

JACOBSZOOM & ASSOCIATES, INC.

natural resource planning & management



BIOLOGICAL ASSESSMENT

Prepared For:

Northern Sonoma County Fire
Protection District

Geyser Peak to Pocket Peak Fuel
Break

Prepared by Jacobszoon & Associates, Inc.

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Section 1.0: Project Description

Jacobszoon & Associates, Inc. has performed a Biological Assessment (BA) for Northern Sonoma County Fire Protection District (NSCFPD) for a proposed fuel break approximately 5.5 miles northeast of Hwy 128 in Geyserville, CA (APNs: 141-010-021, 141-060-001, 141-130-021, 141-160-002, 117-130-013) (Appendix D: Map 1, Vicinity Map; Map 2, Study Area Map). The project proposes vegetation treatment on approximately 200 acres of mixed vegetation along an existing fire road. The project area extends approximately 250 feet off the road centerline on both sides of the alignment for a total width of approximately 500 feet. The treatable road segment is approximately 17,325 feet (3.28 miles) in length stretching from Pocket Peak to Geyser Peak. The treatment will consist of mechanical and manual treatment activities along with prescribed fire. Mechanical treatments will consist of mastication of brush and trees, grass mowing, creation of fire control lines, and road maintenance. Manual treatments will consist of removal of brush and trees, pruning of brush and trees, digging handlines, and other actions needed for the creation of a fuel break. Prescribed burning will consist of both pile and broadcast burning of wildland fuels.

The purpose of this BA is to identify and map areas within the parcels that are potential sensitive natural communities and to locate special-status plants and special-status animal habitats to determine if they would be potentially impacted by the proposed project. The Study Area referred to within this report is approximately 200 acres and is contained within five (5) parcels (Appendix C: Photographs: Photos 1-7; Appendix D: Map 2, Study Area Map). Botanical surveys were conducted on July 13, 2021, March 16, 2022, and May 17, 2022, which consisted of approximately 14 survey hours.

1.1 Summary of Findings

The Biological Resource Assessment was conducted on March 16, 2022 by Wildlife Biologist Miles Harnett. After the assessment, the habitat was classified under multiple *Manual of California Vegetation Online Edition* (MCV2) classification systems. The three (3) non-sensitive MCV2 biological communities identified are listed below (Appendix D: Map 4, MCV2 Alliance Map).

- *Quercus berberidifolia* Shrubland Alliance: Scrub oak chaparral
- *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance: Wild oats and annual brome grasslands
- *Pseudotsuga menziesii* Forest & Woodland Alliance: Douglas fir forest and woodland

These communities are considered non-sensitive and thus require no special protections.

In addition, several watercourses were found adjacent to the Study Area. Two (2) Class III watercourses and one (1) Class II watercourse were found on site. All watercourses should have appropriate Watercourse and Lake Protection Zones (WLPZs) buffers (indicated via flagging) on either side “where additional practices may be required for protection of the quality and beneficial uses of water, fish and Riparian wildlife habitat, other forest resources and for controlling erosion” as defined in *California Forest Practice Rules 2022* (FPR).



Wildlife and botanical assessment surveys were conducted on July 13, 2021, March 16, 2022, and May 17, 2022, fulfilling the botanical requirements for a seasonally appropriate floristic survey. No (0) special-status animal species were found on site. Two (2) special-status plant species, *Cordylanthus tenuis ssp. brunneus* and *Monardella viridis*, were found on site. Refer to Section 6 for protective recommendations for sensitive-status wildlife and plants.

Section 2.0: Regulations and Descriptions

2.1 Regulatory Setting

SPR BIO-12. Protect Common Nesting Birds, Including Raptors: The project proponent will schedule treatment activities to avoid the active nesting season of common native bird species, including raptors, that could be present within or adjacent to the treatment site, if feasible. Common native birds are species not otherwise treated as special status in the CalVTP PEIR. The active nesting season will be defined by the qualified RPF or biologist.

Mitigation Measure BIO-1c: Compensate for Unavoidable Loss of Special-Status Plants: If disturbance cannot be avoided or disturbance is deemed as significant, then mitigation measures BIO-1c will be implemented. CDFW will be consulted, and a Compensatory Mitigation Plan will be established to offset unavoidable losses of special-status plants. To mitigate adverse impacts of sensitive plant species, workers will attend a Workers Environmental Awareness Program (WEAP) training led by an RPF or qualified biologist (SPR BIO-2).

Essential Fish Habitat: protected through changes to the Magnuson-Stevens Fishery Conservation and Management Act to maintain sustainable fisheries in the United States, administered by National Marine Fisheries Service (NMFS):

- Includes habitats (rivers, creeks, estuaries) that may support anadromous fish (fish migrating from ocean habitat into freshwater river habitat), as well as commercially and/or ecologically valuable fishes.

Streams, Lakes, and Riparian Habitat: protected under the California Fish and Game Code (CFGC), administered by the California Department of Fish and Wildlife (CDFW):

- Includes creeks and rivers (bodies where water flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life), and vegetation adjacent to and associated with (riparian habitat).

Waters of the State: protected under the State Water Resources Control Board (SWRCB).

Waters of the U.S.: protected under the Clean Water Act (CWA), administered by the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (Corps):

- Includes wetlands, streams, rivers, and other aquatic habitats meeting the guidance issued by the Corps.



