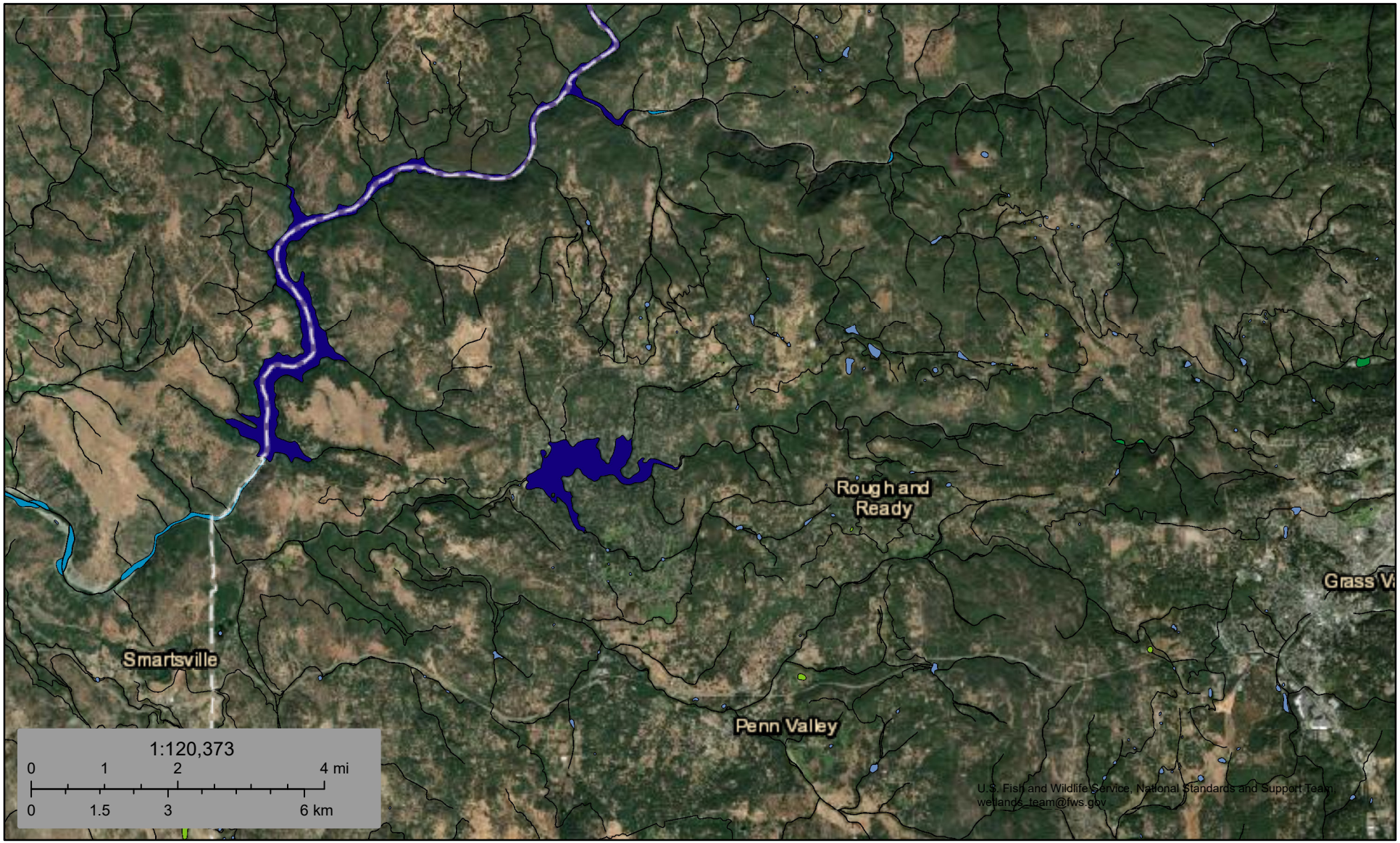
Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Mielichhoferia elongata elongate copper moss	G5 S3S4	None None	Rare Plant Rank - 4.3 USFS_S-Sensitive	1,780 1,780	20 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	580 580	265 S:1	0	1	0	0	0	0	0	1	1	0	0
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern		31 S:1	0	0	0	0	0	1	0	1	1	0	0
Oncorhynchus tshawytscha pop. 11 chinook salmon - Central Valley spring-run ESU	G5T2Q S2	Threatened Threatened	AFS_TH-Threatened	260 260	13 S:1	0	0	0	1	0	0	1	0	1	0	0
Phrynosoma blainvillii coast horned lizard	G4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,250 3,220	841 S:5	1	1	0	1	0	2	5	0	5	0	0
Rana boylii pop. 3 foothill yellow-legged frog - north Sierra DPS	G3T2 S2	None Threatened	BLM_S-Sensitive USFS_S-Sensitive	282 2,400	237 S:9	1	2	2	0	1	3	2	7	8	0	1
Rhynchospora capitellata brownish beaked-rush	G5 S2	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern		25 S:1	0	0	0	0	0	1	1	0	1	0	0
Sidalcea stipularis Scadden Flat checkerbloom	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,400 2,400	2 S:1	0	0	1	0	0	0	0	1	1	0	0

Appendix B

National Wetlands Inventory Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI Nevada County



November 17, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

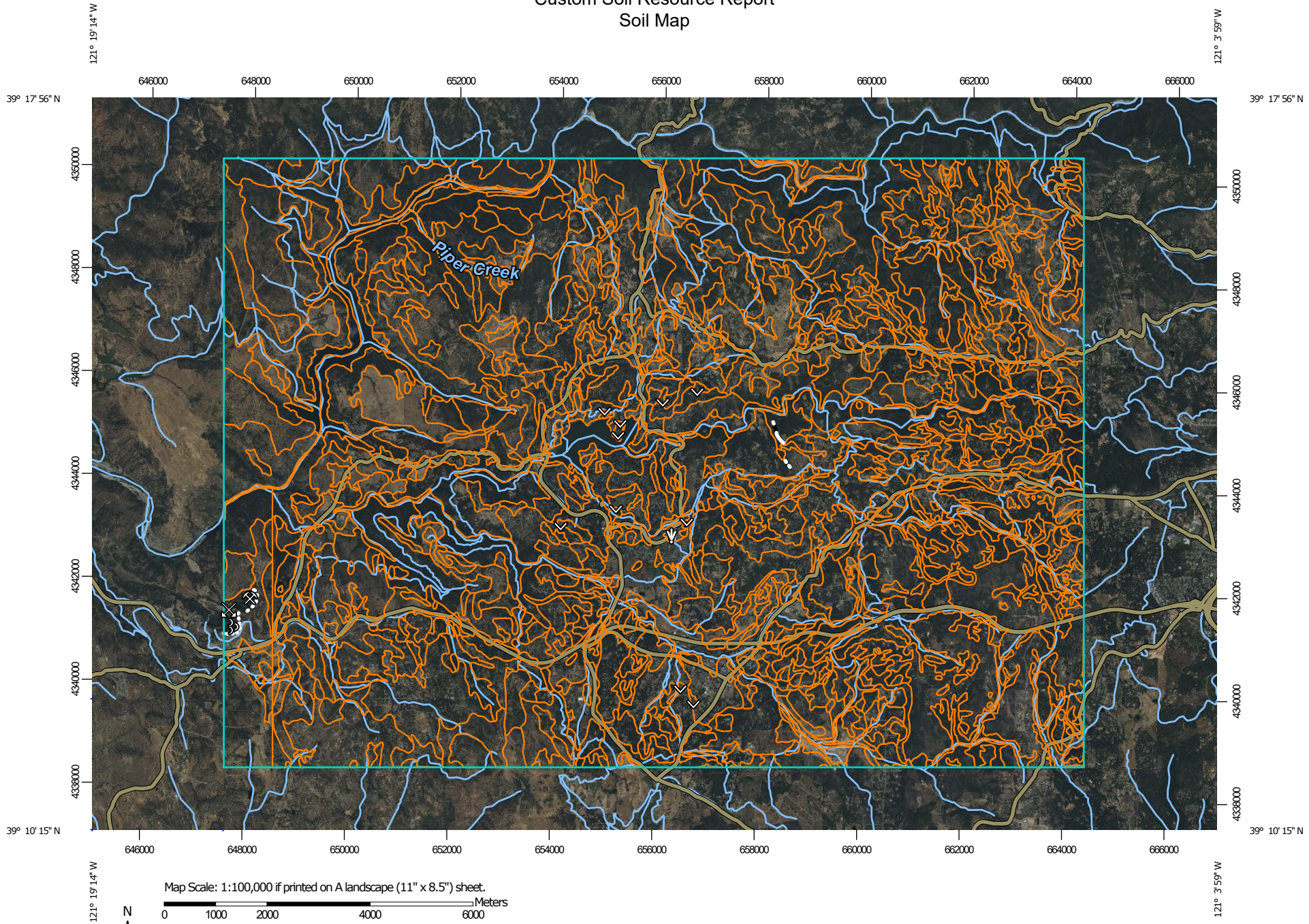
Appendix C

Web Soil Survey Map

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



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: Nevada County Area, California
Survey Area Data: Version 18, Sep 2, 2025

Soil Survey Area: Yuba County, California
Survey Area Data: Version 20, Sep 3, 2025

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.

Date(s) aerial images were photographed: Jun 3, 2023—Sep 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Sobrante-Auburn complex, 3 to 8 percent slopes	20.6	0.0%
111	Sobrante-Auburn complex, 8 to 15 percent slopes	85.0	0.2%
115	Auburn-Sobrante complex, gravelly, 15 to 30 percent slopes	125.0	0.3%
120	Auburn-Sobrante-Rock outcrop complex, 50 to 75 percent slopes	191.2	0.4%
AdB	Ahwahnee sandy loam, 2 to 9 percent slopes	84.3	0.2%
AdC	Ahwahnee sandy loam, 9 to 15 percent slopes	129.0	0.3%
AeD	Ahwahnee-Rock outcrop complex, 15 to 30 percent slopes	80.7	0.2%
AeE	Ahwahnee-Rock outcrop complex, 30 to 50 percent slopes	237.6	0.5%
AfB	Aiken loam, 2 to 9 percent slopes, N Low-Mid Montane	49.2	0.1%
AfC	Aiken loam, 9 to 15 percent slopes, high precip	191.9	0.4%
AfD	Aiken loam, 15 to 30 percent slopes, N Low Mid Montane	94.3	0.2%
AfE	Aiken loam, 30 to 50 percent slopes	22.6	0.0%
AgD	Aiken cobbly loam, 2 to 30 percent slopes	234.3	0.5%
Am	Alluvial land, loamy	662.3	1.3%
Ao	Alluvial land, clayey	478.2	1.0%
ArC	Argonaut gravelly loam, 2 to 15 percent slopes	87.9	0.2%
AsD	Argonaut-Rock outcrop complex, 2 to 30 percent slopes	96.3	0.2%
AtC	Auberry sandy loam, 5 to 15 percent slopes	220.5	0.4%
AuD	Auberry-Rock outcrop complex, 15 to 30 percent slopes	416.6	0.8%
AuE	Auberry-Rock outcrop complex, 30 to 50 percent slopes	244.1	0.5%
AvD	Auburn loam, 2 to 30 percent slopes	220.8	0.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AxD	Auburn-Rock outcrop complex, 2 to 30 percent slopes	1,374.7	2.8%
AxE	Auburn-Rock outcrop complex, 30 to 50 percent slopes	1,440.2	2.9%
BoC	Boomer loam, 5 to 15 percent slopes	913.6	1.9%
BoD	Boomer loam, hard bedrock, 7 to 28 percent slopes	268.9	0.5%
BrD	Boomer, hard bedrock - Rock outcrop complex, 5 to 30 percent slopes	3,752.9	7.6%
BrE	Boomer, hard bedrock - Rock outcrop complex, 15 to 60 percent slopes	3,439.2	7.0%
ChD2	Chaix-Hotaw complex, 15 to 30 percent slopes, eroded	5.2	0.0%
ClC	Chaix very stony loam, thick solum variant, 5 to 15 percent slopes	224.5	0.5%
ClD	Chaix very stony loam, thick solum variant, 15 to 30 percent slopes	269.5	0.5%
ClE	Chaix very stony loam, thick solum variant, 30 to 50 percent slopes	167.2	0.3%
CsE	Cohasset-McCarthy cobbly loams, 15 to 50 percent slopes	230.1	0.5%
Ct	Cut and fill land	4.9	0.0%
Gr	Granitic rock land	464.4	0.9%
HnC	Hoda sandy loam, 9 to 15 percent slopes	16.4	0.0%
HnE	Hoda sandy loam, 15 to 50 percent slopes	553.1	1.1%
HoC2	Hoda cobbly sandy loam, 2 to 15 percent slopes, eroded	77.3	0.2%
HrC	Horseshoe gravelly loam, 9 to 15 percent slopes	22.6	0.0%
HrD	Horseshoe gravelly loam, 15 to 30 percent slopes	17.7	0.0%
ImE	Iron Mountain cobbly loam, 2 to 50 percent slopes	26.0	0.1%
JoC	Josephine loam, 9 to 15 percent slopes	151.0	0.3%
JoD	Josephine loam, 15 to 30 percent slopes	92.1	0.2%
JoE	Josephine loam, 30 to 50 percent slopes	47.9	0.1%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
JrE2	Josephine-Mariposa complex, 15 to 50 percent slopes, eroded	668.3	1.4%
JrF2	Mariposa-Josephine complex, 50 to 75 percent slopes, eroded	44.9	0.1%
MaD	Mariposa gravelly loam, 2 to 30 percent slopes	36.8	0.1%
MmE2	Maymen-Mariposa complex, 2 to 50 percent slopes, eroded	25.7	0.1%
MrC	Musick sandy loam, 5 to 15 percent slopes	59.1	0.1%
MrE	Musick sandy loam, 15 to 50 percent slopes	143.5	0.3%
MsE	Musick-Rock outcrop complex, 5 to 50 percent slopes	119.7	0.2%
Pr	Placer diggings	892.8	1.8%
RkD	Rescue-Rock outcrop complex, 5 to 30 percent slopes	477.5	1.0%
Rn	Rock land	410.2	0.8%
RoE	Rock outcrop-Ahwahnee complex, 9 to 50 percent slopes	1,306.3	2.7%
RpD	Rock outcrop-Auburn complex, 2 to 30 percent slopes	902.9	1.8%
RrE	Rock outcrop-Dubakella complex, 5 to 50 percent slopes	96.5	0.2%
ScE	Secca-Rock outcrop complex, 2 to 50 percent slopes	4,301.4	8.7%
SdC	Shenandoah sandy loam, 2 to 15 percent slopes	338.6	0.7%
SfB	Sierra sandy loam, deep, 2 to 9 percent slopes, LRU 18XI	579.8	1.2%
SfC	Sierra sandy loam, deep, 9 to 15 percent slopes, LRU 18XI	553.3	1.1%
SfD	Sierra sandy loam, deep, 15 to 30 percent slopes, LRU 18XI	285.2	0.6%
SkD	Sierra-Rock outcrop complex, 15 to 30 percent slopes	726.9	1.5%
SkE	Sierra-Rock outcrop complex, 30 to 50 percent slopes	942.5	1.9%
SlB	Sites silt loam, 2 to 9 percent slopes, N low montane	102.4	0.2%
SlC	Sites silt loam, 9 to 15 percent slopes, N low montane	134.2	0.3%
SlD	Sites silt loam, 15 to 30 percent slopes, N low montane	316.7	0.6%
SmC	Sites very stony loam, 2 to 15 percent slopes	314.8	0.6%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SmE	Sites very stony loam, 15 to 50 percent slopes	1,544.6	3.1%
SoC	Sobrante loam, 2 to 15 percent slopes	801.1	1.6%
SoD	Sobrante loam, 15 to 30 percent slopes	496.6	1.0%
SrD	Sobrante-Rock outcrop complex, 2 to 30 percent slopes	2,214.8	4.5%
SrE	Sobrante-Rock outcrop complex, 30 to 50 percent slopes	1,392.3	2.8%
Ta	Tailings	14.5	0.0%
TrC	Trabuco loam, 5 to 15 percent slopes	2,494.6	5.1%
TuD	Trabuco-Rock outcrop complex, 15 to 30 percent slopes	1,842.9	3.7%
TuE	Trabuco-Rock outcrop complex, 30 to 50 percent slopes	1,048.8	2.1%
W	Water	661.6	1.3%
Subtotals for Soil Survey Area		**43,823.7**	**89.0%**
Totals for Area of Interest		**49,248.1**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
110	Sobrante-Auburn complex, 3 to 8 percent slopes	113.8	0.2%
111	Sobrante-Auburn complex, 8 to 15 percent slopes	411.6	0.8%
114	Sobrante-Auburn complex, gravelly, 8 to 15 percent slopes	150.7	0.3%
115	Sobrante-Auburn complex, gravelly, 15 to 30 percent slopes	272.1	0.6%
116	Auburn-Sobrante complex, gravelly, 30 to 50 percent slopes	447.2	0.9%
120	Auburn-Sobrante-Rock outcrop complex, 50 to 75 percent slopes	953.9	1.9%
121	Auburn-Timbuctoo-Argonaut complex, 3 to 8 percent slopes	24.7	0.1%
122	Auburn-Timbuctoo-Argonaut complex, 8 to 15 percent slopes	52.2	0.1%
149	Flanly sandy loam, 8 to 15 percent slopes	93.0	0.2%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
150	Flanly sandy loam, 15 to 30 percent slopes	225.6	0.5%
152	Flanly-Rock outcrop complex, 50 to 75 percent slopes	327.2	0.7%
205	Perkins gravelly loam, high elevation, 8 to 30 percent slopes	316.4	0.6%
235	Sobrante gravelly loam, 3 to 8 percent slopes	296.7	0.6%
236	Sobrante gravelly loam, 8 to 15 percent slopes	559.2	1.1%
237	Sobrante gravelly loam, 15 to 30 percent slopes	77.5	0.2%
238	Sobrante-Rock outcrop complex, 30 to 50 percent slopes	356.3	0.7%
240	Sobrante-Timbuctoo complex, 15 to 30 percent slopes	0.5	0.0%
241	Sobrante-Timbuctoo complex, 30 to 50 percent slopes	420.7	0.9%
254	WATER	312.6	0.6%
Subtotals for Soil Survey Area		**5,411.9**	**11.0%**
Totals for Area of Interest		**49,248.1**	**100.0%**

Map Unit Descriptions

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

Appendix D

USFWS iPAC Results

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 01/30/2026 22:44:06 UTC
Project Code: 2026-0043627
Project Name: Nevada County Fuels Reduction

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 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.

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:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2026-0043627
Project Name: Nevada County Fuels Reduction
Project Type: Fire Management Planning
Project Description: Hazardous Fuels Reduction Project along emergency routes in lower Deer Creek, Nevada County.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.2470095,-121.20597871132875,14z



Counties: Nevada and Yuba counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 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.

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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Endangered

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Pacific Northwest NEP No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8193 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Experimental Population, Non-Essential
California Spotted Owl *Strix occidentalis occidentalis* Population: Sierra Nevada No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7266 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Proposed 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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 General project design guidelines:	Threatened

NAME	STATUS
https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Proposed Threatened

INSECTS

NAME	STATUS
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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
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 General project design guidelines: https://ipac.ecosphere.fws.gov/project/KVKGXFFXVZGC7C5XFMQQDD364Y/documents/generated/11271.pdf	Threatened

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: Holly Fijolek
Address: 5300 Aviation Dr
City: Redding
State: CA
Zip: 96002
Email hfijolek@vestra.com
Phone: 5302232585

LEAD AGENCY CONTACT INFORMATION

Lead Agency: County of Nevada

Attachment C

Environmental Justice Analysis

ENVIRONMENTAL JUSTICE ANALYSIS

LOWER DEER CREEK-PENN VALLEY HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA



Prepared for

Nevada County Office of Emergency Services
950 Maidu Avenue, Suite 129
Nevada City, California 95959

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

DECEMBER 2025

ENVIRONMENTAL JUSTICE ANALYSIS

LOWER DEER CREEK-PENN VALLEY HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

Prepared for

Nevada County Office of Emergency Services
950 Maidu Avenue, Suite 129
Nevada City, California 95959

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

72545

DECEMBER 2025

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A EJScreen Community Reports

Section 1
INTRODUCTION

Purpose

The purpose of this assessment is to identify appropriate geographic areas of concern for environmentally burdened and vulnerable communities within the project area that have the potential to be disproportionately impacted (directly or indirectly) by the Lower Deer Creek-Penn Valley Hazardous Fuels Reduction project.