Section 3.0: Methodology

3.1 Assessment Methods

The BA analysis is designed to assess the potential for the presence of sensitive wildlife species and to determine whether habitat for sensitive plant species and plant communities may or may not be present within the Study Area. This includes the analysis and comparison of existing habitat conditions within the Study Area and the documented range and habitat requirements of sensitive plant and wildlife species described in the California Department of Fish and Wildlife's (CDFW) California Wildlife Habitat Relationships System (CWHR).

Field surveys (biological and botanical) were conducted by Jacobszoon and Associates, Inc. to identify and delineate potential sensitive natural communities within the Study Area as well as document: (1) the on-site plant communities, (2) existing conditions and their ability to provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive biological communities (e.g. wetlands, vernal pools) are present.

Plant species observed during the site assessment were recorded and are listed in Appendix B. Plants listed in Appendix B were identified using *The Jepson Manual: Vascular Plants of California 2nd Edition* (Baldwin et al. 2012) to the taxonomic level necessary to determine rarity. The names provided in this biological assessment report follow *The Jepson Flora Project* (JFP 2022).

3.2 Database and Resource Assessments

Prior to conducting field surveys, available reference materials were reviewed, including the United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) *Web Soil Survey*, the 'Asti' and 'The Geysers' 7.5' quadrangles topographic map, U.S. Fish and Wildlife Service (USFWS) Species list for Sonoma County (USFWS 2022), the USFWS National Wetlands Inventory (NWI), and available aerial photographs. The location of streams and watercourses within the project vicinity were reviewed using datasets from California Streams and the California Department of Forestry and Fire Protection (CAL FIRE).

The potential for occurrences of rare, threatened, endangered or plant and animal species of concern within or near the Study Area were evaluated by reviewing the Asti, The Geysers, Hopland, Highland Springs, Kelseyville, Clearlake Highlands, Whispering Pines, Mount Saint Helena, Jimtown, Geyserville, Warm Springs Dam, and Cloverdale 7.5 minute quadrangles topographic maps, aerial photography, California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (online edition, v9-01 1.0), CDFW's Natural Diversity Database (CNDDDB) Spotted Owl Data, CWHR, RareFind and Quick Viewer processed and unprocessed data (online edition, v5.108.157).

The CNPS database produces a list of sensitive plants potentially occurring at a site based on various site characteristics: location of the Study Area with regard to the geographic range of sensitive plant species, location(s) of known populations of sensitive plant species as mapped in the CNDDDB, soils of the Study Area, elevation, presence/absence of special habitat features (vernal pools, serpentine/volcanic soils, etc.) and plant communities existing within the Study Area.



While use of the CNPS inventory does not eliminate the need for an in-season botanical survey, it can (when used in conjunction with other information) provide a very good indication of the suitability of a site as habitat for sensitive plant species. The CNDDDB consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data.

Potential occurrence of special-status plants and animals in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area or in similar communities through a literature and database search (Appendix A). A list of target plant and animal species with potential to occur in the Study Area was generated, which guided subsequent field surveys. During the site visit, existing habitat conditions were evaluated and used to assess the potential for presence of special-status species. The potential for each special-status species to occur in the Study Area was then evaluated according to the following criteria:

- No Potential. Habitat on and 100 feet adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and 100 feet adjacent to the site is unsuitable or very poor quality. The species is not likely to be found on-site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or 100 feet adjacent to the Study Area is unsuitable. The species has a moderate probability of being found on-site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or 100 feet adjacent to the Study Area is highly suitable. The species has a high probability of being found on-site.
- Present. Species is observed on the site or has been recorded (i.e., CNDDDB) on-site recently.

Existing vegetative communities were reviewed using CDFW's Vegetation Classification and Mapping Program (VegCAMP) data for the potential existence and location of sensitive biological communities and related vegetation. Where VegCAMP data was not available, existing vegetative communities were reviewed using USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) data.

CWHR Predicted Habitat Suitability is a dataset accessed through CNDDDB Biogeographic Information and Observation System (BIOS) Commercial/ Spotted Owl Viewer that represents areas of suitable habitat within an animal species ranges based on the CWHR. Habitat suitability ranks of Low (less than 0.34), Medium (0.34-0.66), and High (greater than 0.66) suitability are based on the mean expert opinion suitability value for each habitat type for breeding, foraging, and cover (CDFW 2022). Examination of the CWHR dataset was applied when: 1) the data is available for the species of concern, and 2) when there is a moderate to high potential for an animal to occur on or within 100 feet of the Study Area.



As with all models, these maps are not perfect, and do not predict the occurrence of an organism, it just examines whether the areas being examined in the biological assessment is habitat which *may* support a species of special concern. This information not only informs the landowner of what may occur on their property, but also assists the biologist when conducting a survey.

3.3 Special-status Species

Special-status plants (native, vascular, and non-vascular) and animals assessed are of limited abundance in California, with known occurrence or distribution in Sonoma County, and were derived from the following lists:

- Federal listed or threatened or endangered plants or species of concern (FT, FE, FSC)
- California State listed or rare, threatened or endangered plants or species of concern (SR, ST, SE, SP, SSC)
- Board of Forestry Sensitive (BFS)
- California Department of Fish and Wildlife (CDFW) Status animals: Fully Protected, Species of Special Concern and Watch List (FP, SSC, WL)
- California Native Plant Society Rare Plant Rank (CRPR) list 1A species (plants presumed extirpated in California, and either rare or extinct elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 1B species (plants rare, threatened or endangered in California and elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2A species (plants presumed extirpated in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 2B species (plants rare, threatened, or endangered in California but more common elsewhere)
- California Native Plant Society Rare Plant Rank (CRPR) list 3 (plants which more information is needed- a review list)
- California Native Plant Society Rare Plant Rank (CRPR) list 4 (plants of limited distribution- a watch list)

Rare, threatened, and endangered plants are not necessarily limited to those species which have been “listed” by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is “**endangered**” when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is “**threatened**” when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is “**rare**” when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its habitat continues to deteriorate.

Site visits were conducted by Miles Hartnett of Jacobszoon and Associates, Inc. on July 13, 2021, March 16, 2022, and May 17, 2022 to evaluate potentially suitable habitat characteristics for special-status plant and animal species within the Study Area.



If a special-status species was observed during the site visit, its presence was recorded and will be discussed. All plant and wildlife species observed were recorded and are included in Appendix B.

3.4 Critical Habitat

Critical habitat is a term defined by the Endangered Species Act (ESA) as the specific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation. Critical habitat designations affect only Federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no Federal “nexus”—that is, no Federal funding or authorization. Federal agencies are required to avoid “destruction” or “adverse modification” of designated critical habitat. The ESA requires the designation of “critical habitat” for listed species when “prudent and determinable.”

3.5 Natural Communities

Natural communities present within the Study Area were classified based on existing plant community descriptions described by *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), CWHR habitat types, CDFW’s CalVeg system, and the MCV2 (CNPS 2022b). Natural communities were classified as sensitive or non-sensitive as defined by California Environmental Quality Act (CEQA) and other applicable laws and regulations.

The currently accepted vegetation classification system for the state that is standardly used by CDFW, CNPS, and other state and federal agencies, organizations, and consultants for survey and planning purposes is the MCV2 (Sawyer, Keeler-Wolf, and Evens 2009). Unlike Holland, this vegetation classification system is based on the standard National Vegetation Classification System (NVCS) and includes alliances (a floristically defined vegetation unit identified by its dominant and/or characteristic species) and associations (the finer level of classification beneath alliance).

Although CDFW’s CNDDDB still maintains records of some of the old Holland vegetation types, these types are no longer the accepted standard, and the CDFW’s VegCAMP has published more recent vegetation lists for the state based on a standardized vegetation classification system that is currently being developed for California and which is consistent with the MCV2 classification system. Global and state rarity rankings have been assigned for various types on the recent VegCAMP lists.

3.5.1 Non-sensitive Natural Communities

CEQA and other state, federal, and local laws, regulations, and ordinances do not provide special protection for non-sensitive biological communities. Some of these communities may provide suitable habitat for some special-status plant or wildlife species, and are described in section 5.1, if present within the Study Area.



3.5.2 Sensitive Natural Communities

Sensitive biological communities include those that are listed in CNDDDB as well as MCV2 alliances or associations with state ranks of S1-S3. Aquatic resources (e.g., watercourses, ponds, wetlands, vernal pools, etc.) are also considered sensitive biological communities and are afforded special protections under CEQA and other federal, state, and local laws, regulations, and ordinances. Sources for assessing sensitive terrestrial or aquatic natural communities include Holland (1986), California Sensitive Natural Communities (CDFW 2022), and the MCV2 (CNPS 2022b).

The Study Area was evaluated for the presence of sensitive natural communities designated in the CNDDDB as S3 or rarer (CDFW 2022). Global and state rankings are defined below.

Global Ranking:

- G1-Critically Imperiled: At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2-Imperiled: At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3-Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4-Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5-Secure: Common; widespread and abundant.

State Ranking:

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

3.5.3 Wetlands

The US Army Corps of Engineers (USACE) methods utilize three parameters (indicators) to determine wetland boundaries: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils.

Hydrology: The area is inundated either permanently or periodically at mean water depths: 6.6 ft, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.



Soils: Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions.

Plants: The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described above. Hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.

The USACE developed a classification system for plant species known to occur in wetlands. The plant species are categorized based on the frequency that they have been observed in wetlands. Species classified as obligate (OBL), Facultative Wetland (FACW), and Facultative (FAC) are considered hydrophytic.

Plant Indicator Status Categories (as per USACE)		
Indicator Category	Indicator Symbol	Definition
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in nonwetlands. Examples: <i>Spartina alterniflora</i> , <i>Taxodium distichum</i> .
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in nonwetlands. Examples: <i>Fraxinus pennsylvanica</i> , <i>Cornus stolonifera</i> .
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and nonwetlands. Examples: <i>Gleditsia triacanthos</i> , <i>Smilax rotundifolia</i> .
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in nonwetlands. Examples: <i>Quercus rubra</i> , <i>Potentilla arguta</i> .
Obligate Upland Plants	UPL	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in nonwetlands under natural conditions. Examples: <i>Pinus echinata</i> , <i>Bromus mollis</i> .

3.5.4 Riparian Habitats

Within the Study Area, riparian habitats were determined based on the predominance of riparian trees and shrubs associated with streams, rivers, lakes, and/or other intermittent to perennial waterbodies. The outer canopy or dripline of riparian trees and shrubs was used to delineate the outward extent of riparian habitat within Study Area.