While locating areas of high exposure and vulnerability is critical and a necessary first step, merely identifying them is not enough. The need for this evaluation is to establish a framework for addressing disproportionate impacts during project planning, public engagement, and government decision-making processes. This is critical information to have upfront to drive decision-making for prioritizing susceptible communities during engagement to yield effective feedback and explore alternatives for the benefit of those most substantially impacted or most vulnerable.

Background

The National Environmental Policy Act (NEPA) of 1969 establishes national policies and goals for the protection of the environment. NEPA requires federal agencies to assess the environmental impacts of their actions, including those that may affect minority and low-income populations. As part of federal funding obligations, this project has a federal nexus. This evaluation can be leveraged by local, State, and federal stakeholders during the preparation of environmental statements on the proposed project and during decision-making actions to fund and/or implement the project.

Executive Order 12898 introduced the phrase "disproportionately high and adverse environmental and human effects," with a call to action for every federal agency to identify and address such effects during funding decisions. This term refers to the consistent pattern of increasing exposure to multiple environmental and social stressors of a location that chronically impact the same communities. Once an agency establishes cumulative impacts, an understanding of disproportionate impacts can be visualized to equip project stakeholders in well-informed decision-making, not only to prevent unjust harm but to confront identified repetitive gaps during strategic community-based planning.

Environmental justice is defined in California law as the "fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and polices" (Gov. Code 65040.12, subd. (e)(1)). It includes "deterrence, reduction, and elimination of pollution burdens for populations and communities experiencing the adverse effects of that pollution, so that the effects are not disproportionately borne by those communities," and at a minimum, includes "meaningful consideration of recommendations from communities most impacted by pollution into environmental and land use decisions" (Gov. Code § 65040.12, subd. (e)(2)).

Regulatory Requirements

The California Environmental Quality Act (CEQA) and the CEQA Guidelines govern the environmental review process in California (PRC § 21000-21189.57). CEQA, enacted in 1970, focuses on impacts to the physical environment, and human beings are an integral part of the environment. Agencies are required to determine if a project may cause substantial adverse effects to human beings, directly or indirectly, by introducing new or exacerbating existing hazards (PRC 21083, subd. (b)(3)).

Additional provisions of CEQA require lead agencies to consider how environmental and public health burdens of a project might affect certain communities, including effects when viewed in connection with past, current, or planned projects within the same community. Social and economic effects are evaluated under an environmental setting and cumulative impacts determination, a part of CEQA considerations for physical impacts on a community that may coincide with environmental justice by disproportionately impacting low-income, marginalized populations of color or indigenous peoples. Examples of such overlapping impacts include increasing concentrations of pollution sources, compounding negative land uses, continued lack of primary language and educational accessibility, or other health and social vulnerabilities.

Methods and Tools Used for Identification and Assessment

The primary national tool, the U.S. Environmental Protection Agency's (USEPA) federal environmental justice mapping and screening tool, EJScreen, was formerly used to evaluate demographic information collected from the U.S. Census Bureau to create vulnerability index reports. The Climate and Economic Justice Screening Tool (CEJST) was an interactive mapping tool used to identify disadvantaged communities considered marginalized by underinvestment or overburdened by pollution, as part of an initiative for federal agencies to target resource allocation (Justice40). These national tools are no longer available for use. EJScreen and CEJST were used collectively to inform planners, grantees, and agencies of the consequences of continued disproportionate trends. Public Environmental Data Partners (PEDP) has released a reconstruction of the data from both tools, allowing continued use of historic indexes by the general public for defining comprehensive national standards for evaluation. Supplementary data index updates are manually added to maintain the best available data. An EJScreen Community Report was conducted within 1 mile of each census tract area within the project footprint, and the reports are included in Appendix A.

CalEnviroScreen is a map used in decision-making throughout the state, developed by the Office of Environmental Health Hazard Assessment (OEHHA), an office within the California Environmental Protection Agency (CalEPA). CalEnviroScreen 4.0 was used to identify census tracts with an overall score in the 75th percentile or higher, a cumulative pollution burden in the 95th percentile or higher, and a census tract designated as "disadvantaged," regardless of the score. Lands under the jurisdiction of federally recognized Tribes were also considered during site evaluation, as census data would not be populated within the tool for these communities. This tool assisted in identifying demographic factors, health risks, compounded health risks, and disadvantaged communities. When national tools failed to identify percentile values for an index documented as "significant," the results from this tool were deemed more accurate.

The California Department of Justice SB 1000 Implementation Toolkit is a guidance document intended for local governments, planners, and other stakeholders to develop environmental justice policies in their general plans. The Toolkit provides best practices for promoting meaningful community engagement throughout Environmental Justice planning processes. This document was used as the standard operating procedure for the identification of disadvantaged communities, low-income areas, and disproportionate environmental pollution.

Nevada County's updated Local Hazard Mitigation Plan and the Recreation and Resiliency Master Plan were used to identify local planning objectives created to reduce or eliminate long-term risks to people and property. The Sierra Nevada Climate Vulnerability Assessment was also referenced for localized climate-related risks and existing outreach campaigns for long-term resiliency goals.

Public outreach is an integral part that has been incorporated, from town hall meetings, opinion surveys, direct coordination with household participants, and formal public comment periods. Ample feedback has been provided, including by communities most impacted by the project for inclusion.

Section 2
ENVIRONMENTAL SETTING

A total of four census tract areas were identified as representative of the percentile rankings relative to the entire project area and are listed as: CT-1 06057000200, CT-2 06057000300, CT-3 06057000401, and CT-4 06057000402. Collectively, the four tracts encompass a population of 19,725 people, which is roughly 5 percent of Nevada County's population. The results from each index were averaged, grouped, and ranked by significance from the 50th to 100th percentile to generate statistical values within a quarter-mile, half-mile, and one-mile radius of the project footprint shown in Figures 1, 2, and 3. Indicators excluded from the list below had no data available or yielded a value less than the 65th percentile of the total population matrix, deemed insignificant or not requiring further investigation.

Demographic Factors

The following demographic factors for each statistical census tract included in this evaluation are listed and ranked by most to least significant:

- Population, age, health status, income, ethnicity, sex

Geographic Factors

The following geographic factors for each census tract identified as having the potential to influence human life within the project area are listed and ranked from most to least significant:

- Natural hazards, climate, population distribution, topography, and natural resources.

Economic Factors

The following key economic factors identified with the potential to contribute to the performance of the local economy are ranked from most to least significant:

- Employment status, tax rate, interest rate

Human Health Risk Factors

The following pollution risk factors established within the influence of the project area with the potential to impact human health are ranked from most to least significant:

- Exposure to ozone, wastewater discharge, PM 2.5, lead from housing, nitrogen dioxide, and diesel particulate matter
- Proximity to impaired waterbodies, traffic, hazardous waste generators, and solid waste sites

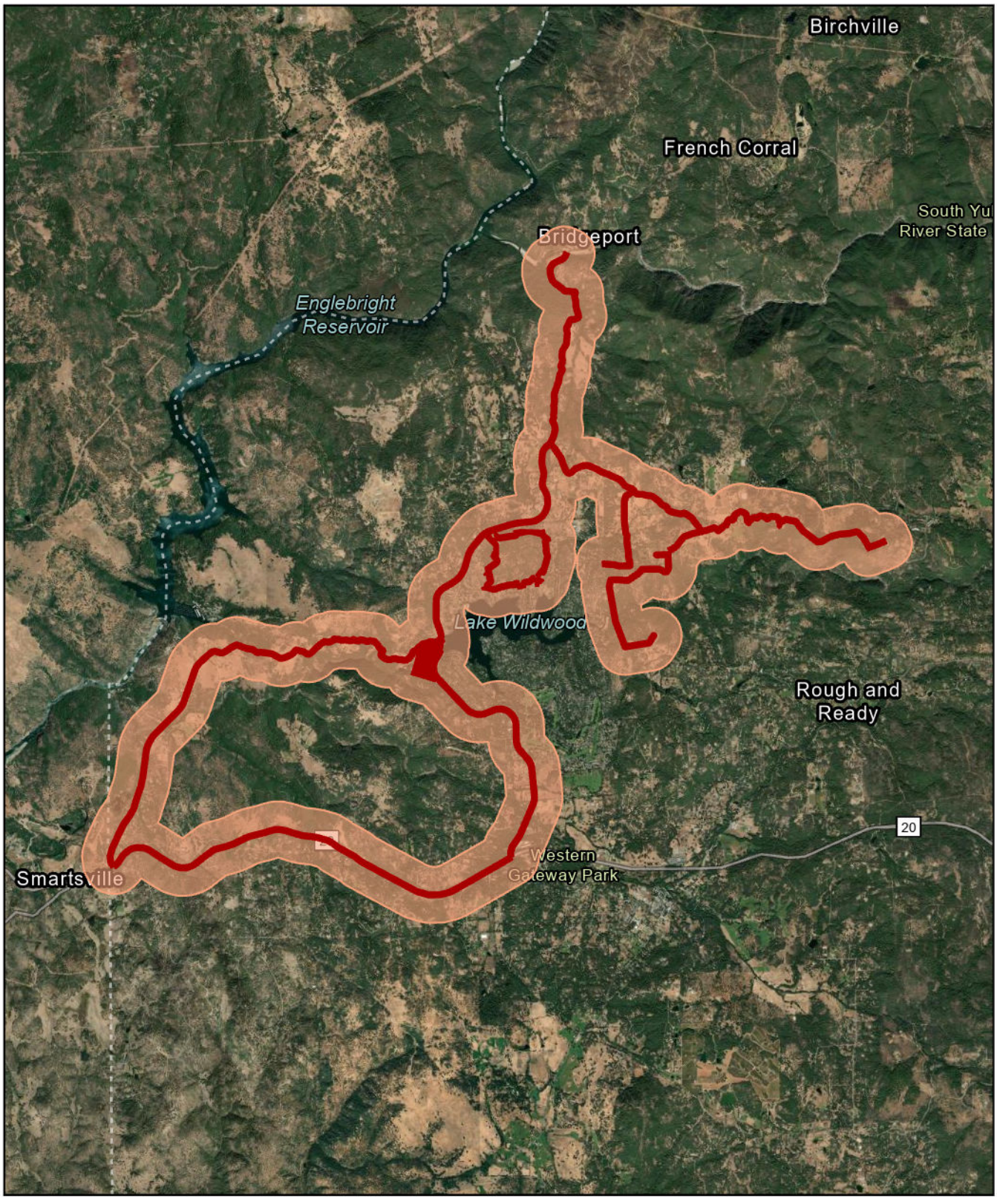


FIGURE 1
0.25-MILE PERCENTILES
LOWER DEER CREEK-PENN VALLEY
FUELS REDUCTION PROJECT

VESTRA

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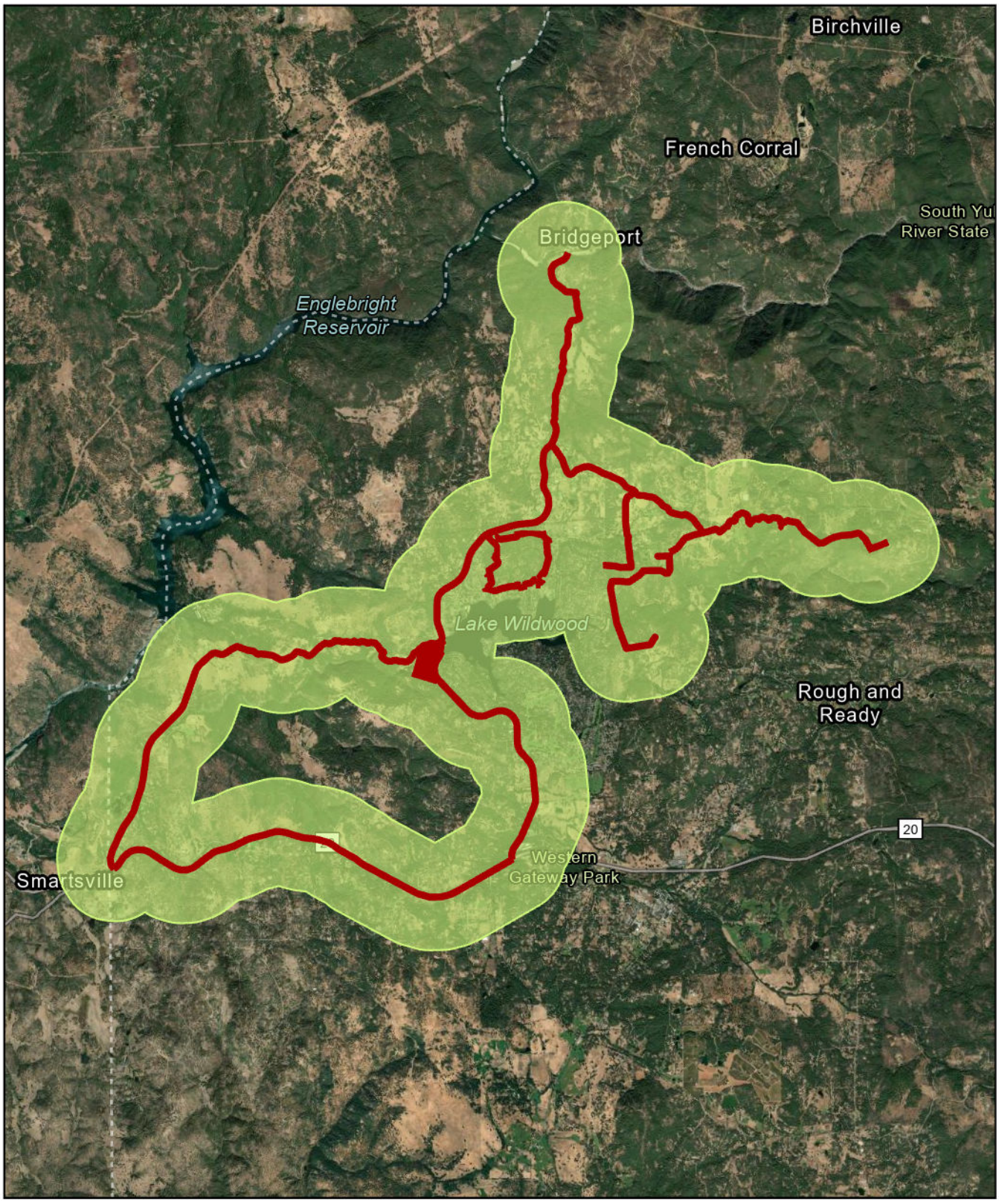


FIGURE 2
0.50-MILE PERCENTILES
LOWER DEER CREEK-PENN VALLEY
FUELS REDUCTION PROJECT

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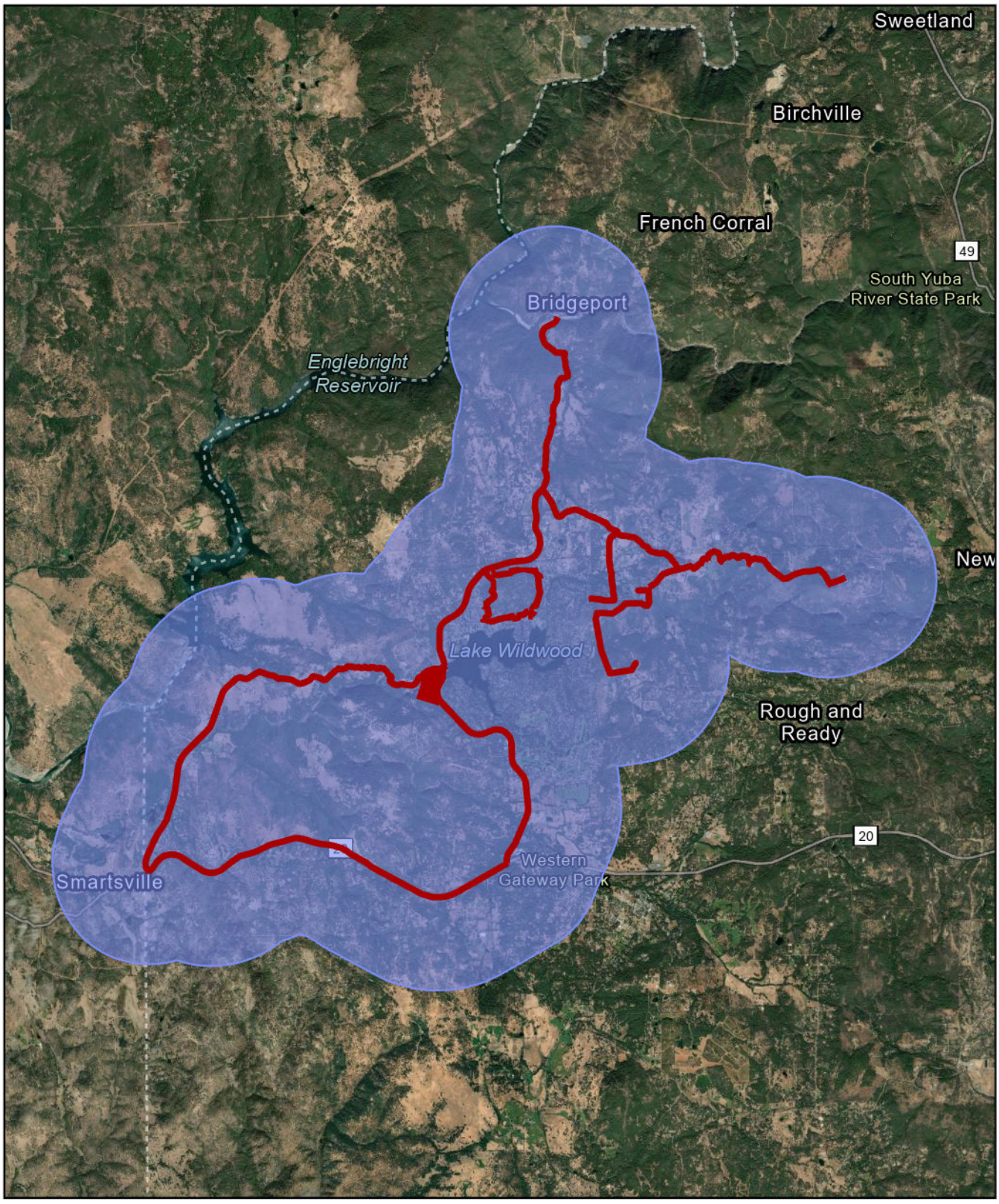


FIGURE 3
1-MILE PERCENTILES
LOWER DEER CREEK-PENN VALLEY
FUELS REDUCTION PROJECT

VESTRA

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P:\GIS\72545\Figures\1-mile Percentiles.pdf

Socioeconomic Indicators

The following socioeconomic indicators established within the influence of the project area with the potential to impact vulnerable populations are ranked from most to least significant:

- Age over 65, low-income households, less than a high school education, people of color, and limited English-speaking households

Project Index Percentiles

The average percentile for each significant index for the project and the state averages are summarized in Table 1.

Table 1
PROJECT INDEX PERCENTILES

EJ Index	Project	State
Ozone	**80**	75
Wastewater Discharge	**65**	54
Hazardous Waste Sites	**71**	11
Impaired Waterbodies	**67**	46
Solid Waste Sites	82	15
Drinking Water Contaminants	85	36

The average percentile for each significant indicator for the project and the national averages are summarized in Table 2.

Table 2
NATIONAL INDEX PERCENTILES

Indicator	Project	National
Demographic - Age (over 65)	**95**	32
Demographic - Health (asthma)	**88**	10
Demographic - Population (unhoused)	**72**	35
Geographic – Natural Hazards (wildfire)	**99**	23

Section 3
ANALYSIS AND EVALUATION

Reoccurring Trends

Residential population indicators for demographic factors in all census tracts analyzed displayed a trend of above-average exposure to ozone pollution. Additional demographic factors in all census tracts analyzed displayed a trend of above-average risk for health disparities such as asthma. A single geographic factor for all census tracts analyzed displayed a trend of above-average wildfire risk. A single socioeconomic indicator in all the census tracts displayed a trend of above-average populations over the age of 64, and half of the census tracts indicated transportation-disadvantaged communities. No further trends were identified across the factors and indicators listed in Section 2. Trend values are summarized in Table 3.