3.5.5 Streams, Rivers and Anadromous Fish Habitat

Watercourses and other waterbodies were classified using guidance from the *California Forest Practice Rules 2022* (FPR). Streams and rivers were evaluated for their potential to support anadromous fish by reviewing the CNDDDB’ intrinsic potential for fish species. Also, general observations of a stream’s bed substrate, bank stability, run-riffle-pool complexes, riparian quality, and upstream and downstream barriers were noted during a site visit.



Section 4.0: Study Area Setting

The following subsections summarize the physical and biological settings of the Study Area.

4.1 Location and Land Use

The Study Area is located approximately 5.5 miles northeast of Hwy 128 located near Geyserville, in Sonoma County, CA (APNs: 141-010-021, 141-060-001, 141-130-021, 141-160-002, 117-130-013) in Section 3, T10N, R9W, and Section 27, T11N, R9W, MDBM ‘Asti’ and ‘The Geysers’ 7.5’ USGS Quadrangles. The Study Area encompasses an approximate 200-acre section of ridgeline between Geyser Peak and Pocket Peak (Appendix D: Map 1, Vicinity Map; Map 2, Study Area Map). The project area extends approximately 250 feet off road centerline on both sides of the alignment for a total width of approximately 500 feet. The treatable road segment is approximately 17,325 feet (3.28 miles) in length.

The project area is situated in rural, unincorporated Sonoma County north of the town of Geyserville. The surrounding land use is primarily agricultural. All five parcels which the project intersects are zoned agricultural. The surrounding terrain is generally steep and variable with all aspects represented.

4.2 Soils and Topography

According to the USDA NRCS’ *Web Soil Survey*, the Study Area is underlain by seven (7) soil mapping units: Henneke gravelly loam, 30-75 percent slopes eroded, Hugo very gravelly loam, 50-75 percent slopes, Josephine loam, 50-75 percent slopes, Los Gatos loam, 30-75 percent slopes MLRA 15, Maymen gravelly sandy loam, 30-50 percent slopes, Rock land, and Yorkville clay loam, 30-50 percent slopes (Appendix D: Map 8, Soil Map).

Descriptions of the soil series are as follows:

Henneke gravelly loam, 30-75 percent slopes, eroded: Henneke soils are underlain by serpentine bedrock. Vegetation cover consists of scrub oak, poison oak, manzanita, annual weeds. The runoff is rapid and hazard of erosion is high to very high. This soil type is for watershed and wildlife habitat.

Hugo very gravelly loam, 50-75 percent slopes: This complex is mostly found on steep hillsides consisting of conifers. Permeability is moderate, runoff is very rapid, and hazard for erosion is very high. This soil is mainly used to produce timber.

Josephine loam, 50-75 percent slopes: This soil is on coast range mountainous terrain. Vegetation cover consists of Douglas-fir, black oak, and madrone. Permeability is moderate, runoff is very rapid, and the hazard of erosion is very high. This soil type is mainly used to produce timber.

Los Gatos loam, 30-75 percent slopes, MLRA 15: Usually found on a west facing, convex hillside. Permeability is moderately slow, runoff is rapid to very rapid, and the hazard of erosion is high to very high. The soil is mainly used for watershed and range for livestock and wildlife.



Maymen gravelly sandy loam, 30-50 percent slopes: Vegetation cover consists of shrubs such as manzanita, chamise, and ceanothus. Permeability is moderate, runoff is rapid, and the hazard of erosion is high. The main uses of this soil type are for watershed, wildlife browse and cover, and limited range.

Rock land: This series consists of stony steep slopes and ridges where little soil material is found. The only vegetation is sparse shrubs or stunted trees. This land type is used mainly for watershed.

Yorkville clay loam, 30-50 percent slopes: This loam formed in material weathered from glaucophaneschist, serpentinized igneous rocks, and metamorphosed graywacke. Vegetation cover consists of annual and perennial grasses, forbs, and scattered oak and madrone trees. Runoff is rapid and the hazard of erosion is high. This soil is used for range.

4.3 Hydrology and Climate

Northern inland Sonoma County is generally the warmest part of the county with dry summers depleting stored moisture in the soil. The average annual precipitation is 46 inches per year and occurs mostly from November through March. The average annual low air temperature is 44 degrees F and the annual high air temperature is 74 degrees F. The average frost-free period is 243 to 263 days. The Study Area is located within the Little Sulphur Creek Subwatershed (HUC-12, 180101100302) which is a part of the Big Sulphur Creek Watershed (HUC-10, 1801011003).

4.4 Vegetation and Biota

Dominant vegetation communities present in the area include grassland, chaparral and Douglas-fir Forest. The vegetation transition from southern to northern slope aspects is typical of the eastern coast range (grassland and chaparral transitioning to woodland and closed canopy forest). Section 5 provides a detailed account of the biological communities found on-site, including sensitive and non-sensitive natural communities and special-status flora and fauna with potential to occur within the Study Area. Please refer to Appendix B for a complete list of all species observed within the Study Area.

Section 5.0: Field Survey Results

5.1 Natural Communities

5.1.1 Non-sensitive Natural Communities

Three (3) non-sensitive natural communities were identified during the site visit and are listed below (Appendix D: Map 4, MCV2 Alliance Map).

Quercus berberidifolia Shrubland Alliance: Scrub oak chaparral

State Rarity: S4; Global Rarity: G4

- Characteristic species: *Quercus berberidifolia* is dominant or co-dominant in the shrub canopy with *Ceanothus cuneatus*, *Quercus wislizeni*, *Adenostoma fasciculatum*, *Adenostoma sparsifolium*, *Arctostaphylos glandulosa*, *Arctostaphylos glauca*, *Ceanothus crassifolius*, *Ceanothus cuneatus*, *Ceanothus greggii*, *Ceanothus integerrimus*, *Ceanothus leucodermis*, *Ceanothus oliganthus*, *Ceanothus spinosus*, *Ceanothus*



thyrsiflorus, *Ceanothus tomentosus*, *Cercocarpus montanus*, *Frangula californica*, *Fraxinus dipetala*, *Heteromeles arbutifolia*, *Pickeringia montana*, *Prunus ilicifolia*, *Quercus wislizeni*, *Rhamnus ilicifolia*, *Rhus ovata*, *Toxicodendron diversilobum* and *Xylococcus bicolor*. Emergent trees may be present at low cover.

- Habitat: Primarily north-facing, steep slopes, though topography becomes more varied where *Adenostoma fasciculatum* co-dominates. Soils are deep to shallow, are well to extensively drained, and may be rocky.
- Membership rules:
 - *Quercus berberidifolia* > 60% relative cover in the shrub canopy
 - Both *Quercus berberidifolia* and *Cercocarpus montanus* have 30% to 60% relative cover in the shrub canopy
 - Both *Quercus berberidifolia* and *Cercocarpus montanus* have > 50% relative cover in the shrub canopy
 - Both *Quercus berberidifolia* and *Adenostoma fasciculatum* have between 30% and 60% relative cover in the shrub canopy

Avena spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance: Wild oats and annual brome grasslands State Rarity: SNA; Global Rarity: GNA

- Characteristic species: *Avena barbata*, *Avena fatua*, *Brachypodium distachyon*, *Briza maxima*, *Bromus diandrus*, *Bromus hordeaceus* and/or *Hordeum murinum* is dominant or co-dominant with other non-natives in the herbaceous layer such as *Atriplex semibaccata* and *Hordeum* spp. Emergent trees and shrubs may be present at low cover.
- Habitat: All topographic settings in foothills, waste places, rangelands, openings in woodlands.
- Membership rules:
 - *Bromus diandrus* > 60% relative cover with other non-natives in herbaceous layer and with a variety of annuals at low cover
 - *Avena fatua* > 50% relative cover, and native herbs relatively low in cover in the herbaceous layer
 - *Avena* spp. > 50% relative cover, and native herbs < 10% relative cover in the herbaceous layer
 - *Avena* spp. > 75% relative cover; other non-native or native plants < 5% absolute cover, if present, in the herbaceous layer
 - *Brachypodium distachyon* > 60% relative cover in the herbaceous layer
 - *Bromus diandrus*, *B. hordeaceus*, and/or *Brachypodium distachyon* > 80% relative cover separately or co-dominant with non-natives; natives usually with low or insignificant cover
 - *Bromus hordeaceus* > 50% relative cover in the herbaceous layer



- *Avena*, *Brachypodium*, *Briza*, *Bromus diandrus*, *Bromus hordeaceus* and/or *Erodium* > 50% relative cover individually or in combination
- *Avena*, *Brachypodium*, *Briza*, *Bromus*, *Erodium* and/or *Hypochaeris* > 30% relative cover individually, or share > 50% relative cover in the herbaceous layer

Pseudotsuga menziesii Forest & Woodland Alliance: Douglas fir forest and woodland

State Rarity: S4; Global Rarity: G5

- Characteristic species:
 - *Pseudotsuga menziesii* is dominant or co-dominant with hardwoods in the tree canopy with *Abies concolor*, *Acer macrophyllum*, *Alnus rhombifolia*, *Arbutus menziesii*, *Calocedrus decurrens*, *Chamaecyparis lawsoniana*, *Chrysolepis chrysophylla*, *Cornus nuttallii*, *Pinus contorta*, *Pinus jeffreyi*, *Pinus lambertiana*, *Quercus agrifolia*, *Quercus chrysolepis*, *Quercus garryana*, *Quercus kelloggii* and *Sequoia sempervirens*.
- Habitat: All topographic positions and aspects. Substrates various, including serpentine. The USFWS Wetland Inventory (1996 national list) recognizes *Pseudotsuga menziesii* as FACU plant.
- Membership rules:
 - *Pseudotsuga menziesii* > 50% relative cover in the tree canopy and reproducing successfully, though hardwoods may dominate or co-dominate in the subcanopy and regeneration layer; *Abies concolor*, *Chamaecyparis lawsoniana*, *Pinus contorta*, *P. ponderosa*, and *Sequoia sempervirens* <20% relative cover; and *Notholithocarpus densiflorus* <10% relative cover in the tree canopy

5.1.2 Sensitive Natural Communities

No (0) sensitive natural communities were observed during the site visits. These communities are listed on the *List of California Natural Communities* (CDFW 2022).