Table 3
PROJECT TREND VALUES

Indicator	Trend
Demographic	Above-average asthma diagnoses
Geographic	Above-average wildfire risk
Economic	Above-average housing burden
Human Health Risk	Above-average ozone exposure and drinking water contamination
Socioeconomic	Above-average population over age 64

Disproportionately High and Adverse Effects

No disadvantaged communities are found in a 0.25-, 0.5-, or 1-mile radius of the project limits; however, there are low-income areas with unmet housing needs and potential for disproportionate environmental pollution exposure for individuals over the age of 65. The impacts are not exacerbated to the point of being disproportionately high; therefore, no disproportionately high and adverse effects were found.

Project activities will generate an increase in particulate matter exposure, further agitating those with asthma, compromised immune systems, or existing complex cardiac and/or respiratory conditions. Wildfire hazard reduction techniques within critical evacuation service routes used by medical personnel will help improve response times during medical emergencies. The project will reduce the threat of smoke exposure and other related wildfire hazards in chronically threatened and vulnerable areas. Project-specific and cumulative air quality impacts must be considered by early consultation with the Northern Sierra Air Quality Management District to ensure effective mitigation, if warranted.

Cumulative Effects

Three environmental burden indicators were considered cumulatively significant for consideration. The three indicators demonstrated in the EJScreen Community Reports in **Appendix A** include:

Climate Change: Wildfire risk is considered cumulative due to vegetation conditions, complex topography, and extreme heat conditions, which will result in an increased threat within the next 30 years. This threat is compounded by the project's baseline rural landscape and population dispersal in rural clusters of Lake Wildwood and Penn Valley. Wildfires lead to impacts from smoke exposure, poor air quality, infrastructure damage, and other threats. This project is a direct action to combat wildfire risk within vulnerable and overly susceptible communities through effective fuel reduction and maintenance.

Health Disparities: The concentration of ozone pollution is compounded with proximity to wastewater pollution sources, posing cumulative effects to people under the age of 5 and over 64.

People most at risk from breathing air contaminated with ozone include children and older adults. Children are at greatest risk from exposure to ozone because their lungs are still developing and are more likely to be outdoors when levels are most concentrated, leading to increased exposure. Health problems related to ozone exposure include difficulty breathing, inflamed and damaged airways, increased frequency of asthma attacks, and aggravated lung diseases such as asthma, emphysema, and chronic bronchitis (EPA 2025). All census tracks within this analysis reported above-average percentiles for diagnosed asthma. Frequent decomposition of organic matter in wastewater can release harmful gases, posing additional respiratory risks. Although the percentile for the wastewater discharge indicator was not above the State or national average, in conjunction with the ozone pollution exposure, it creates a cumulative health risk effect for residential population indicators.

Critical Service Gaps: The lack of (public) regional park space is compounded by the lack of transportation for this service area.

The inability to access public recreational facilities without the use of a vehicle creates a potential disparity for people unable to drive due to age, financial status, disability, or other impairment. Rural communities dependent on vehicular transportation for recreational access will create an increase in greenhouse gas emissions, compounding traffic pollution exposure. Nevada County and other local constituents have previously identified these same gaps within the last five years during community planning efforts. Several surveys and meetings were conducted from 2022 onward, including a countywide recreation and resiliency survey, which yielded feedback on the need for additional regional park space, maintenance of existing park system facilities, and access to organized play facilities with restrooms, paved paths, and unpaved trails. Community planning efforts at the regional and local level sought to connect town destinations with off-road trail infrastructure to provide both utilitarian and recreational improvements.

An environmental analysis of the Pines to Mines Trail was approved in March 2024, which created 72 miles of a multi-use trail system, with work to advance a connected trail system underway. The trail system is designed with shaded fuel breaks and fuel mitigation maintenance standards to address climate change. Critical service gaps are interconnected to health disparities addressed in this analysis. The trail system planning, considered cumulatively, will have a positive impact on this project's population, as targeted wildfire hazards will be reduced within vulnerable high-hazard areas while simultaneously progressing towards a comprehensive connected trail system that supports Nevada County's goals for transportation, recreation, and human wellness, with economic value in mind.

Section 4
REFERENCES

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Appendix A

EJScreen Community Reports

EJSCREEN Community Report

This report summarizes environmental and residential population information for user-defined areas, and combines that data into indexes.



Summary of Analysis

Residents within this specified Census unit (FIPS 06057000404)
Area in Square Miles: 32.04
Population: 3,746

Environmental and Residential Population Indicators

	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	RATIO TO US AVG	RATIO TO STATE AVG
POLLUTION AND SOURCES							
Particulate Matter (PM 2.5 in ug/m3)	13	12	66	8	95	2	1
Ozone (ppb)	80	74	64	62	96	1	1
Nitrogen Dioxide (NO2)	5	9	7	8	25	1	1
Diesel Particulate Matter (ug/m3)	0	0	5	0	11	0	0
Toxic Releases to Air	0	779	3	4,612	2	0	0
Traffic Proximity and Volume (daily traffic count/distance to road)	163,531	3,969,704	4	1,687,230	22	0	0
Lead Paint Indicator (% pre-1960s housing)	0	0	27	0	26	0	0
Superfund Proximity (site count/km distance)	0	1	0	0	0	0	0
RMP Proximity (facility count/km distance)	0	1	20	1	28	0	0
Hazardous Waste Proximity (facility count/km distance)	0	11	2	4	18	0	0
Underground Storage Tanks (UST) indicator	0	0	0	4	0	0	0
Wastewater Discharge Indicator (toxicity-weighted concentration/distance)	54	10,998	38	701,805	50	0	0
Drinking Water Non-Compliance	0	1	0	2	0	0	0
RESIDENTIAL POPULATION INDICATORS							
Demographic Index USA	1	2	20	1	41	1	1
Supplemental Demographic Index USA	2	1	70	2	61	1	1
% Low Income	0	0	70	0	65	1	1
% in limited English-speaking Households	0	0	0	0	0	0	0
% Unemployed	0	0	15	0	24	0	0
% with Less Than High School Education	0	0	32	0	38	0	0
% under Age 5	0	0	29	0	31	1	1
% over Age 64	0	0	95	0	95	2	2
% People of Color	0	1	1	0	17	0	0

EJ Indexes

The summary and supplemental EJ indexes are a combination of environmental and residential population information.

For each of the environmental indicators, there is an EJ Index and a Supplemental EJ Index.

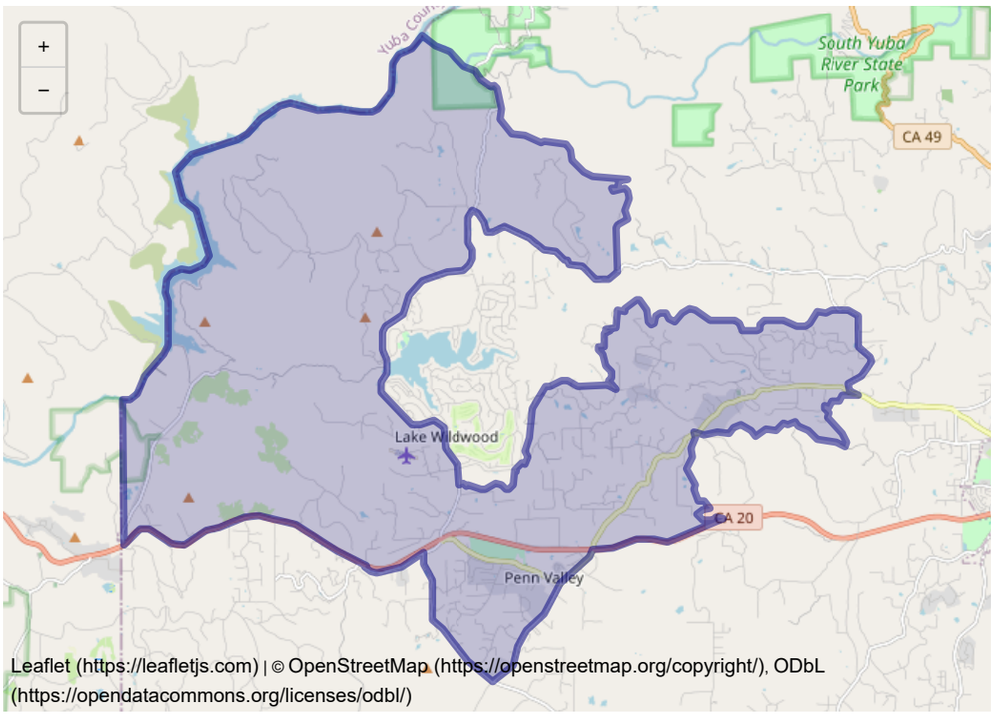
The indexes for a selected area are compared to those for all other locations in the state or nation.

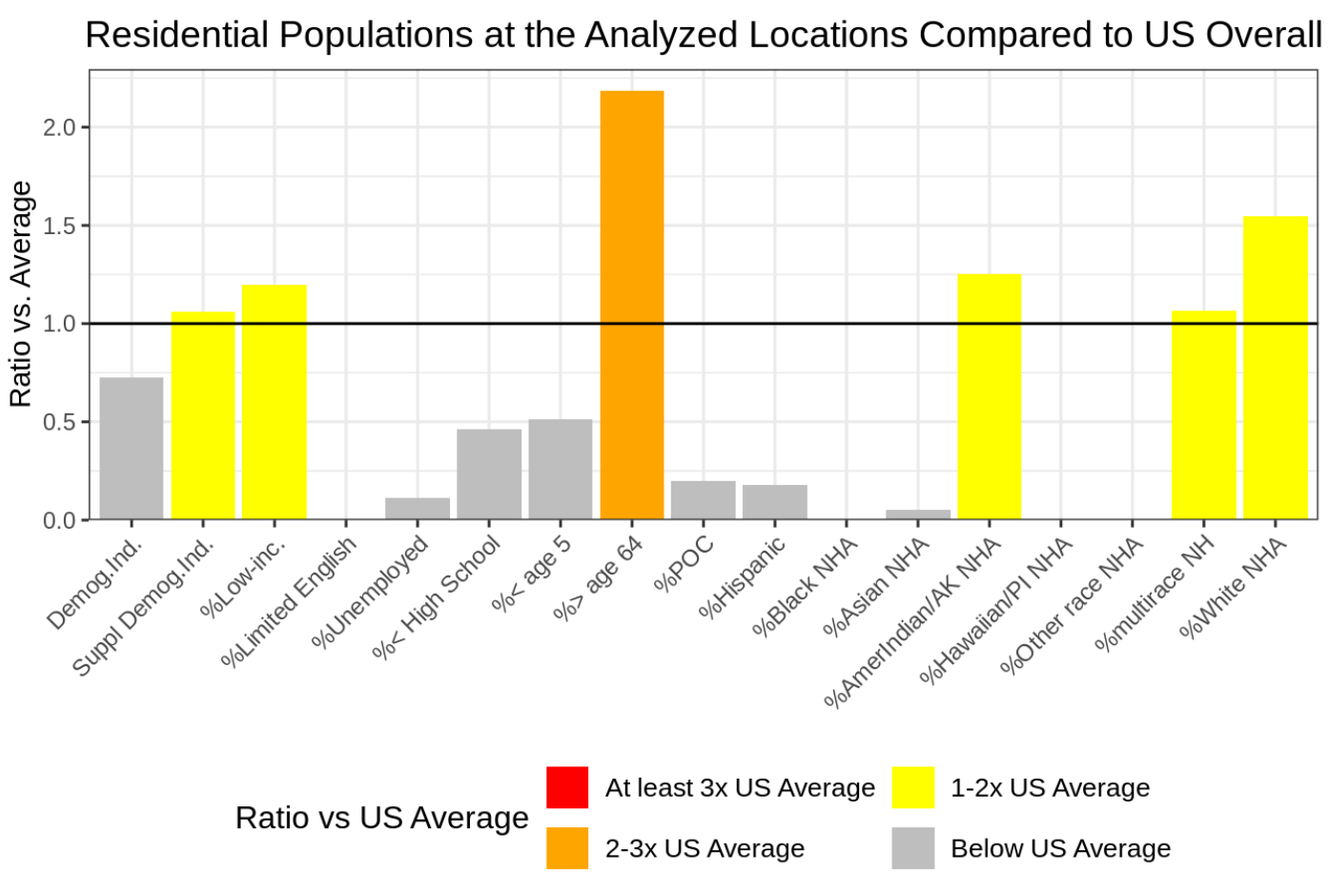
	PERCENTILE IN STATE	PERCENTILE IN USA
EJ INDEXES		
Particulate Matter Summary Index	48	71
Ozone Summary Index	47	73
Nitrogen Dioxide (NO2) Summary Index	8	33
Diesel Particulate Matter Summary Index	6	17
Toxic Releases to Air Summary Index	4	3
Traffic Proximity and Volume Summary Index	4	30
Lead Paint Summary Index	18	24
Superfund Proximity Summary Index	0	0
RMP Proximity Summary Index	20	32
Hazardous Waste Proximity Summary Index	2	20
Underground Storage Tanks Summary Index	0	0
Wastewater Discharge Summary Index	31	50
Drinking Water Non-Compliance Summary Index	0	0
SUPPLEMENTAL EJ INDEXES		
Particulate Matter Supplemental Summary Index	75	89
Ozone Supplemental Summary Index	75	91
Nitrogen Dioxide (NO2) Supplemental Summary Index	13	34
Diesel Particulate Matter Supplemental Summary Index	8	14
Toxic Releases to Air Supplemental Summary Index	4	2
Traffic Proximity and Volume Supplemental Summary Index	5	29
Lead Paint Supplemental Summary Index	28	24
Superfund Proximity Supplemental Summary Index	0	0
RMP Proximity Supplemental Summary Index	22	29
Hazardous Waste Proximity Supplemental Summary Index	2	16
Underground Storage Tanks Supplemental Summary Index	0	0
Wastewater Discharge Supplemental Summary Index	54	60
Drinking Water Non-Compliance Supplemental Summary Index	0	0

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
BREAKDOWN BY POPULATION GROUP			
% Hispanic or Latino	0	0	0
% Black or African American (non-Hispanic, single race)	0	0	0
% Asian (non-Hispanic, single race)	0	0	0
% American Indian and Alaska Native (non-Hispanic, single race)	0	1	2
% Native Hawaiian and Other Pacific Islander (non-Hispanic, single race)	0	0	0
% Other race (non-Hispanic, single race)	0	0	0
% Two or more races (non-Hispanic)	0	1	1
% White (non-Hispanic, single race)	1	2	2
LANGUAGE SPOKEN AT HOME			
% speaking Non English languages at home	0	NA	NA
% speaking Other Indo-European at home	0	NA	NA
% speaking Asian and Pacific Island languages at home	0	NA	NA
% speaking Other and Unspecified languages at home	0	NA	NA
% speaking English at home	1	NA	NA
% speaking Spanish at home	0	NA	NA
% speaking French at home	0	NA	NA
% speaking Russian, Polish or Other Slavic at home	0	NA	NA
% speaking Indo-European at home	0	NA	NA
% speaking Vietnamese at home	0	NA	NA
% speaking Other Asian and Pacific Island languages at home	0	NA	NA
% speaking Arabic at home	0	NA	NA
LANGUAGE IN LIMITED ENGLISH SPEAKING HOUSEHOLDS			
% speaking Spanish (as % of limited English households)	N/A	NA	NA

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
% speaking Other Indo-European languages (as % of limited English households)	N/A	NA	NA
% speaking Asian-Pacific Island languages (as % of limited English households)	N/A	NA	NA
% speaking Other languages (as % of limited English households)	N/A	NA	NA
BREAKDOWN BY SEX			
% Males	1	NA	NA
% Females	0	NA	NA
HEALTH			
% with Disabilities	0	2	2
% with Low Life Expectancy	0	1	1
% with Heart Diseases	7	NA	NA
% of Adults with Asthma	10	NA	NA
% of Adults with Cancer (excluding skin cancer)	8	NA	NA
AGE			
% under Age 5	0	1	1
% under age 18	0	NA	NA
% over Age 64	0	2	2
COMMUNITY			
Occupied Housing Units	1,620	NA	NA
Life Expectancy in Years	78	NA	NA
Per Capita Income	37,891	NA	NA
% Owner Occupied households	1	NA	NA
POVERTY			
% of Households below Poverty Level	0	NA	NA
FEATURES AND LOCATION INFORMATION			
Number of Sites Nearby (total unique)	1	NA	NA
Distance to Closest Site for Avg Person	0	NA	NA
Number of Sites Nearby (avg)	1	NA	NA
Number of Sites Nearby (max)	1	NA	NA
Distance to Closest Site	0	NA	NA
Count of National Priority List Superfund sites	0	NA	NA
Count of Treatment Storage Disposal Facilities (TSDF)	0	NA	NA
Number of Air Pollution Facilities	0	NA	NA
Number of Toxic Release Facilities	0	NA	NA
Number of Water Discharge Facilities	4	NA	NA
Number of Brownfields	0	NA	NA
Number of Schools	4	NA	NA
Number of Worship Places	0	NA	NA
Number of Hospitals	0	NA	NA
Flag for Overlapping with Tribes	0	NA	NA
Flag for Overlapping with Impaired Waters	1	NA	NA
Flag for Overlapping with Non-Attainment Areas	1	NA	NA
Flag for Overlapping with CEJST Disadvantaged Communities	0	NA	NA
Flag for Overlapping with EPA IRA Disadvantaged Communities	1	NA	NA
CLIMATE			
Estimated Fire Risk in 30 Years	1	NA	NA
Estimated Flood Risk in 30 Years	0	NA	NA
CRITICAL SERVICES			
Flag for Overlapping with Housing Burden Communities	0	NA	NA
Flag for Overlapping with Food Desert Areas	1	NA	NA
% Households without Broadband Internet	0	NA	NA
% Households without Health Insurance	0	NA	NA
Flag for Overlapping with Transportation Disadvantaged Communities	1	NA	NA
OTHER			
Total Population	3,746	NA	NA
Count of Population Age 25 up	3,080	NA	NA
Count of Households	1,620	NA	NA
Universe for % unemployed (denominator, count)	3,184	NA	NA
Count of Housing Units Built Pre 1960	92	NA	NA
Built housing units count (denominator for % pre 1960)	1,927	NA	NA
Count of Population for whom Poverty Status is Determined	3,742	NA	NA

Note: Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update (https://www.epa.gov/haps/air-toxics-data-update)





NH = "non-Hispanic"
NHA = "non-Hispanic alone, aka single race"

EJSCREEN Community Report

This report summarizes environmental and residential population information for user-defined areas, and combines that data into indexes.



Summary of Analysis

Residents within this specified Census unit (FIPS 06057000401)
Area in Square Miles: 7.17
Population: 5,445

Environmental and Residential Population Indicators

	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	RATIO TO US AVG	RATIO TO STATE AVG
POLLUTION AND SOURCES							
Particulate Matter (PM 2.5 in ug/m3)	13	12	63	8	95	2	1
Ozone (ppb)	81	74	66	62	96	1	1
Nitrogen Dioxide (NO2)	6	9	10	8	31	1	1
Diesel Particulate Matter (ug/m3)	0	0	4	0	8	0	0
Toxic Releases to Air	0	779	3	4,612	2	0	0
Traffic Proximity and Volume (daily traffic count/distance to road)	36,622	3,969,704	1	1,687,230	10	0	0
Lead Paint Indicator (% pre-1960s housing)	0	0	24	0	24	0	0
Superfund Proximity (site count/km distance)	0	1	0	0	0	0	0
RMP Proximity (facility count/km distance)	0	1	19	1	28	0	0
Hazardous Waste Proximity (facility count/km distance)	0	11	1	4	15	0	0
Underground Storage Tanks (UST) indicator	0	0	0	4	0	0	0
Wastewater Discharge Indicator (toxicity-weighted concentration/distance)	65	10,998	39	701,805	52	0	0
Drinking Water Non-Compliance	0	1	0	2	0	0	0
RESIDENTIAL POPULATION INDICATORS							
Demographic Index USA	1	2	13	1	30	1	0
Supplemental Demographic Index USA	1	1	33	2	27	1	1
% Low Income	0	0	43	0	38	1	1
% in limited English-speaking Households	0	0	29	0	58	0	0
% Unemployed	0	0	34	0	46	1	0
% with Less Than High School Education	0	0	35	0	42	1	0
% under Age 5	0	0	21	0	23	0	0
% over Age 64	0	0	96	0	95	2	2
% People of Color	0	1	7	0	36	0	0

EJ Indexes

The summary and supplemental EJ indexes are a combination of environmental and residential population information.

For each of the environmental indicators, there is an EJ Index and a Supplemental EJ Index.

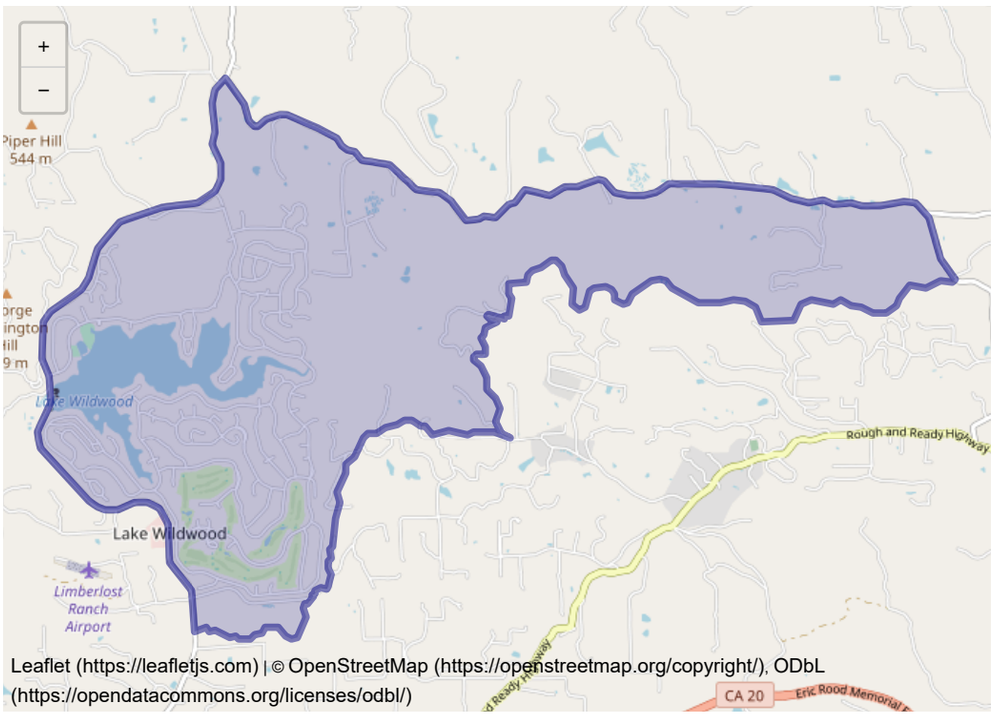
The indexes for a selected area are compared to those for all other locations in the state or nation.

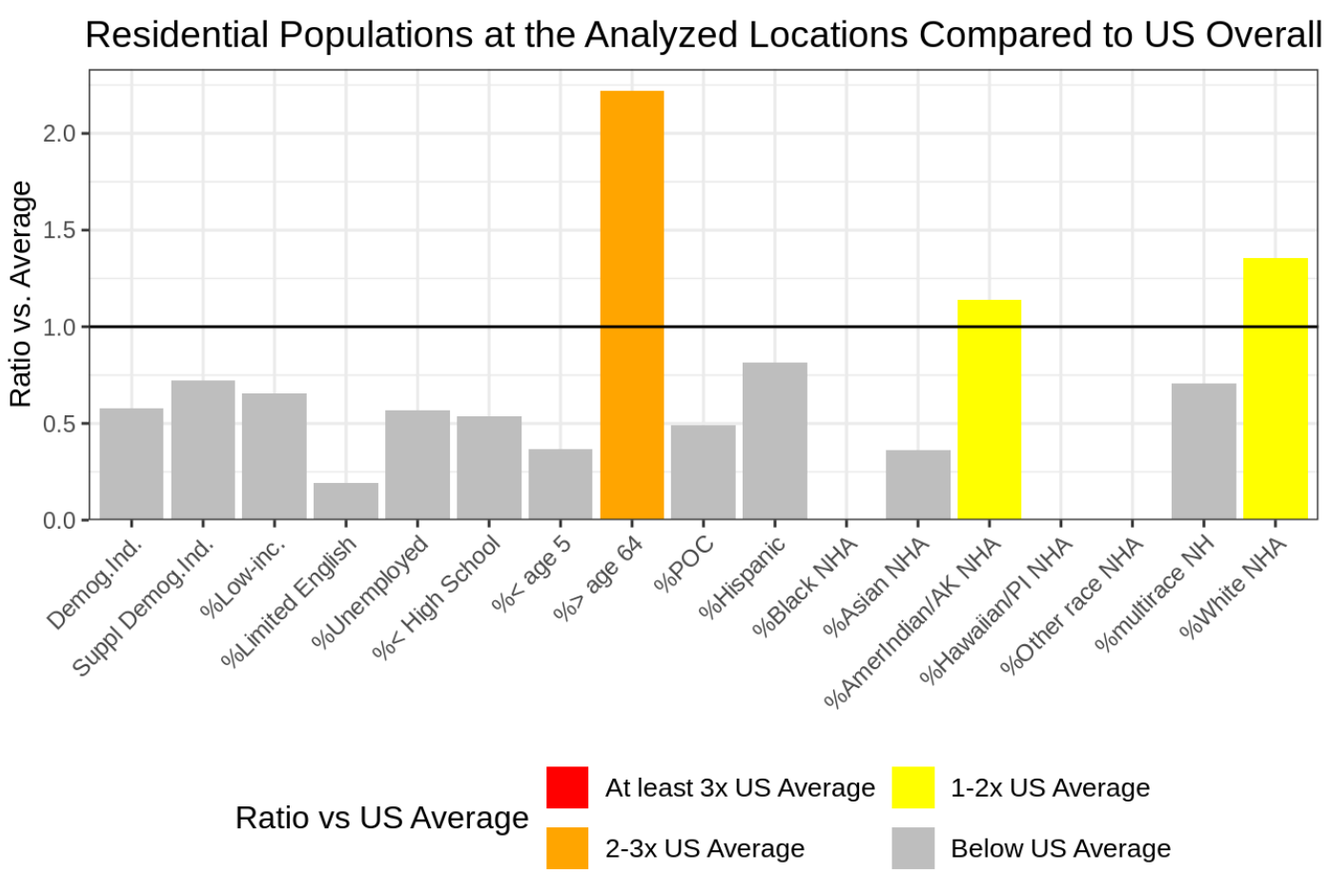
	PERCENTILE IN STATE	PERCENTILE IN USA
EJ INDEXES		
Particulate Matter Summary Index	40	63
Ozone Summary Index	41	66
Nitrogen Dioxide (NO2) Summary Index	10	32
Diesel Particulate Matter Summary Index	4	9
Toxic Releases to Air Summary Index	3	3
Traffic Proximity and Volume Summary Index	1	11
Lead Paint Summary Index	15	18
Superfund Proximity Summary Index	0	0
RMP Proximity Summary Index	20	28
Hazardous Waste Proximity Summary Index	2	15
Underground Storage Tanks Summary Index	0	0
Wastewater Discharge Summary Index	27	44
Drinking Water Non-Compliance Summary Index	0	0
SUPPLEMENTAL EJ INDEXES		
Particulate Matter Supplemental Summary Index	56	73
Ozone Supplemental Summary Index	56	76
Nitrogen Dioxide (NO2) Supplemental Summary Index	12	28
Diesel Particulate Matter Supplemental Summary Index	4	6
Toxic Releases to Air Supplemental Summary Index	3	2
Traffic Proximity and Volume Supplemental Summary Index	1	7
Lead Paint Supplemental Summary Index	17	16
Superfund Proximity Supplemental Summary Index	0	0
RMP Proximity Supplemental Summary Index	19	28
Hazardous Waste Proximity Supplemental Summary Index	1	15
Underground Storage Tanks Supplemental Summary Index	0	0
Wastewater Discharge Supplemental Summary Index	37	44
Drinking Water Non-Compliance Supplemental Summary Index	0	0

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
BREAKDOWN BY POPULATION GROUP			
% Hispanic or Latino	0	1	0
% Black or African American (non-Hispanic, single race)	0	0	0
% Asian (non-Hispanic, single race)	0	0	0
% American Indian and Alaska Native (non-Hispanic, single race)	0	1	2
% Native Hawaiian and Other Pacific Islander (non-Hispanic, single race)	0	0	0
% Other race (non-Hispanic, single race)	0	0	0
% Two or more races (non-Hispanic)	0	1	1
% White (non-Hispanic, single race)	1	1	2
LANGUAGE SPOKEN AT HOME			
% speaking Non English languages at home	0	NA	NA
% speaking Other Indo-European at home	0	NA	NA
% speaking Asian and Pacific Island languages at home	0	NA	NA
% speaking Other and Unspecified languages at home	0	NA	NA
% speaking English at home	1	NA	NA
% speaking Spanish at home	0	NA	NA
% speaking French at home	0	NA	NA
% speaking Russian, Polish or Other Slavic at home	0	NA	NA
% speaking Indo-European at home	0	NA	NA
% speaking Vietnamese at home	0	NA	NA
% speaking Other Asian and Pacific Island languages at home	0	NA	NA
% speaking Arabic at home	0	NA	NA
LANGUAGE IN LIMITED ENGLISH SPEAKING HOUSEHOLDS			
% speaking Spanish (as % of limited English households)	0	NA	NA

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
% speaking Other Indo-European languages (as % of limited English households)	0	NA	NA
% speaking Asian-Pacific Island languages (as % of limited English households)	1	NA	NA
% speaking Other languages (as % of limited English households)	0	NA	NA
BREAKDOWN BY SEX			
% Males	0	NA	NA
% Females	1	NA	NA
HEALTH			
% with Disabilities	0	1	1
% with Low Life Expectancy	0	1	1
% with Heart Diseases	8	NA	NA
% of Adults with Asthma	9	NA	NA
% of Adults with Cancer (excluding skin cancer)	11	NA	NA
AGE			
% under Age 5	0	0	0
% under age 18	0	NA	NA
% over Age 64	0	2	2
COMMUNITY			
Occupied Housing Units	2,258	NA	NA
Life Expectancy in Years	81	NA	NA
Per Capita Income	40,332	NA	NA
% Owner Occupied households	1	NA	NA
POVERTY			
% of Households below Poverty Level	0	NA	NA
FEATURES AND LOCATION INFORMATION			
Number of Sites Nearby (total unique)	1	NA	NA
Distance to Closest Site for Avg Person	0	NA	NA
Number of Sites Nearby (avg)	1	NA	NA
Number of Sites Nearby (max)	1	NA	NA
Distance to Closest Site	0	NA	NA
Count of National Priority List Superfund sites	0	NA	NA
Count of Treatment Storage Disposal Facilities (TSDF)	0	NA	NA
Number of Air Pollution Facilities	0	NA	NA
Number of Toxic Release Facilities	1	NA	NA
Number of Water Discharge Facilities	0	NA	NA
Number of Brownfields	0	NA	NA
Number of Schools	1	NA	NA
Number of Worship Places	0	NA	NA
Number of Hospitals	0	NA	NA
Flag for Overlapping with Tribes	0	NA	NA
Flag for Overlapping with Impaired Waters	1	NA	NA
Flag for Overlapping with Non-Attainment Areas	1	NA	NA
Flag for Overlapping with CEJST Disadvantaged Communities	0	NA	NA
Flag for Overlapping with EPA IRA Disadvantaged Communities	0	NA	NA
CLIMATE			
Estimated Fire Risk in 30 Years	1	NA	NA
Estimated Flood Risk in 30 Years	0	NA	NA
CRITICAL SERVICES			
Flag for Overlapping with Housing Burden Communities	0	NA	NA
Flag for Overlapping with Food Desert Areas	1	NA	NA
% Households without Broadband Internet	0	NA	NA
% Households without Health Insurance	0	NA	NA
Flag for Overlapping with Transportation Disadvantaged Communities	1	NA	NA
OTHER			
Total Population	5,445	NA	NA
Count of Population Age 25 up	4,172	NA	NA
Count of Households	2,258	NA	NA
Universe for % unemployed (denominator, count)	4,727	NA	NA
Count of Housing Units Built Pre 1960	102	NA	NA
Built housing units count (denominator for % pre 1960)	2,680	NA	NA
Count of Population for whom Poverty Status is Determined	5,445	NA	NA

Note: Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update (https://www.epa.gov/haps/air-toxics-data-update)





NH = "non-Hispanic"
NHA = "non-Hispanic alone, aka single race"

EJSCREEN Community Report

This report summarizes environmental and residential population information for user-defined areas, and combines that data into indexes.



Summary of Analysis

Residents within this specified Census unit (FIPS 06057000403)
Area in Square Miles: 22.07
Population: 2,270

Environmental and Residential Population Indicators

	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	RATIO TO US AVG	RATIO TO STATE AVG
POLLUTION AND SOURCES							
Particulate Matter (PM 2.5 in ug/m3)	13	12	68	8	95	2	1
Ozone (ppb)	79	74	63	62	95	1	1
Nitrogen Dioxide (NO2)	4	9	3	8	14	1	0
Diesel Particulate Matter (ug/m3)	0	0	5	0	12	0	0
Toxic Releases to Air	0	779	4	4,612	2	0	0
Traffic Proximity and Volume (daily traffic count/distance to road)	120,016	3,969,704	3	1,687,230	19	0	0
Lead Paint Indicator (% pre-1960s housing)	0	0	41	0	42	0	0
Superfund Proximity (site count/km distance)	0	1	0	0	0	0	0
RMP Proximity (facility count/km distance)	0	1	0	1	0	0	0
Hazardous Waste Proximity (facility count/km distance)	0	11	2	4	19	0	0
Underground Storage Tanks (UST) indicator	0	0	0	4	0	0	0
Wastewater Discharge Indicator (toxicity-weighted concentration/distance)	55	10,998	38	701,805	50	0	0
Drinking Water Non-Compliance	0	1	0	2	0	0	0
RESIDENTIAL POPULATION INDICATORS							
Demographic Index USA	1	2	37	1	57	1	1
Supplemental Demographic Index USA	1	1	50	2	42	1	1
% Low Income	0	0	73	0	68	1	1
% in limited English-speaking Households	0	0	0	0	0	0	0
% Unemployed	0	0	59	0	68	1	1
% with Less Than High School Education	0	0	22	0	26	0	0
% under Age 5	0	0	35	0	37	1	1
% over Age 64	0	0	60	0	52	1	1
% People of Color	0	1	13	0	45	1	0

EJ Indexes

The summary and supplemental EJ indexes are a combination of environmental and residential population information.

For each of the environmental indicators, there is an EJ Index and a Supplemental EJ Index.

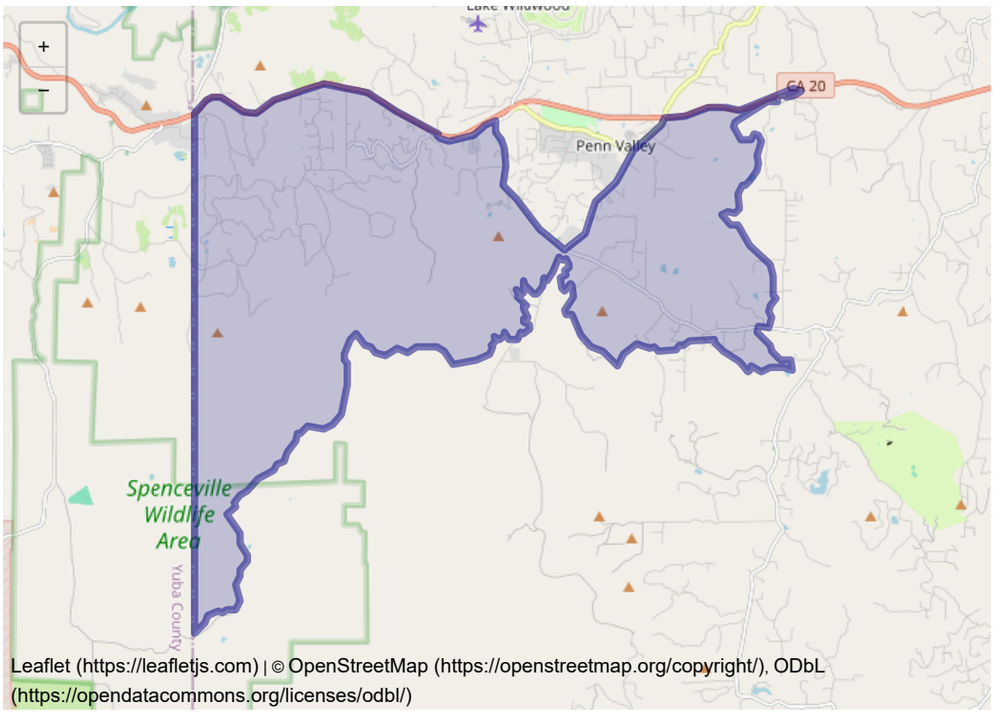
The indexes for a selected area are compared to those for all other locations in the state or nation.

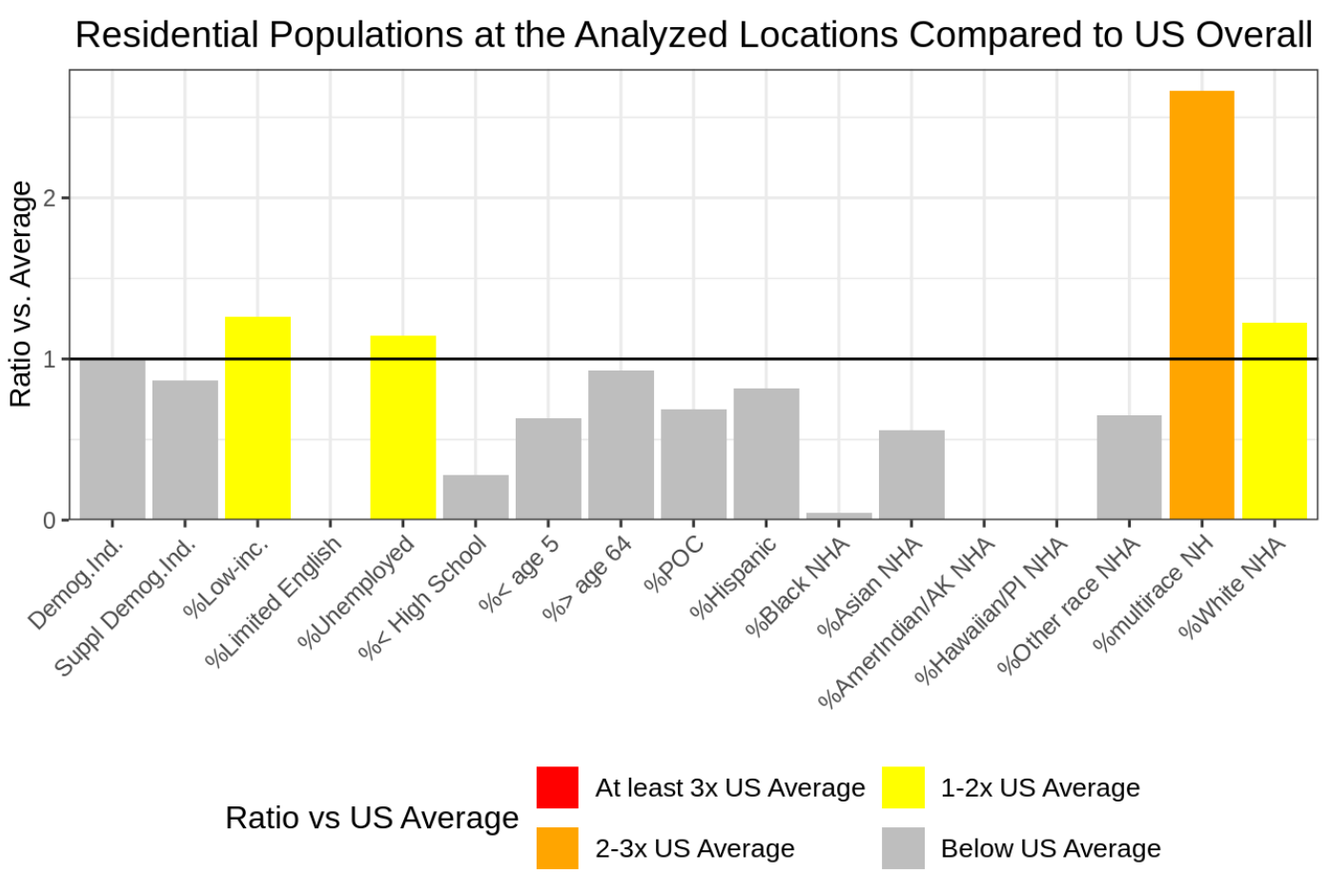
	PERCENTILE IN STATE	PERCENTILE IN USA
EJ INDEXES		
Particulate Matter Summary Index	60	81
Ozone Summary Index	57	82
Nitrogen Dioxide (NO2) Summary Index	5	26
Diesel Particulate Matter Summary Index	7	23
Toxic Releases to Air Summary Index	5	4
Traffic Proximity and Volume Summary Index	4	33
Lead Paint Summary Index	42	55
Superfund Proximity Summary Index	0	0
RMP Proximity Summary Index	0	0
Hazardous Waste Proximity Summary Index	3	34
Underground Storage Tanks Summary Index	0	0
Wastewater Discharge Summary Index	41	61
Drinking Water Non-Compliance Summary Index	0	0
SUPPLEMENTAL EJ INDEXES		
Particulate Matter Supplemental Summary Index	67	82
Ozone Supplemental Summary Index	63	84
Nitrogen Dioxide (NO2) Supplemental Summary Index	4	15
Diesel Particulate Matter Supplemental Summary Index	7	11
Toxic Releases to Air Supplemental Summary Index	4	2
Traffic Proximity and Volume Supplemental Summary Index	3	19
Lead Paint Supplemental Summary Index	45	41
Superfund Proximity Supplemental Summary Index	0	0
RMP Proximity Supplemental Summary Index	0	0
Hazardous Waste Proximity Supplemental Summary Index	2	20
Underground Storage Tanks Supplemental Summary Index	0	0
Wastewater Discharge Supplemental Summary Index	45	51
Drinking Water Non-Compliance Supplemental Summary Index	0	0