There are no recommendations for sensitive natural communities within the Study Area.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Upon review of the resource databases listed in Section 3.2, one hundred and one (101) special-status plant species have been documented within the twelve-quad vicinity of the Study Area. Special-status species documented within five (5) miles of the Study Area are depicted in the CNDDDB Vicinity map (Appendix D: Map 5, CNDDDB Vicinity Map and Map 6, CNDDDB Map). Of the one hundred and one (101) special-status species documented within the vicinity of the Study Area, sixty-five (65) special-status species are unlikely or have no potential to occur due to:

- Hydrologic conditions (e.g., vernal pools, riverine) necessary to support the special-status plant species are not present within the Study Area;



- Edaphic conditions (soils, e.g., rocky outcrops, serpentinite) necessary to support the special-status plant species are not present within the Study Area;
- Topographic conditions (e.g., montane) necessary to support the special-status plant species are not present within the Study Area;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present within the Study Area;
- Associated vegetation communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not, present within the Study Area;
- The Study Area is geographically isolated (e.g., outside of required elevations, coastal environment) from the documented range of the special-status plant species;

The remaining thirty-six (36) special-status plant species with moderate or high potential to occur within the Study Area are described in the table below:

Table 1: Special-status Plant Species with Moderate or High Potential to Occur

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2 BLM:S G3 S3	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation ranges from 10 to 2609 feet (3 to 795 meters). An annual herb, the blooming period is from Mar-Jun.	Moderate Potential. Cismontane woodland and valley grassland habitat is present within the study area which this species requires.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Konocti manzanita <i>Arctostaphylos manzanita ssp. Elegans</i>	Rank 1B.3 G5T3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, often on volcanic soils. Elevation ranges from 738 to 6004 feet (225 to 1830 meters). A shrub, the blooming period is from Mar-May.	High Potential. The study area contains chaparral and cismontane woodland that this species requires. CNDDDB occurrence of species in The Geysers Quadrangle from 1984 and in neighboring quadrangle (Mount St. Helena) from 2007. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
small-flowered calycadenia <i>Calycadenia micrantha</i>	Rank 1B.2 USFS: S G2 S2	Chaparral, valley and foothill grassland, meadows and seeps, often found on rocky talus or scree, sparsely vegetated areas, roadsides and sometimes on serpentine. Elevation ranges from 1427 to 4610 feet (435 to 1405 meters). An annual herb, the blooming period is from Jun-Sep.	Moderate Potential. The study area contains chaparral and valley grassland habitat that this species requires. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1 BLM: S G1 S1	Closed-cone coniferous forest, chaparral, cismontane woodland, known from volcanic or serpentine soils, dry shrubby slopes. <i>C. confusus</i> has a weak serpentine affinity of 1.3. Elevation ranges from 492 to 4200 feet (150 to 1280 meters). A shrub, the blooming period is from Feb-Jun.	High Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species: The Geysers quadrangle in 1927, and in neighboring Geyserville quadrangle in 2000, and Cloverdale and Mount St Helena quadrangles in 1980s.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Calistoga ceanothus <i>Ceanothus divergens</i>	Rank 1B.2 G2 S2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, often found in openings of chaparral or grasslands, sometimes on serpentine. Elevation ranges from 66 to 3002 feet (20 to 915 meters). <i>C. divergens</i> has a weak serpentine affinity of 2.0. A shrub, the blooming period is from Feb-Apr.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species: The Geysers quadrangle in 1893, and in neighboring Whispering Pines quadrangle (1893 and 1988).	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
serpentine bird's-beak <i>Cordylanthus tenuis ssp. brunneus</i>	Rank 4.3 G4G5T3 S3	Chaparral, closed-cone coniferous forest, cismontane woodland, often along barren, rocky serpentine soil (ultramafic). <i>C. tenuis ssp. brunneus</i> has a broad endemic serpentine affinity of 5.1. Elevation ranges from 1559 to 3002 feet (475 to 915 meters). An annual herb (hemiparasitic), the blooming period is from Jul-Aug.	Moderate Potential. Chaparral and cismontane woodland habitat are present within the study area. The Study Area may contain suitable habitat for this species.	Present: Species was observed on site during botanical surveys. Approx 730 individuals total along road between GPS (38.780228,-122.866535) and GPS (38.771095, -122.850312). Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
mountain lady's-slipper <i>Cypripedium montanum</i>	Rank 4.2 BLM: S IUCN: VU USFS: S G4 S4	Lower montane coniferous forest, broadleaved upland forest, cismontane woodland, north coast coniferous forest, often on dry, undisturbed slopes. Elevation ranges from 607 to 7300 feet (185 to 2225 meters). A perennial herb (rhizomatous), the blooming period is from Mar-Aug.	Moderate Potential. Lower montane coniferous forest and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Cascade downingia <i>Downingia willametensis</i>	Rank 2B.2 G2 S4	Cismontane woodland, valley and foothill grasslands, vernal pools, lake margins. Elevation ranges from 49 to 3642 feet (15 to 1110 meters). An annual herb, the blooming period is from Jun-Jul.	Moderate Potential. Cismontane woodland and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Humboldt County fuchsia <i>Epilobium septentrionale</i>	Rank 4.3 G4 S4	Broadleaved upland forest, north coast coniferous forest, often on dry, sandy or rocky ledges. Elevation ranges from 148 to 5906 feet (45 to 1800 meters). A perennial herb, the blooming period is from Jul-Sep.	Moderate Potential. Coniferous forest and upland forest habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Brandegee's erastrum <i>Eriastrum brandegeae</i>	Rank 1B.1 BLM: S G1Q S1	Chaparral, cismontane woodland, on barren volcanic soils, often in open areas. Elevation ranges from 1345 to 2773 feet (410 to 845 meters). An annual herb, the blooming period is from Apr-Aug.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	Rank 1B.2 G3 S3	Chaparral, serpentine and volcanic substrates, generally in shrubby vegetation. Elevation ranges from 296 to 2740 feet (90 to 835 meters). A perennial herb, the blooming period is from May-Sep.	Moderate Potential. Chaparral habitat is present within the study area. CNDDDB occurrences of this species in neighboring Mount St. Helena quadrangle in 1941 and 2011. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
bare monkeyflower <i>Erythranthe nudata</i>	Rank 4.3 G4 S4	Chaparral, cismontane woodland, moist areas, often along drainages and roadsides in serpentine seeps. Elevation ranges from 820 to 2297 feet (250 to 700 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
St. Helena fawn lily <i>Erythronium helenae</i>	Rank 4.2 G3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/ volcanic or serpentinite. Elevation ranges from 1145-4005 feet. Bloom Mar-May.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Toren's grimmia <i>Grimmia torenii</i>	Rank 1B.3 BLM:S G2 S2	Cismontane woodland, lower montane coniferous forest, chaparral, often found in openings, rocky, boulder and rock walls, carbonate, volcanic soils. Elevation ranges from 1067 to 3806 feet (325 to 1160 meters). A moss, no distinct blooming period.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