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
BREAKDOWN BY POPULATION GROUP			
% Hispanic or Latino	0	1	0
% Black or African American (non-Hispanic, single race)	0	0	0
% Asian (non-Hispanic, single race)	0	1	0
% American Indian and Alaska Native (non-Hispanic, single race)	0	0	0
% Native Hawaiian and Other Pacific Islander (non-Hispanic, single race)	0	0	0
% Other race (non-Hispanic, single race)	0	1	1
% Two or more races (non-Hispanic)	0	3	2
% White (non-Hispanic, single race)	1	1	2
LANGUAGE SPOKEN AT HOME			
% speaking Non English languages at home	0	NA	NA
% speaking Other Indo-European at home	0	NA	NA
% speaking Asian and Pacific Island languages at home	0	NA	NA
% speaking Other and Unspecified languages at home	0	NA	NA
% speaking English at home	1	NA	NA
% speaking Spanish at home	0	NA	NA
% speaking French at home	0	NA	NA
% speaking Russian, Polish or Other Slavic at home	0	NA	NA
% speaking Indo-European at home	0	NA	NA
% speaking Vietnamese at home	0	NA	NA
% speaking Other Asian and Pacific Island languages at home	0	NA	NA
% speaking Arabic at home	0	NA	NA
LANGUAGE IN LIMITED ENGLISH SPEAKING HOUSEHOLDS			
% speaking Spanish (as % of limited English households)	N/A	NA	NA

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
% speaking Other Indo-European languages (as % of limited English households)	N/A	NA	NA
% speaking Asian-Pacific Island languages (as % of limited English households)	N/A	NA	NA
% speaking Other languages (as % of limited English households)	N/A	NA	NA
BREAKDOWN BY SEX			
% Males	0	NA	NA
% Females	1	NA	NA
HEALTH			
% with Disabilities	0	1	1
% with Low Life Expectancy	0	1	1
% with Heart Diseases	7	NA	NA
% of Adults with Asthma	10	NA	NA
% of Adults with Cancer (excluding skin cancer)	8	NA	NA
AGE			
% under Age 5	0	1	1
% under age 18	0	NA	NA
% over Age 64	0	1	1
COMMUNITY			
Occupied Housing Units	777	NA	NA
Life Expectancy in Years	78	NA	NA
Per Capita Income	36,873	NA	NA
% Owner Occupied households	1	NA	NA
POVERTY			
% of Households below Poverty Level	0	NA	NA
FEATURES AND LOCATION INFORMATION			
Number of Sites Nearby (total unique)	1	NA	NA
Distance to Closest Site for Avg Person	0	NA	NA
Number of Sites Nearby (avg)	1	NA	NA
Number of Sites Nearby (max)	1	NA	NA
Distance to Closest Site	0	NA	NA
Count of National Priority List Superfund sites	0	NA	NA
Count of Treatment Storage Disposal Facilities (TSDF)	0	NA	NA
Number of Air Pollution Facilities	0	NA	NA
Number of Toxic Release Facilities	0	NA	NA
Number of Water Discharge Facilities	0	NA	NA
Number of Brownfields	0	NA	NA
Number of Schools	0	NA	NA
Number of Worship Places	0	NA	NA
Number of Hospitals	0	NA	NA
Flag for Overlapping with Tribes	0	NA	NA
Flag for Overlapping with Impaired Waters	0	NA	NA
Flag for Overlapping with Non-Attainment Areas	1	NA	NA
Flag for Overlapping with CEJST Disadvantaged Communities	0	NA	NA
Flag for Overlapping with EPA IRA Disadvantaged Communities	0	NA	NA
CLIMATE			
Estimated Fire Risk in 30 Years	1	NA	NA
Estimated Flood Risk in 30 Years	0	NA	NA
CRITICAL SERVICES			
Flag for Overlapping with Housing Burden Communities	0	NA	NA
Flag for Overlapping with Food Desert Areas	1	NA	NA
% Households without Broadband Internet	0	NA	NA
% Households without Health Insurance	0	NA	NA
Flag for Overlapping with Transportation Disadvantaged Communities	1	NA	NA
OTHER			
Total Population	2,270	NA	NA
Count of Population Age 25 up	1,721	NA	NA
Count of Households	777	NA	NA
Universe for % unemployed (denominator, count)	1,839	NA	NA
Count of Housing Units Built Pre 1960	138	NA	NA
Built housing units count (denominator for % pre 1960)	948	NA	NA
Count of Population for whom Poverty Status is Determined	2,270	NA	NA

Note: Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update (https://www.epa.gov/haps/air-toxics-data-update)





NH = "non-Hispanic"
NHA = "non-Hispanic alone, aka single race"

EJSCREEN Community Report

This report summarizes environmental and residential population information for user-defined areas, and combines that data into indexes.



Summary of Analysis

Residents within this specified Census unit (FIPS 06057000300)
Area in Square Miles: 22.64
Population: 2,705

Environmental and Residential Population Indicators

	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	RATIO TO US AVG	RATIO TO STATE AVG
POLLUTION AND SOURCES							
Particulate Matter (PM 2.5 in ug/m3)	13	12	58	8	94	1	1
Ozone (ppb)	81	74	67	62	96	1	1
Nitrogen Dioxide (NO2)	5	9	5	8	19	1	1
Diesel Particulate Matter (ug/m3)	0	0	5	0	12	0	0
Toxic Releases to Air	0	779	3	4,612	2	0	0
Traffic Proximity and Volume (daily traffic count/distance to road)	300,331	3,969,704	7	1,687,230	31	0	0
Lead Paint Indicator (% pre-1960s housing)	0	0	30	0	29	0	0
Superfund Proximity (site count/km distance)	0	1	45	0	57	0	0
RMP Proximity (facility count/km distance)	0	1	20	1	30	0	0
Hazardous Waste Proximity (facility count/km distance)	0	11	4	4	26	0	0
Underground Storage Tanks (UST) indicator	0	0	0	4	0	0	0
Wastewater Discharge Indicator (toxicity-weighted concentration/distance)	65	10,998	39	701,805	52	0	0
Drinking Water Non-Compliance	0	1	0	2	0	0	0
RESIDENTIAL POPULATION INDICATORS							
Demographic Index USA	1	2	12	1	29	1	0
Supplemental Demographic Index USA	1	1	42	2	34	1	1
% Low Income	0	0	45	0	40	1	1
% in limited English-speaking Households	0	0	0	0	0	0	0
% Unemployed	0	0	32	0	43	1	0
% with Less Than High School Education	0	0	29	0	34	0	0
% under Age 5	0	0	35	0	37	1	1
% over Age 64	0	0	85	0	82	1	2
% People of Color	0	1	5	0	32	0	0

EJ Indexes

The summary and supplemental EJ indexes are a combination of environmental and residential population information.

For each of the environmental indicators, there is an EJ Index and a Supplemental EJ Index.

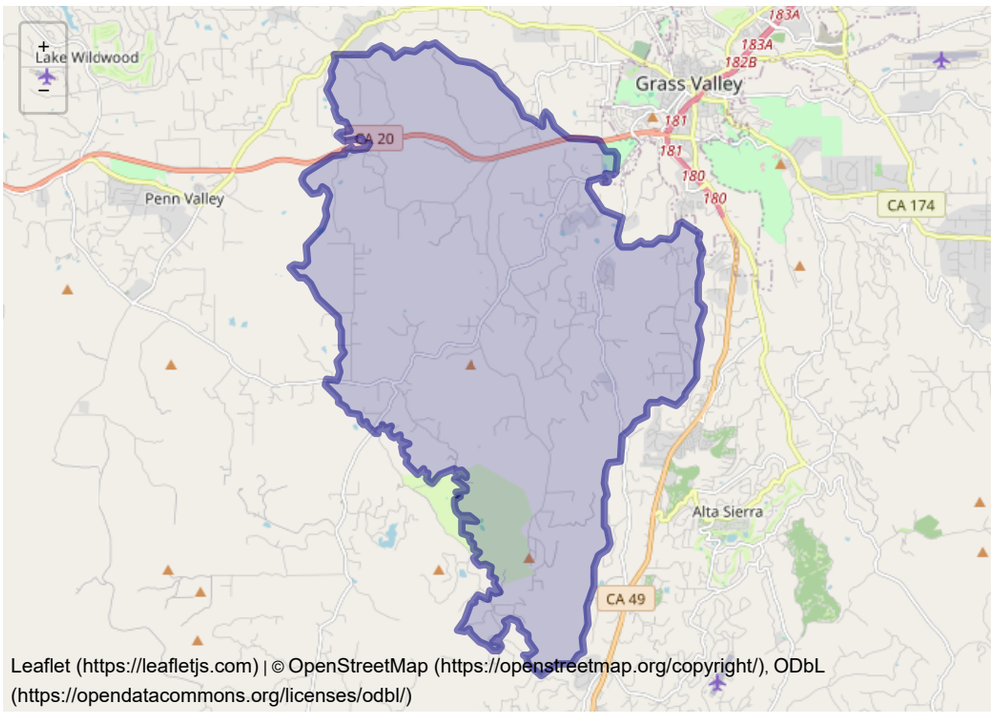
The indexes for a selected area are compared to those for all other locations in the state or nation.

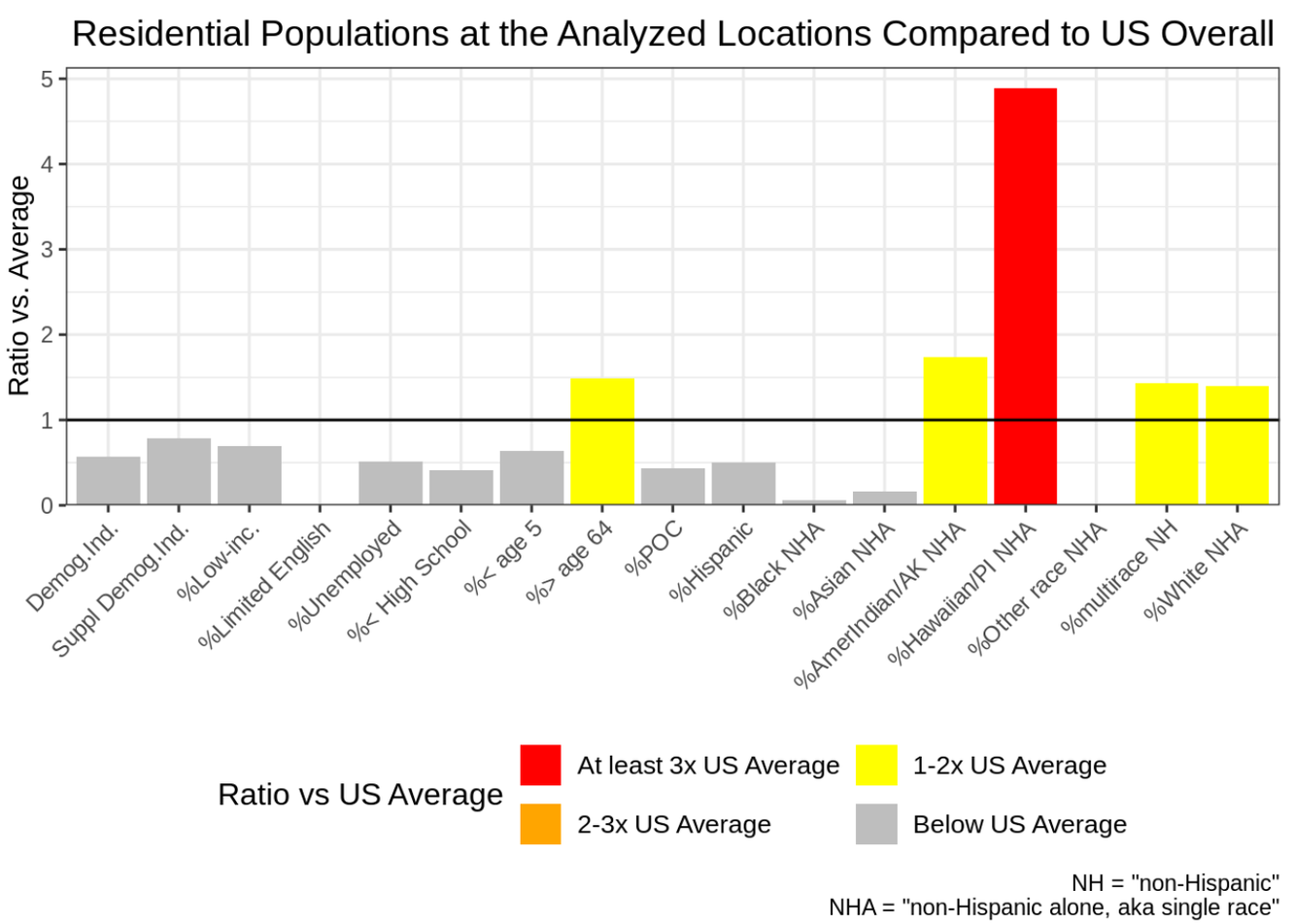
	PERCENTILE IN STATE	PERCENTILE IN USA
EJ INDEXES		
Particulate Matter Summary Index	36	63
Ozone Summary Index	41	65
Nitrogen Dioxide (NO2) Summary Index	5	23
Diesel Particulate Matter Summary Index	5	13
Toxic Releases to Air Summary Index	3	3
Traffic Proximity and Volume Summary Index	5	31
Lead Paint Summary Index	20	27
Superfund Proximity Summary Index	46	64
RMP Proximity Summary Index	21	37
Hazardous Waste Proximity Summary Index	3	28
Underground Storage Tanks Summary Index	0	0
Wastewater Discharge Summary Index	26	42
Drinking Water Non-Compliance Summary Index	0	0
SUPPLEMENTAL EJ INDEXES		
Particulate Matter Supplemental Summary Index	58	77
Ozone Supplemental Summary Index	61	80
Nitrogen Dioxide (NO2) Supplemental Summary Index	6	19
Diesel Particulate Matter Supplemental Summary Index	6	10
Toxic Releases to Air Supplemental Summary Index	3	2
Traffic Proximity and Volume Supplemental Summary Index	7	30
Lead Paint Supplemental Summary Index	30	27
Superfund Proximity Supplemental Summary Index	54	64
RMP Proximity Supplemental Summary Index	26	34
Hazardous Waste Proximity Supplemental Summary Index	3	25
Underground Storage Tanks Supplemental Summary Index	0	0
Wastewater Discharge Supplemental Summary Index	41	47
Drinking Water Non-Compliance Supplemental Summary Index	0	0

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
BREAKDOWN BY POPULATION GROUP			
% Hispanic or Latino	0	0	0
% Black or African American (non-Hispanic, single race)	0	0	0
% Asian (non-Hispanic, single race)	0	0	0
% American Indian and Alaska Native (non-Hispanic, single race)	0	2	3
% Native Hawaiian and Other Pacific Islander (non-Hispanic, single race)	0	5	2
% Other race (non-Hispanic, single race)	0	0	0
% Two or more races (non-Hispanic)	0	1	1
% White (non-Hispanic, single race)	1	1	2
LANGUAGE SPOKEN AT HOME			
% speaking Non English languages at home	0	NA	NA
% speaking Other Indo-European at home	0	NA	NA
% speaking Asian and Pacific Island languages at home	0	NA	NA
% speaking Other and Unspecified languages at home	0	NA	NA
% speaking English at home	1	NA	NA
% speaking Spanish at home	0	NA	NA
% speaking French at home	0	NA	NA
% speaking Russian, Polish or Other Slavic at home	0	NA	NA
% speaking Indo-European at home	0	NA	NA
% speaking Vietnamese at home	0	NA	NA
% speaking Other Asian and Pacific Island languages at home	0	NA	NA
% speaking Arabic at home	0	NA	NA
LANGUAGE IN LIMITED ENGLISH SPEAKING HOUSEHOLDS			
% speaking Spanish (as % of limited English households)	N/A	NA	NA

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
% speaking Other Indo-European languages (as % of limited English households)	N/A	NA	NA
% speaking Asian-Pacific Island languages (as % of limited English households)	N/A	NA	NA
% speaking Other languages (as % of limited English households)	N/A	NA	NA
BREAKDOWN BY SEX			
% Males	1	NA	NA
% Females	0	NA	NA
HEALTH			
% with Disabilities	0	1	1
% with Low Life Expectancy	0	1	1
% with Heart Diseases	7	NA	NA
% of Adults with Asthma	10	NA	NA
% of Adults with Cancer (excluding skin cancer)	9	NA	NA
AGE			
% under Age 5	0	1	1
% under age 18	0	NA	NA
% over Age 64	0	1	2
COMMUNITY			
Occupied Housing Units	1,014	NA	NA
Life Expectancy in Years	80	NA	NA
Per Capita Income	50,176	NA	NA
% Owner Occupied households	1	NA	NA
POVERTY			
% of Households below Poverty Level	0	NA	NA
FEATURES AND LOCATION INFORMATION			
Number of Sites Nearby (total unique)	1	NA	NA
Distance to Closest Site for Avg Person	0	NA	NA
Number of Sites Nearby (avg)	1	NA	NA
Number of Sites Nearby (max)	1	NA	NA
Distance to Closest Site	0	NA	NA
Count of National Priority List Superfund sites	0	NA	NA
Count of Treatment Storage Disposal Facilities (TSDF)	0	NA	NA
Number of Air Pollution Facilities	0	NA	NA
Number of Toxic Release Facilities	0	NA	NA
Number of Water Discharge Facilities	3	NA	NA
Number of Brownfields	0	NA	NA
Number of Schools	0	NA	NA
Number of Worship Places	0	NA	NA
Number of Hospitals	0	NA	NA
Flag for Overlapping with Tribes	0	NA	NA
Flag for Overlapping with Impaired Waters	1	NA	NA
Flag for Overlapping with Non-Attainment Areas	1	NA	NA
Flag for Overlapping with CEJST Disadvantaged Communities	0	NA	NA
Flag for Overlapping with EPA IRA Disadvantaged Communities	0	NA	NA
CLIMATE			
Estimated Fire Risk in 30 Years	1	NA	NA
Estimated Flood Risk in 30 Years	0	NA	NA
CRITICAL SERVICES			
Flag for Overlapping with Housing Burden Communities	0	NA	NA
Flag for Overlapping with Food Desert Areas	1	NA	NA
% Households without Broadband Internet	0	NA	NA
% Households without Health Insurance	0	NA	NA
Flag for Overlapping with Transportation Disadvantaged Communities	1	NA	NA
OTHER			
Total Population	2,705	NA	NA
Count of Population Age 25 up	2,233	NA	NA
Count of Households	1,014	NA	NA
Universe for % unemployed (denominator, count)	2,472	NA	NA
Count of Housing Units Built Pre 1960	71	NA	NA
Built housing units count (denominator for % pre 1960)	1,116	NA	NA
Count of Population for whom Poverty Status is Determined	2,698	NA	NA

Note: Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update (https://www.epa.gov/haps/air-toxics-data-update)





NH = "non-Hispanic"
NHA = "non-Hispanic alone, aka single race"

Attachment D

Visual Impact Analysis

VIEWSHED TECHNICAL SUMMARY

LOWER DEER CREEK – PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA



Prepared for

Nevada County Office of Emergency Services

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

FEBRUARY 2026

VIEWSHED TECHNICAL SUMMARY

LOWER DEER CREEK – PENN VALLEY HAZARDOUS FUELS REDUCTION PROJECT NEVADA COUNTY, CALIFORNIA

Prepared for

Nevada County Office of Emergency Services

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

72545

FEBRUARY 2026

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1.0 INTRODUCTION

1.1 Background

Nevada County Office of Emergency Services (OES) has been awarded a Wildfire Mitigation Grant by the Federal Emergency Management Agency (FEMA) to manage hazardous vegetation under the Hazard Mitigation Grant Program (HMGP). The grant will be used to perform hazardous fuels treatment within five road segments of the Lower Deer Creek - Penn Valley Project Activity Area (PAA). Treatment areas will be potentially 150 feet to 400 feet from the roadway centerline on each side and select landscape areas. The PAA includes critical transportation routes for ingress and egress during emergencies within high-priority Wildland-Urban Interface (WUI) areas in Nevada County.