nodding harmonia <i>Harmonia nutans</i>	Rank 4.3 G3 S3	Chaparral, cismontane woodland, often on rocky, volcanic substrates. Elevation ranges from 246 to 3199 feet (75 to 975 meters). An annual herb, the blooming period is from Mar-May.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Mendocino tarplant <i>Hemizonia congesta ssp. calyculata</i>	Rank 4.3 G5T4 S4	Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine. <i>H. congesta ssp. calyculata</i> has a weak serpentine affinity of 1.5. Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.	Moderate Potential. Valley grassland and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Parry's horkelia <i>Horkelia parryi</i>	Rank 1B.2 BLM: S USFS: S G2 S2	Chaparral, cismontane woodlands, often found in openings, especially known from the lone formation in Amador County. Elevation ranges from 279 to 3658 feet (85 to 1115 meters). A perennial herb, the blooming period is from Apr-Sep.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
thin-lobed horkelia <i>Horkelia tenuiloba</i>	Rank 1B.2 G2 S2	Broadleaved upland forest, chaparral, valley and foothill grassland, often on sandy soils in mesic openings. Elevation ranges from 148 to 2100 feet (45 to 640 meters). A perennial herb, the blooming period is from May-Jul.	Moderate Potential. Chaparral and valley grassland habitat is present within the study area. CNDDDB occurrences of this species in neighboring Geyserville quadrangle in 1991 and 1992. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
California satintail <i>Imperata brevifolia</i>	Rank 2B.1 USFS: S G4 S3	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkaline), riparian scrub. Elevation ranges from 0 to 3985 feet (0 to 1215 meters). A perennial rhizomatous herb, the blooming period is from Sep-May.	Moderate Potential. Chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Colusa layia <i>Layia septentrionalis</i>	Rank 1B.2 BLM: S G2 S2	Chaparral, cismontane woodland, valley and foothill grassland, scattered colonies in fields and grassy slopes in sandy or serpentine soil. Elevation ranges from 49 to 3609 feet (15 to 1100 meters). An annual herb, the blooming period is from Apr-May.	High Potential. Chaparral, cismontane woodland, and valley grassland habitat is present within the study area. CNDDDB occurrences of this species in The Geysers quadrangle in 1983. The Study Area contains suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2 G4? S4?	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
large-flowered leptosiphon <i>Leptosiphon grandiflorus</i>	Rank 4.2 G3G4 S3S4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland, often on open, grassy flats, generally with sandy soils. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). An annual herb, the blooming period is from Apr-Aug.	Moderate Potential. Valley grassland and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
broad-lobed leptosiphon <i>Leptosiphon latisectus</i>	Rank 4.3 G4 S4	Broadleaved upland forest, cismontane woodland. <i>L. latisectus</i> has a weak serpentine affinity of 2.0. Elevation ranges from 558 to 4922 feet (170 to 1500 meters). An annual herb, the blooming period is from Apr-Jun.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Cobb Mountain lupine <i>Lupinus sericatus</i>	Rank 1B.2 BLM: S G2? S2?	Chaparral, cismontane woodland, lower montane coniferous forest, broadleaved upland forest, often found in stands of knobcone pine (<i>Pinus attenuata</i>)-oak woodland on open wooded slopes in gravelly soils, sometimes on serpentine. Elevation ranges from 394 to 4561 feet (120 to 1390 meters). A perennial herb, the blooming period is from Mar-Jun.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species in neighboring Whispering Pines quadrangle in 1990 and Mount St. Helena quads in 1980 and 1986. The Study Area may contain suitable habitat.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
elongate copper moss <i>Mielichhoferi a elongate</i>	Rank 4.3 USFS: S G5 S3S4	Cismontane woodland often grows on very acidic, metamorphic rock or substrate, usually in higher portions of fens. Substrates often are naturally enriched with heavy metals (e.g. copper) such as mine tailings. Elevation ranges from 17 to 3560 feet (5 to 1085 meters). A moss, there is no distinct blooming period.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
green monardella <i>Monardella viridis</i>	Rank 4.3 G3 S3	Broadleaved upland forest, chaparral, cismontane woodland. Elevation ranges from 328 to 3314 feet (100 to 1010 meters). A perennial herb, the blooming period is from Jun-Sep.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Present. Species was observed on site during botanical surveys. Approx 48 individuals total at 5 locations ---12 at GPS (38.786937,-122.885216); 12 at GPS(38.786290,-122884309); 7 at GPS(38.780806,-122.868427); 16 at GPS(38.778024,-122.862177); 1 at GPS(38.775461,-122.852605). Please see section 6.2.1 for further recommendations.
cotula navarretia <i>Navarretia cotulifolia</i>	Rank 4.2 G4 S4	Chaparral, cismontane woodland, valley and foothill grassland, often on adobe soils. Elevation ranges from 13 to 6004 feet (4 to 1830 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Geysers panicum <i>Panicum acuminatum var. thermale</i>	Rank 1B.2 SE G5T2Q S2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland, wetland, usually around moist, warm soil in the vicinity of hot springs. Elevation ranges from 1793 to 8104 feet (455 to 2470 meters). A perennial grass, the blooming period is from Jun-Sep.	Moderate Potential. Valley grassland habitat is present within the study area. CNDDDB occurrence of this species in The Geysers quadrangle in 1975 and 2017 and in neighboring Whispering Pines quadrangle in 1977 and 2017. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	Rank 1B.3 BLM: S G4T3 S3	Chaparral, crevices in rock outcrops and talus slopes. Elevation ranges from 591 to 4610 feet (180 to 1405 meters). A perennial herb, the blooming period is from Apr-Aug.	Moderate Potential. Chaparral habitat is present within the study area. CNDDDB occurrence of this species in neighboring Mount St Helena quadrangle in 2020. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
narrow-petaled rein orchid <i>Piperia leptopetala</i>	Rank 4.3 G4 S4	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Elevation ranges from 1247 to 7300 feet (380 to 2225 meters). A perennial herb, the blooming period is from May-Jul.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Michael’s rein orchid <i>Piperia michaelii</i>	Rank 4.2 G3 S3	Coastal bluff scrub, coastal scrub, cismontane woodland, chaparral, closed-cone coniferous forest, lower montane coniferous forest, mudstone and humus, generally dry sites. Elevation ranges from 10 to 3002 feet (3 to 915 meters). A perennial herb, the blooming period is from Apr-Aug.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Hoffman’s bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Rank 1B.3 G4T2 S2	Chaparral, cismontane woodland, valley and foothill grassland, moist, steep rocky banks in serpentine and non-serpentine soils. Elevation ranges from 197 to 2510 feet (60 to 765 meters). An annual herb, the blooming period is from Mar-Jul.	High Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrence of this species in The Geysers quadrangle in 1988 and in neighboring Jimtown quadrangle in 2018 and 2019. The Study Area does contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
beaked tracyina <i>Tracyina rostrata</i>	Rank 1B.2 USFS: S G2 S2	Cismontane woodland, valley and foothill grassland, chaparral, often observed in open grassy meadows commonly within oak woodland and grassland habitats. Elevation ranges from 492 to 2609 feet (150 to 795 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland, chaparral, and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Napa bluecurls <i>Trichostema ruygtii</i>	Rank 1B.2 G1G2 S1S2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest, often in open, sunny areas or vernal pools. Elevation ranges from 99 to 2231 feet (30 to 680 meters). An annual herb, the blooming period is from Jun-Oct.	Moderate Potential. Cismontane woodland, chaparral, and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3 G4G5 S3?	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 706 to 4593 feet (215 to 1400 meters). A shrub, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.