The geographic scope of the project was determined by prioritizing the areas where fire prevention activities would have the greatest impact on community safety. Work elements included in the project are included in either the 2024 *Nevada County Evacuation Study or* the 2025 *Nevada County Community Wildfire Protection Plan.* Project selection criteria were based on operational needs, communities at risk, ingress and egress routes, fire history, and risk of ignition.

This visual analysis is provided for CEQA review of the hazardous fuels reduction operations and was conducted to present the change in visual quality associated with the project.

1.2 Project Area

The project includes hazardous fuels reduction on private and public property within WUI areas in Nevada County. The project site includes five road segments within the PAA. The general site location of the PAA is shown on Figure 1. The location of each road segment to be treated within the PAA is shown on Figure 2. The estimated percentage of each road segment within the PAA is included in Table 1. The final acreage and number of parcels included in the project will be determined based on landowner participation and the environmental, operational, or physical constraints of each parcel. The maximum potential acreage to be treated is 1,011 acres. The number of acres that will receive treatment and the number of participating landowners will be less than the maximum extent of the entire road segments. Low participation within a road segment may result in its removal from the project.

Table 1
PAA SEGMENT SUMMARY

Road Segment	Estimated Percent of Project
Bitney Springs	40
Lake Wildwood North	10
Lake Wildwood South	10
Lower Penn Valley	20
Mooney Flat	30

The project will not include work in areas with slopes greater than 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 (STZ) will be identified for known cultural resources within the project area. Areas treated previously by another party will not be included in the project. These constraint areas will be identified, and the treatment prescription (TP) for each parcel within the Lower Deer Creek - Penn Valley PAA will be modified prior to project implementation. No pile burning is planned within the PAA, so there are no anticipated impacts due to smoke accumulation.

No federally designated scenic highways or rivers are located in the project vicinity. The South Yuba River is designated as a California Wild and Scenic River, and Highway 20 is designated as a Scenic Highway in the Nevada County General Plan.

1.3 Current Condition

The treatment area is in western Nevada County in the foothills of the Sierra Nevada range. Habitat types within the project area include a mix of man-made development, historically disturbed areas, and natural habitats, including annual grassland, blue oak-foothill pine, blue oak woodland, mixed chaparral, montane chaparral, montane-hardwood conifer, montane hardwood, perennial grassland, ponderosa pine, valley oak woodland, barren, and aquatic habitats.

2.0 VISUAL SIMULATION ANALYSIS

2.1 Process

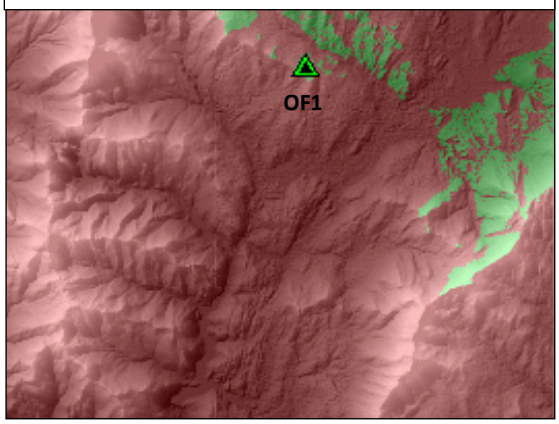
The shape of a terrain surface affects which portions of the surface area can be seen from any given point. To assess the visual components of this project, Geographic Information System (GIS) data were used to evaluate visibility across the project area from various locations. GIS is a collection of computer hardware, software, and geographic data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. ArcGIS is a GIS package developed by the Environmental Systems Research Institute (ESRI).

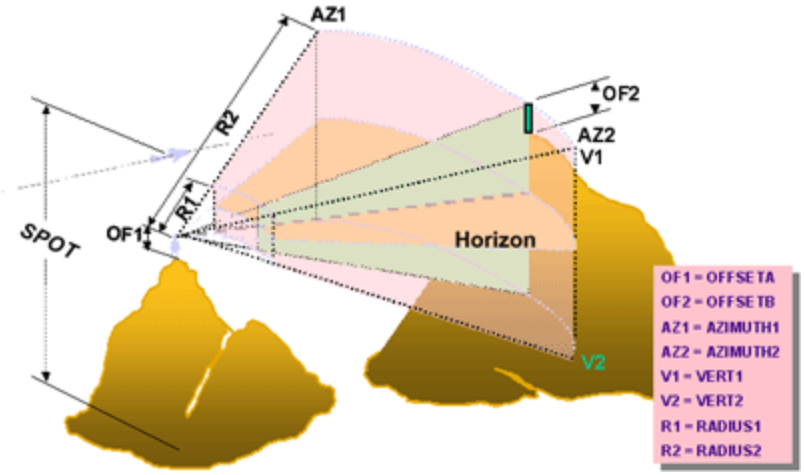
A viewshed identifies the locations in a given area that can be seen from one or more observation points. The elevation data used to perform viewshed analyses are raster-based data. Raster data represents geographic information as a grid of uniformly sized cells (pixels), where each cell holds a value indicating a characteristic, such as an elevation value. The resolution of raster data defines the ground area (e.g., 1m x 1m, 30m x 30m) represented by a single pixel or cell. It determines the level of detail: smaller cell sizes (e.g., 1m) provide higher resolution and greater detail, while larger cell sizes (e.g., 100m) provide lower resolution. An example of this is the elevation data provided by the U.S. Geological Survey (USGS) for use in GIS. Viewshed analysis provides a value that indicates how many target locations can be seen from each observation point. If there is only one target location, each cell from which the target location can be seen is given a value of one. All cells from which the target location cannot be seen are given a value of zero. Viewshed analysis supports both point and linear (polyline) features as input observation points.

A viewshed is useful in determining the visibility of an object. Not only can one determine which cells can be viewed from an observation point, but with several observation points, one can also determine which target location can be viewed from which observation point. This information can affect the decision-making process of a project.

The image below depicts graphically how a viewshed analysis is performed. The observation point is on the mountaintop (at OF1 in the image). The direction of the viewshed is within the cone. One can control how much to offset the observation point from the surface (for example, the height of a tower) and the direction(s) to look in both the horizontal and vertical dimensions.

Displaying a hillshade underneath the elevation and the output from a Viewshed Analysis is a useful technique for visualizing the relationship between visibility and terrain.



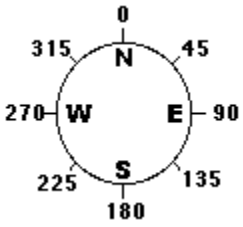


Nine characteristics of the viewshed (refer to image above) are controlled as follow:

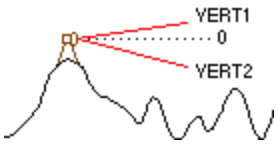
1. The surface elevations for the observation points (Spot)
2. The vertical distance in surface units to be added to the z-value of the observation points (OffsetA)
3. The vertical distance in surface units to add to the z-value of each cell as it is considered for visibility (OffsetB)



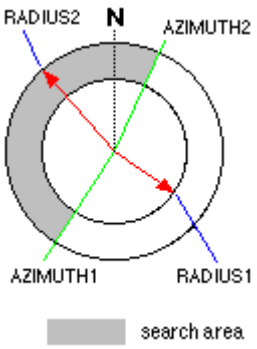
4. The start of the horizontal angle to limit the scan (Azimuth1)
5. The end of the horizontal angle to limit the scan (Azimuth2)



6. The top of the vertical angle to limit the scan (Vert1)
7. The bottom of the vertical angle to limit the scan (Vert2)



8. The inner radius that limits the search distance when identifying areas visible from each observation point (Radius1)
9. The outer radius that limits the search distance when identifying areas visible from each observation point (Radius2)



In order to perform a viewshed analysis, the elevation data should be as detailed as possible. For the Lower Deer Creek - Penn Valley PAA, the elevation data were derived from the USGS 1m digital elevation model (DEM) interpolated into a grid format.

Interpolation is a method of creating raster data specifically designed for the creation of hydrologically correct DEMs. It is based on the ANUDEM program developed by Michael Hutchinson (1988, 1989). See Hutchinson and Dowling (1991) for an example of a substantial application of ANUDEM and for additional associated references. A brief summary of ANUDEM and some applications is given in Hutchinson (1993). The version of ANUDEM used is 4.6.3.

The interpolation procedure has been designed to take advantage of the types of input data commonly available and the known characteristics of elevation surfaces. This method uses an iterative finite difference interpolation technique. It is optimized to have the computational efficiency of local interpolation methods, such as inverse distance weighted (IDW) interpolation, without losing the surface continuity of global interpolation methods. It is essentially a discretized thin plate spline technique (Wahba, 1990), for which the roughness penalty has been modified to allow the fitted DEM to follow abrupt changes in terrain, such as streams and ridges. It is also the only ArcGIS interpolator specifically designed to work intelligently with contour inputs.

Contours are the most common method for the storage and presentation of elevation information. Unfortunately, this method is also the most difficult to properly utilize with general interpolation techniques. The disadvantage lies in the undersampling of information between contours, especially in areas of low relief.

At the beginning of the interpolation process, ArcGIS uses information inherent to the contours to build a generalized drainage model. By identifying areas of maximum local curvature in each contour, the areas of steepest slope are identified, and a network of streams and ridges is created (Hutchinson, 1988). This information is used to ensure proper hydrogeomorphic properties and to verify the accuracy of the output DEM.

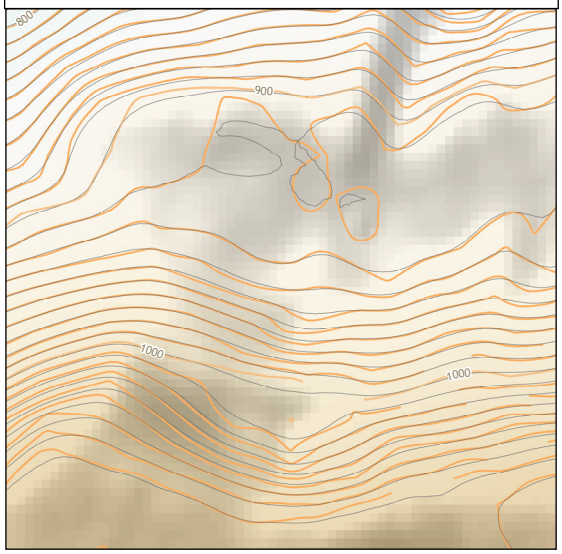
After the general morphology of the surface has been determined, contour data is also used in the interpolation of elevation values at each cell. When the contour data is used to interpolate elevation information, all contour data is read and generalized. A maximum of 50 data points is read from these contours within each cell. At the final resolution, only one critical point is used for each cell. For this reason, having a contour density with several contours crossing output cells is redundant.

Before being used in a viewshed analysis, created surfaces should be evaluated to ensure that the data and parameters supplied to the program result in a realistic representation of the surface. There are many ways to evaluate the quality of an output surface, depending on the type of input available to create the surface.

The most common evaluation is to create contours from the new surface and compare them to the input contour data. It is best to create these new contours at one-half the original contour interval to examine the results between contours. Drawing the original contours and the newly created contours on top of one another can help identify interpolation errors.

In the example shown below, the contours created from the new surface are shown with the original 10-foot interval contour data for comparison (1:1,000 scale).

Original 10-foot interval contours compared to contours created from the new surface.



The comparison shows that the contours differ in some areas, but the difference in this case is acceptable as the distance between the two sets of contour lines rarely exceeds 5 feet in length.

The product of the interpolation of the field survey contour data was the creation of a 1m-resolution, hydrologically correct DEM. There has been shown to be a minor bias in the interpolation algorithm that causes slight variations in the raster dataset from the input contours. This variation can result in a slight variation when calculating the profile curvature of the output surface, but it is otherwise not noticeable and does not affect the overall intended use in a viewshed analysis.

2.2 Observation Points

The observation points chosen for the viewshed analysis are popular recreational sites, a County-designated scenic highway, and a residence with scenic views near Lake Wildwood. Using the viewshed analysis, the PAA was determined to be intermittently visible from the observation points. These locations relative to the PAA are shown on Figure 3.

2.3 General Map Reference Data

A number of GIS data layers were obtained as reference data for the maps and figures created as a result of the viewshed analysis. Most of the vector (linear) data layers are existing data sets from VESTRA's in-house GIS data catalog, which is a compilation of data from various federal, state, county, and municipal sources.

The primary display data layer of aerial imagery utilizes aerial photography provided through the ArcGIS basemap catalog. For this analysis, imagery obtained by Vantor in September 2023 was used as the basemap for the viewshed figures and has a 50cm ground sample distance with a horizontal accuracy that matches within 5m of a reference ortho image.

3.0 VIEWSHED ANALYSIS RESULTS

The product of the viewshed analyses was the creation of 1m-resolution raster data layers showing visibility from eight locations near or in the PAA. Five of these locations are recreational sites near the PAA, two are located along a Nevada County-designated scenic highway (Highway 20), and one is a private residence located on a small peninsula of Lake Wildwood with potential views of the PAA along Pleasant Valley Road and Bitney Springs Road, and include:

Recreational Sites:

- South Yuba River (a California Wild and Scenic River)
- South Yuba River State Park Visitor Center at Bridgeport
- Black Swan Trail
- Lake Wildwood Marina
- Lake Wildwood Golf Course

Nevada County-Designated Scenic Highway:

- Two locations along Highway 20

Private Residence:

- Private residence on Meadowlark Court

The observation points are shown on Figure 3.

The resulting projected data from each observation point is shown on Figures 4 through 11. Table 2 shows the total linear feet along the PAA-designated roadways where they are visible from the observation points.

Table 2
VIEWSHED STATISTICS

Observation Location	Visible Linear Feet				
	Pleasant Valley Road	State Highway 20	Bitney Springs Road	Mooney Flat Road	Beitler Road
S Yuba River	107				
S Yuba River State Park Visitor Center	256				
Black Swan Trail		199		5,473	
Lake Wildwood Marina	1,895		2,407		63
Lake Wildwood Golf Course	1,736				
Highway 20 Point 1	586	4,161	1,072		
Highway 20 Point 2		5,893			
Meadowlark Court Residence	3,167		2,116	47	

Using the viewshed analysis, the PAA was determined to be visible from the five recreational areas listed above, as well as Highway 20 and the private residence on Lake Wildwood.

No state or federal scenic highways or rivers are located in the project vicinity. California has designated the South Yuba River as a California Wild and Scenic River, and Nevada County's General Plan has designated Highway 20 as a Scenic Highway.

4.0 SUMMARY OF FINDINGS

The PAA was determined to be visible from five popular recreation areas in the vicinity of the PAA, including a portion of the South Yuba River, a California Wild and Scenic River. The PAA will also be visible from Highway 20, a Nevada County-designated Scenic Highway, and a private residence along the shores of Lake Wildwood.

Mitigation Measure 1: Scenic Overview Preservation Controls
To reduce degradation of the County's visually important viewsheds, ladder fuels shall be maintained at a minimum in a ten-foot-wide strip along the boundary of a parcel, where practicable, in the South Yuba River and Lake Wildwood viewsheds, both of which were determined to have high natural scenic quality. A Registered Professional Forester shall determine ladder fuel retention in each viewshed, keeping in mind Community Design Guidelines, fire safety standards, and ecological value objectives.

The removal of vegetation can be noticeable from public areas close to the treatment areas and across the South Yuba River and Lake Wildwood viewsheds; however, the change will not substantially differ from existing conditions if ladder fuels are maintained with a minimum of at least one ten-foot-wide strip in the South Yuba River and Lake Wildwood viewsheds, which are both high in natural scenic quality.

The proposed project involves removing ground and ladder fuels at variable distances from each side of the PAA roadway centerlines, thinning trees and brush to reduce crown closure, and removing dead and dying trees less than 14 inches in diameter at breast height along serviceable roadways or within landscape areas. Following treatment activities, the project will result in reduced vegetation density within the areas treated. Reduction of vegetation will be noticeable in the vicinity of 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 woodland character of the project site.

5.0 REFERENCES

Goodchild, M. F. and D. M. Mark. 1987. The fractal nature of geographic phenomena. Annals of Association of American Geographers. 77 (2): 265-278.

Hutchinson, M.F. 1988. Calculation of hydrologically sound digital elevation models. Paper presented at the Third International Symposium on Spatial Data Handling at Sydney, Australia.

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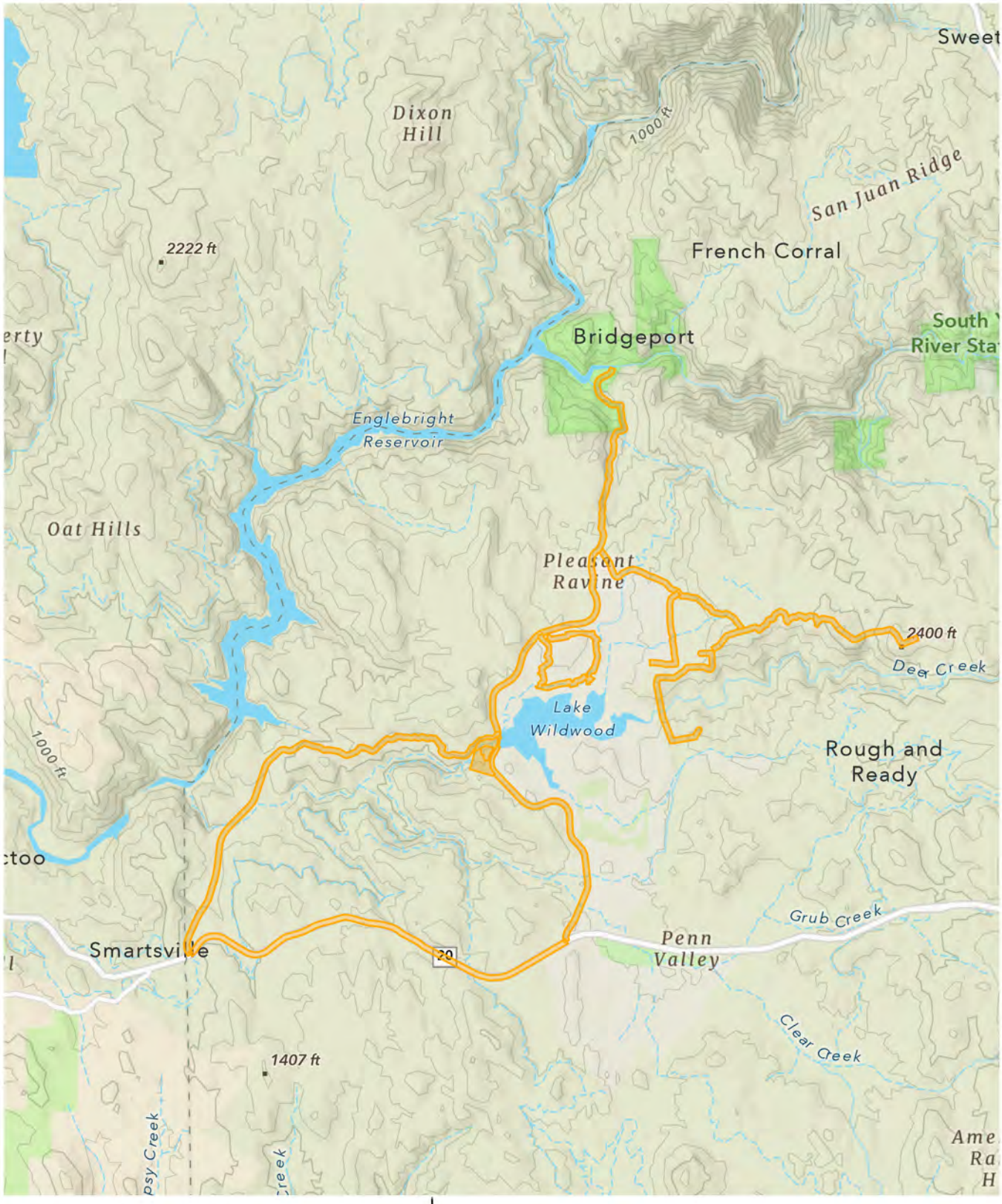
-----. 1993. Development of a continent-wide DEM with applications to terrain and climate analysis. In Environmental Modeling with GIS, ed. M. F. Goodchild et al., 392–399. New York: Oxford University Press.

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----- and Dowling, T. I. 1991. A continental hydrological assessment of a new grid-based digital elevation model of Australia. Hydrological Processes 5: 45-58.

Wahba, G. 1990. Spline models for Observational data. Paper presented at CBMS-NSF Regional Conference Series in Applied Mathematics. Philadelphia: Soc. Ind. Appl. Maths.

Figures

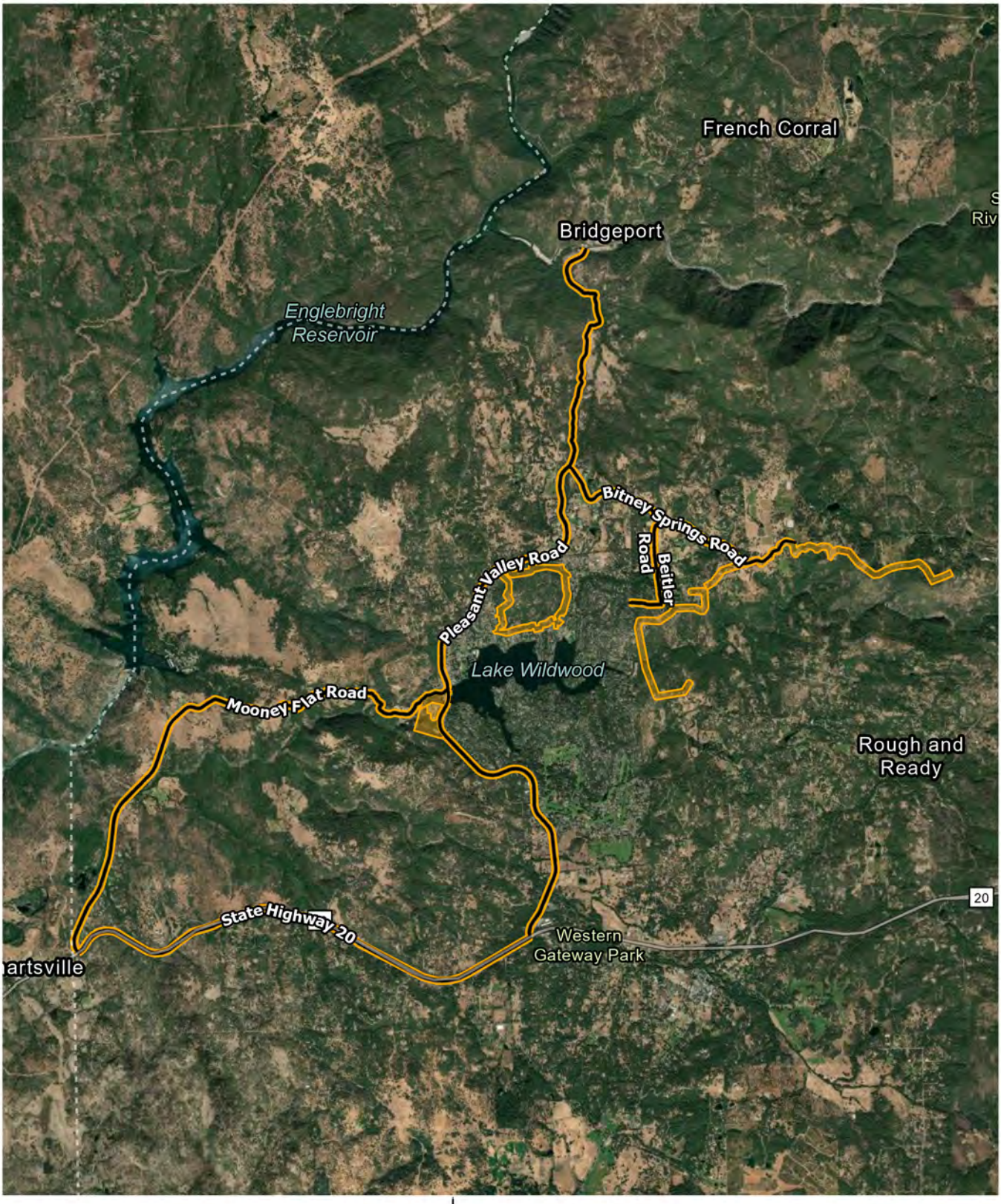


VESTRA

FIGURE 1
GENERAL SITE LOCATION
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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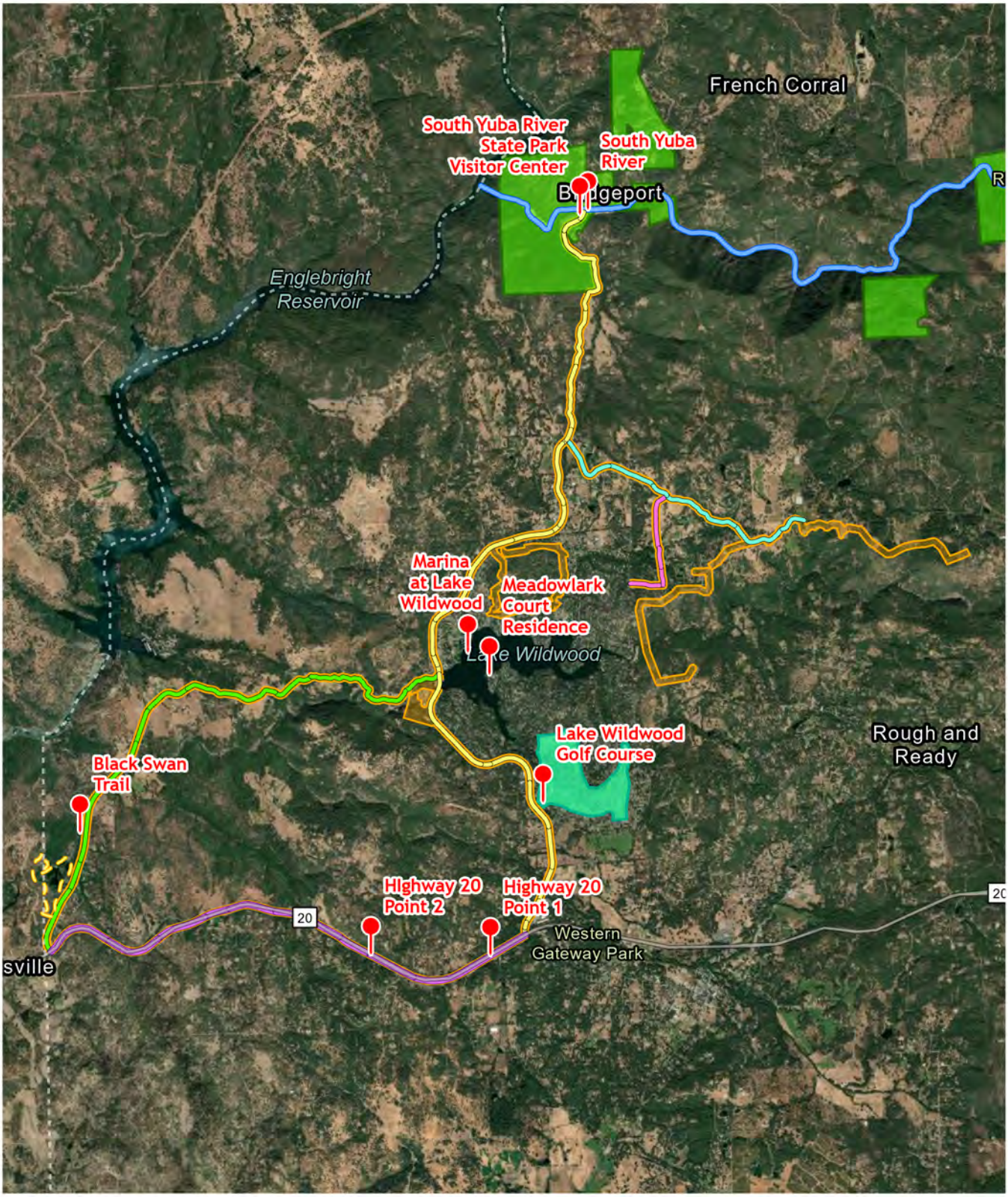
VESTRA

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 2
GENERAL SITE LAYOUT
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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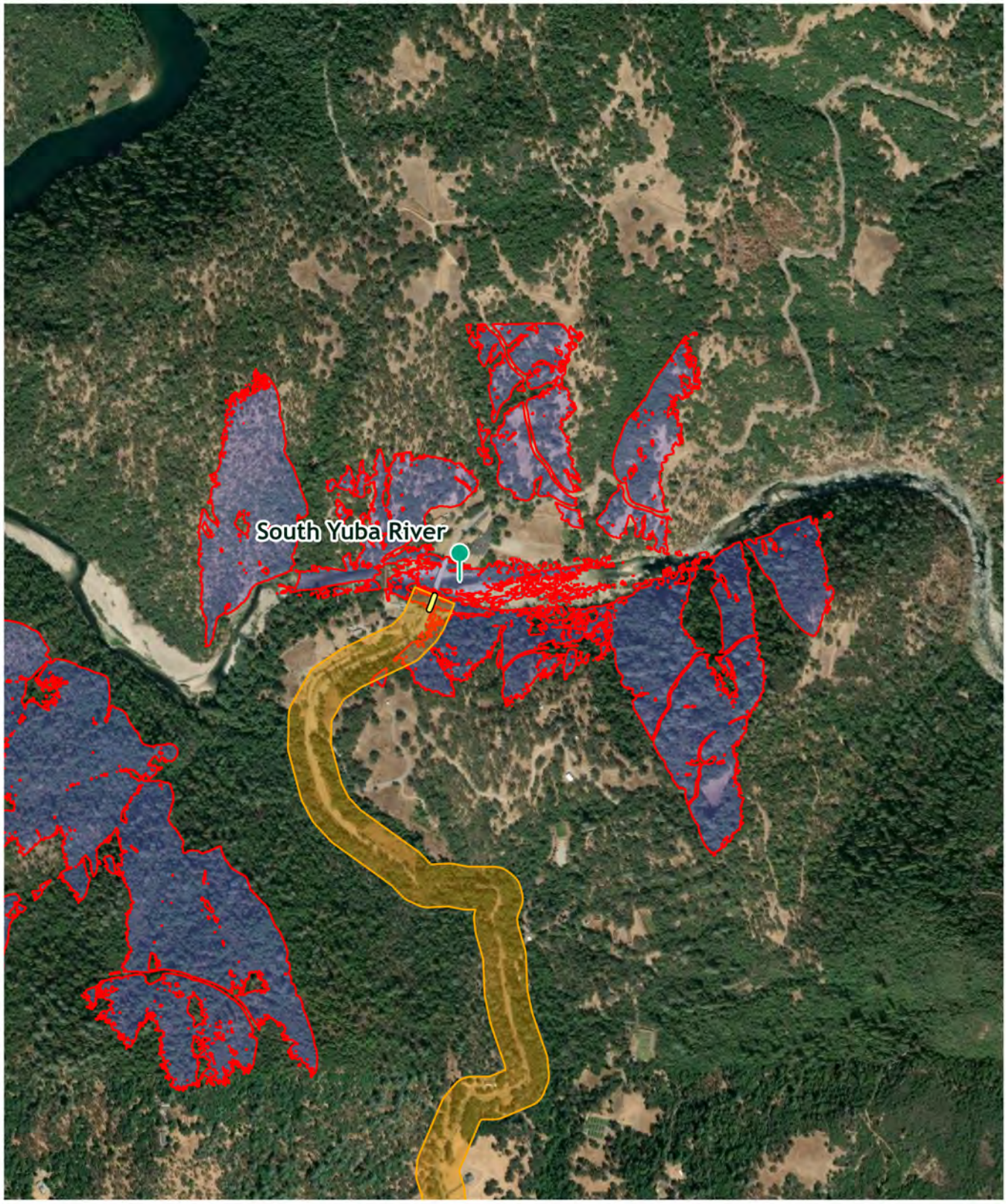


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 3
OBSERVATION LOCATIONS
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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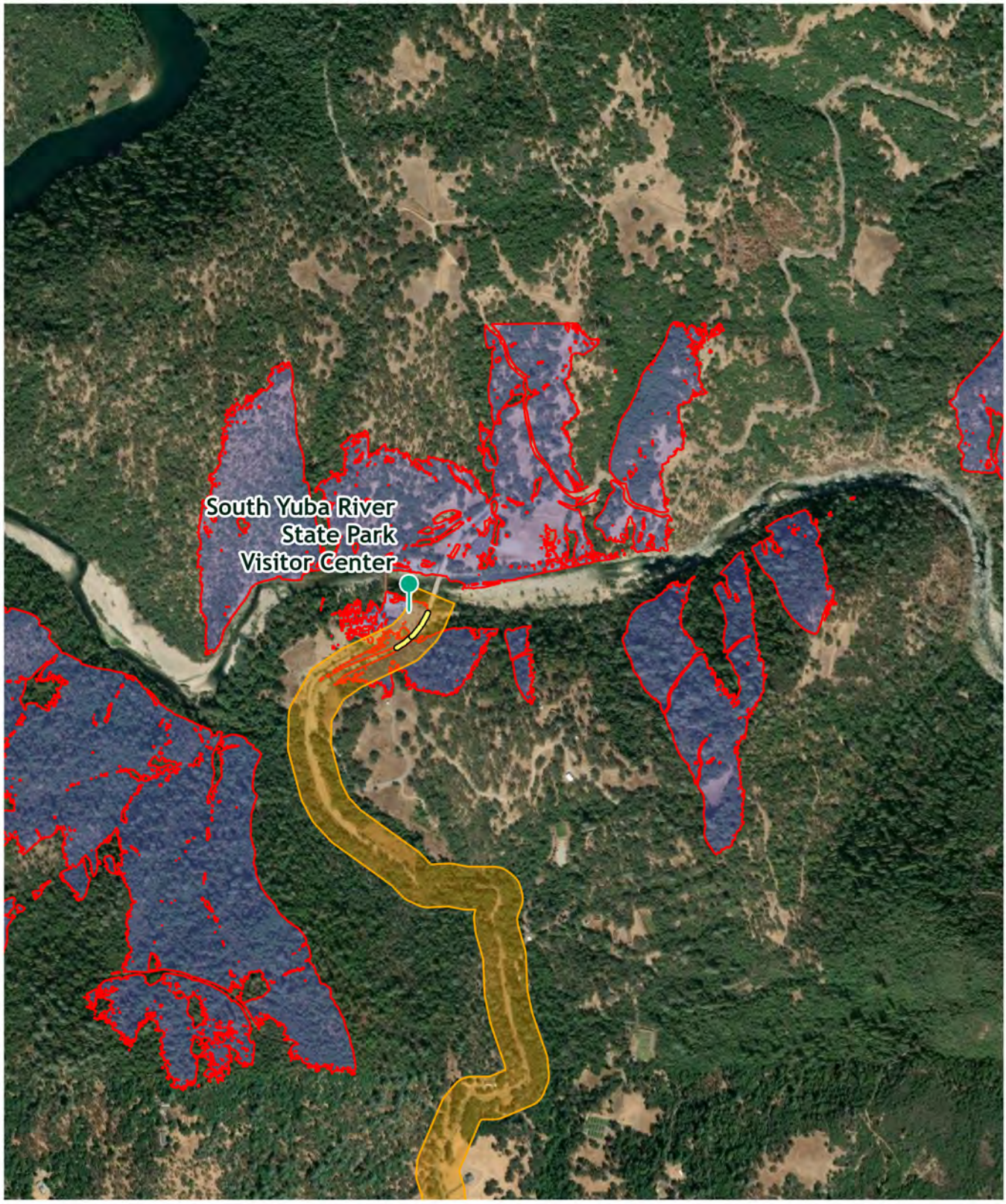


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 4
SOUTH YUBA RIVER VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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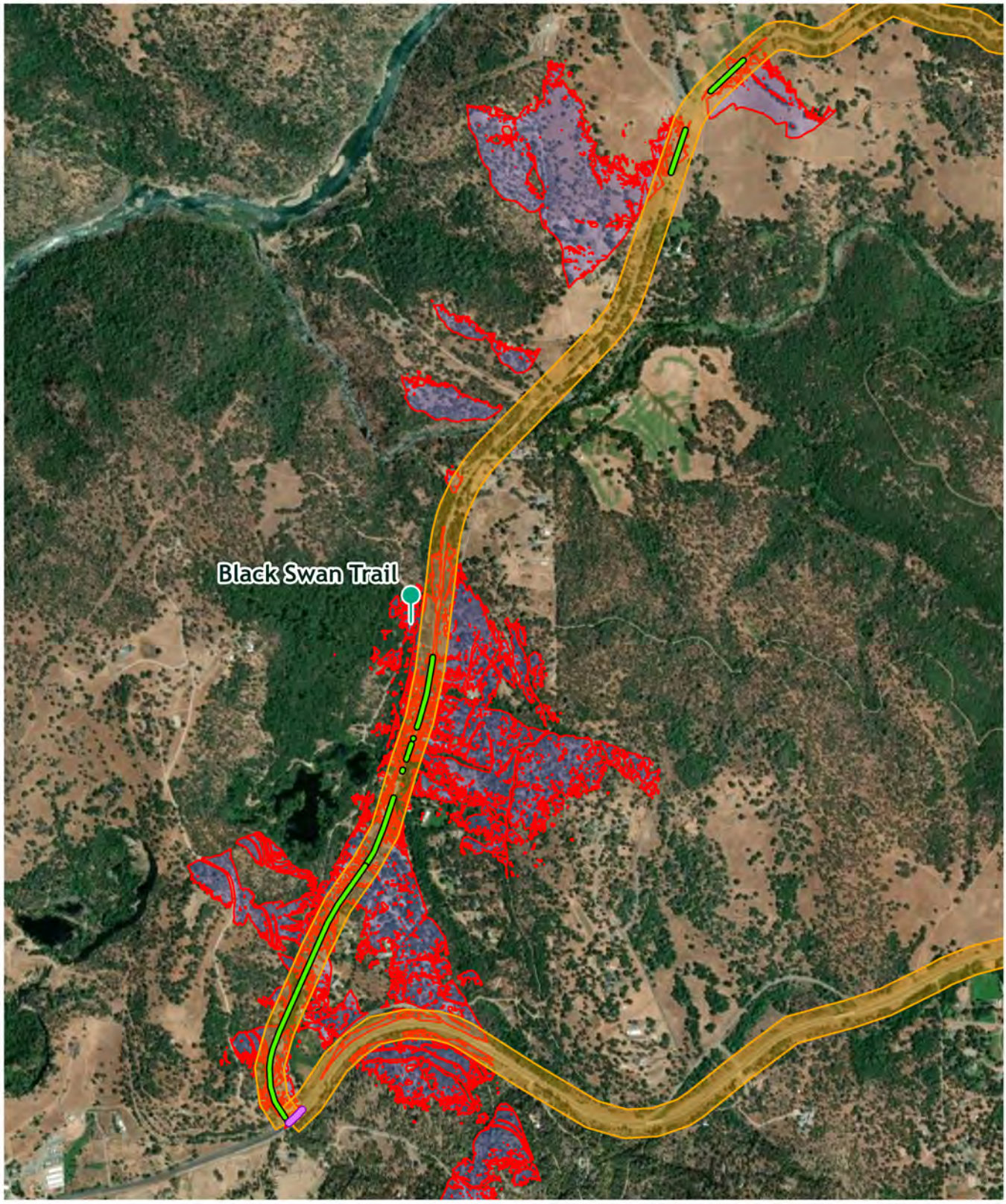
VESTRA

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 5
SOUTH YUBA RIVER STATE PARK VISITOR CENTER VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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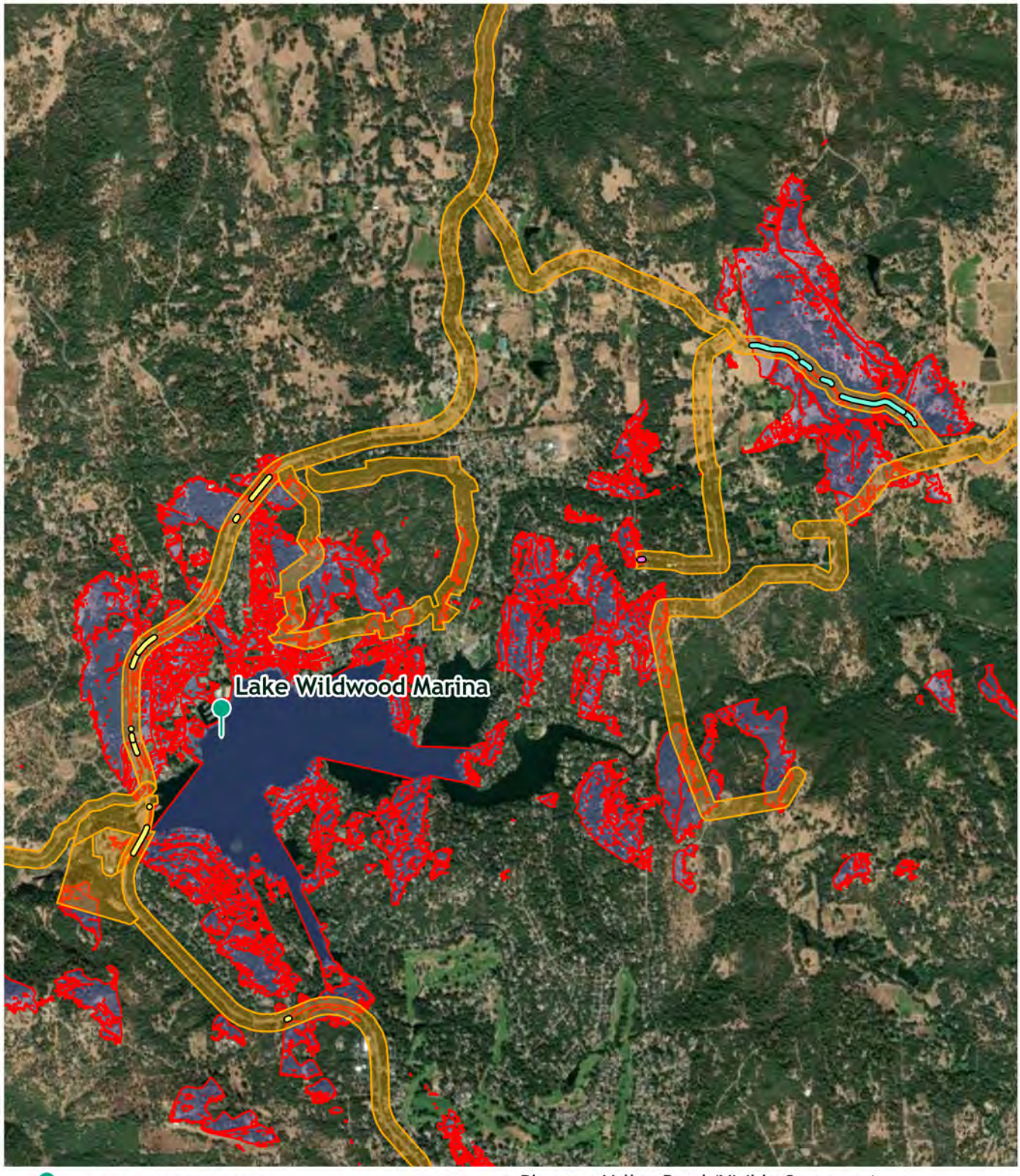


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH; USGS 2020

FIGURE 6
BLACK SWAN TRAIL VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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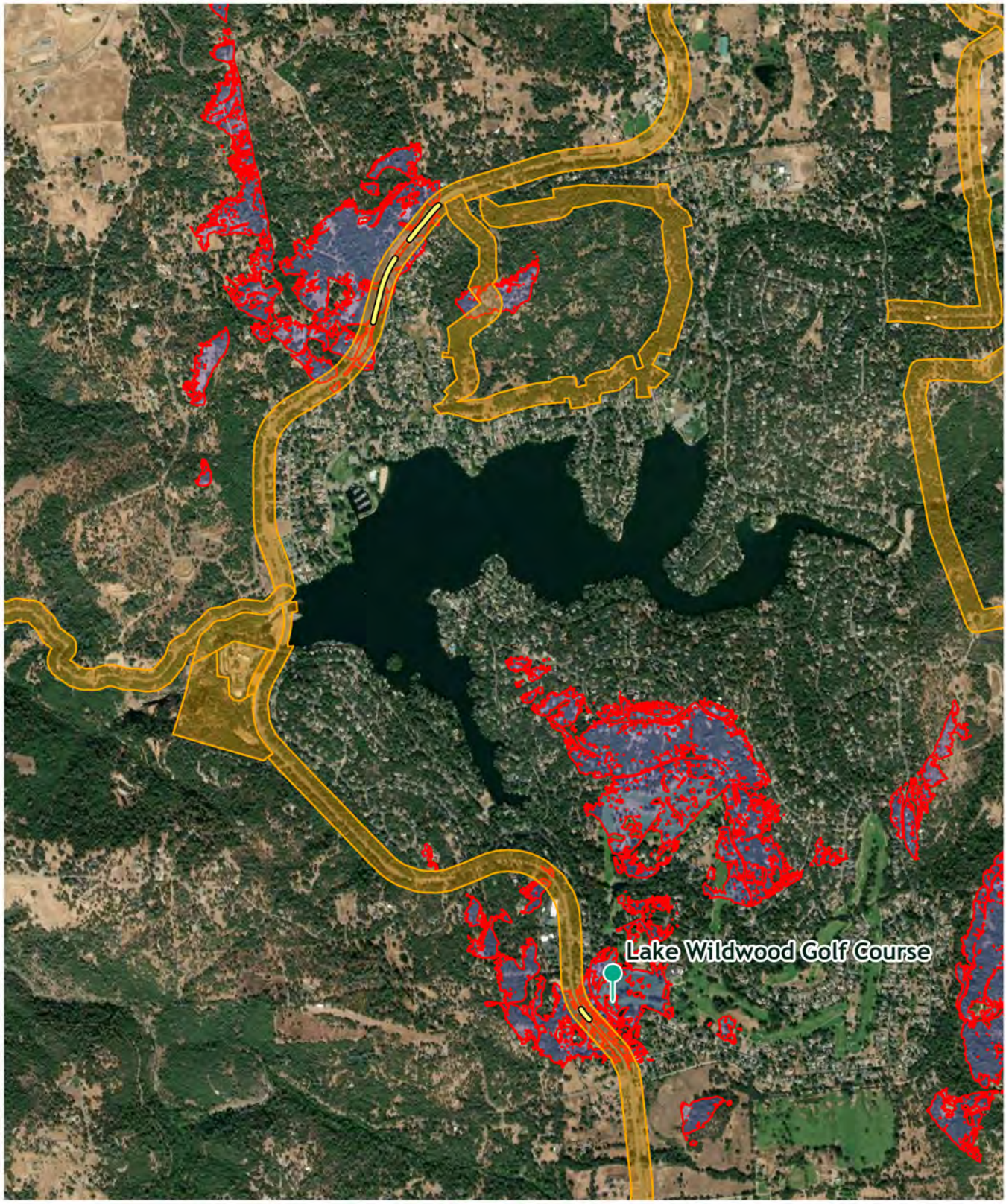


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 7
LAKE WILDWOOD MARINA VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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Observation Location

Pleasant Valley Road (Visible Segments)

Areas Visible from Observation Location

Treatment Area

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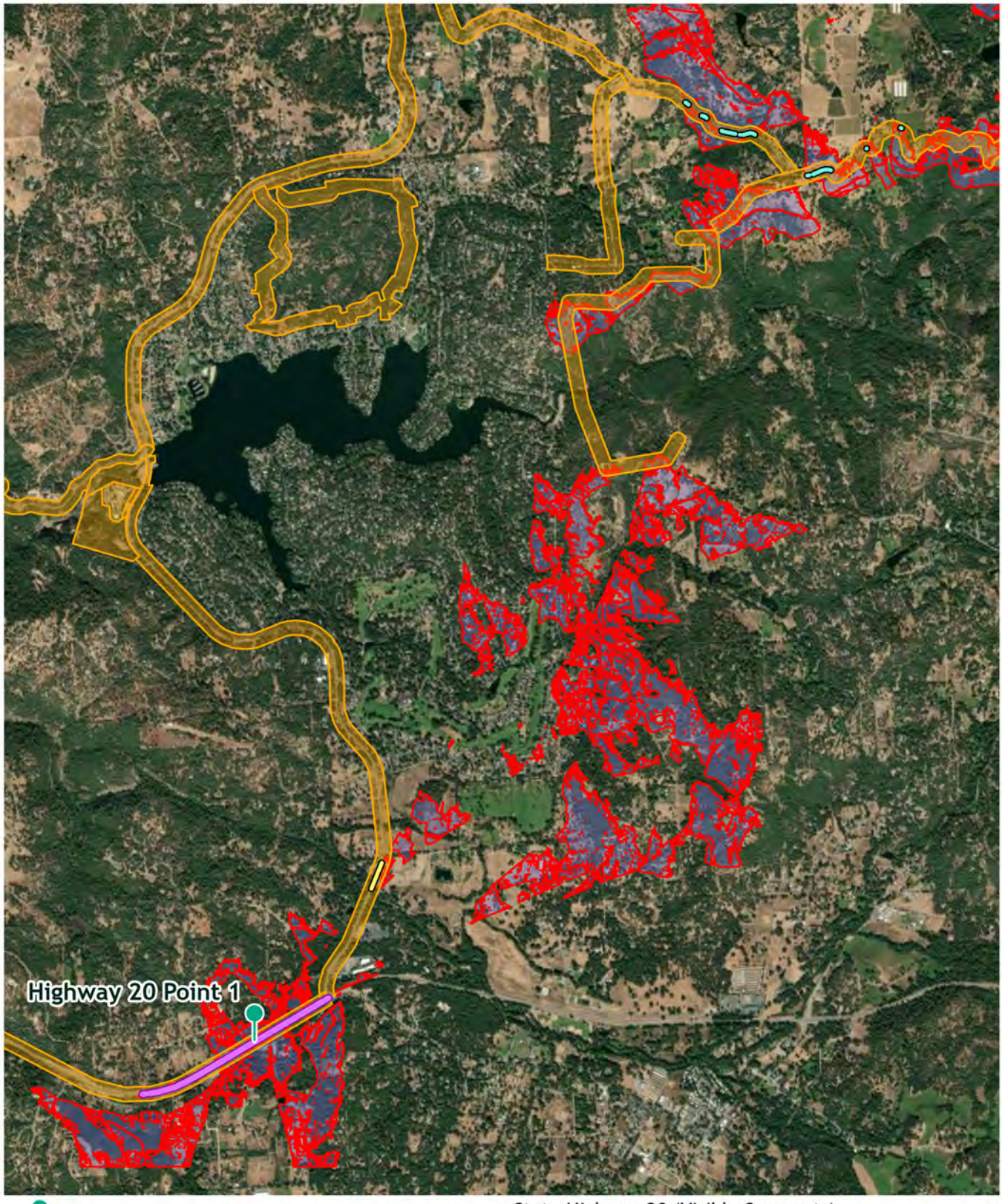
0 1,000 2,000 4,000 Feet

SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 8
LAKE WILDWOOD GOLF COURSE VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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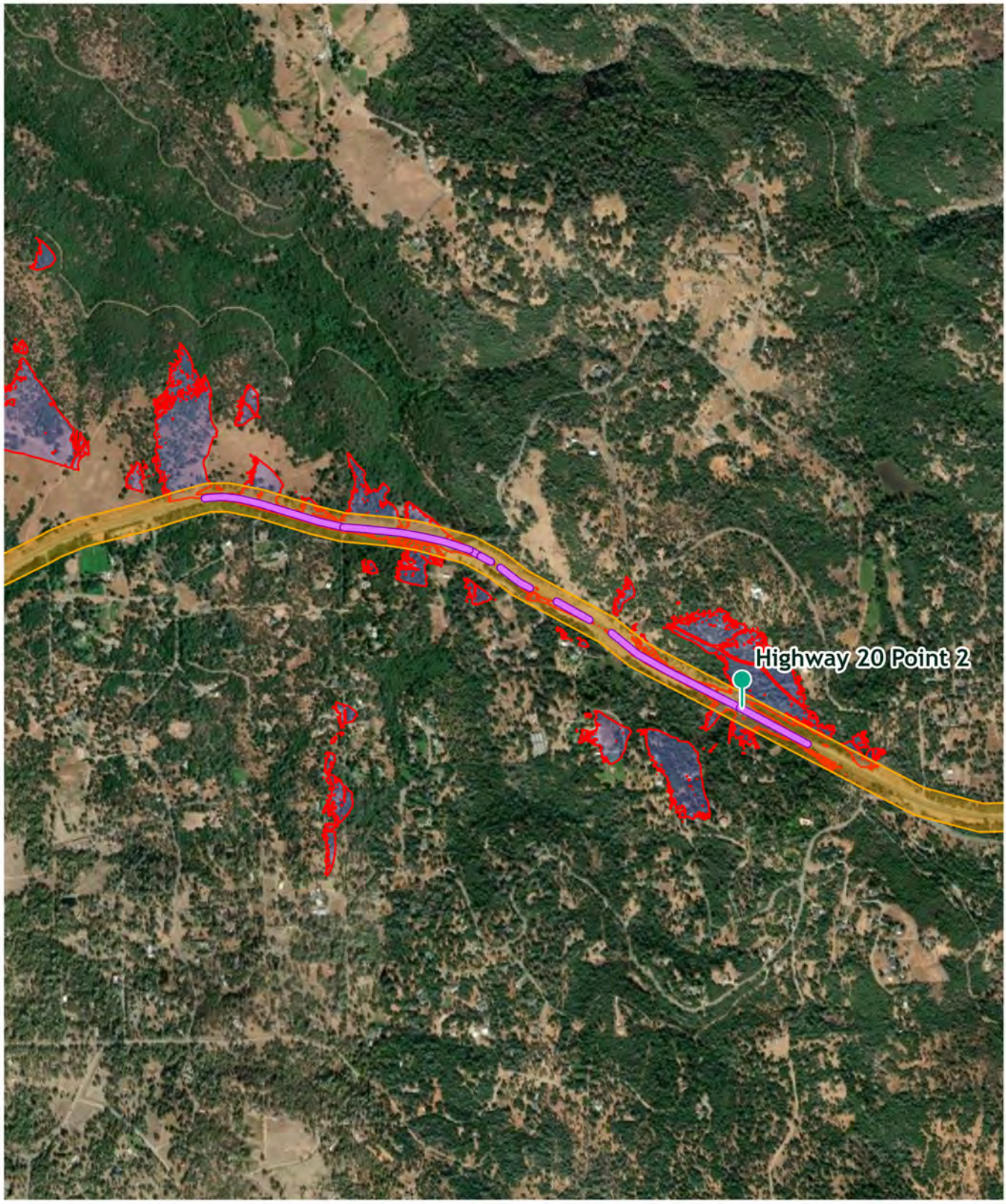


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 9
HIGHWAY 20 POINT 1 VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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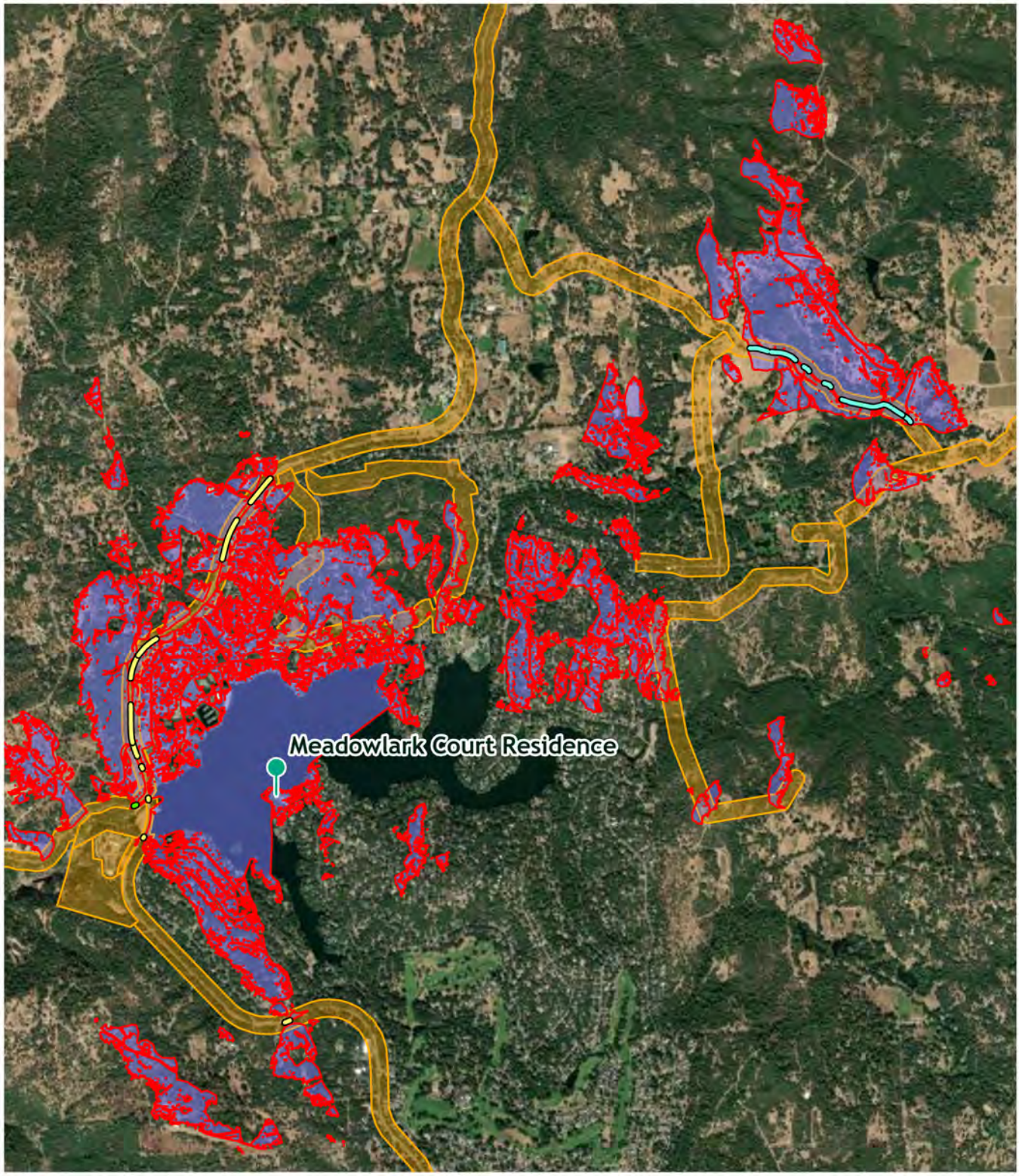


SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 10
HIGHWAY 20 POINT 2 VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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SOURCE: MAXAR 2025 AERIAL PHOTOGRAPH

FIGURE 11
MEADOWLARK COURT RESIDENCE VIEWSHED
LOWER DEER CREEK-PENN VALLEY
HAZARDOUS FUELS REDUCTION PROJECT
NEVADA COUNTY, CALIFORNIA

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Attachment E

Mitigation, Monitoring, and Reporting Program