Please refer to Appendix A for a table of all special-status plant species within a twelve-quad vicinity of the Study Area as well as a discussion of the potential for each species to occur within the Study Area based on habitat present.

Two (2) special-status species, serpentine bird's beak (*Cordylanthus tenuis ssp. brunneus*) and green monardella (*Monardella viridis*), were observed within the Study Area during the Rare and Special-Status Plant Surveys (Appendix D: Map 7, Rare Plant Location Map). Please refer to Appendix B for a complete list of all floristic species observed within the Study Area during the BA site visit.

5.2.2 Special-status Animal Species

Upon review of the resource databases listed in Section 3.2, fifty-five (55) special-status wildlife species have been documented within the vicinity of the Study Area. Please refer to Appendix A



for a table of all special-status wildlife species with a potential to occur, as well as a discussion of the likelihood for each species to occur within the Study Area based on habitat assessment.

Nine (9) special-status wildlife species have a moderate or high potential to occur within the Study Area. The remaining forty-six (46) special-status wildlife species do not have the potential to occur due to one or more of the following reasons:

- Aquatic Habitats (e.g., streams, rivers, vernal pools) necessary to support special-status wildlife species are not present within the Study Area;
- Vegetation Habitats (e.g., forested area, riparian, grassland) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present within the Study Area;
- Physical Structures and Vegetation (e.g., caves, old-growth trees) that provide nesting, cover, and/or foraging habitat necessary to support special-status wildlife species are not present within the Study Area;
- Host Plants (e.g., *Cirsium sp.*) that provide larval and nectar resources necessary to support special-status wildlife species are not present within the Study Area;
- Historic and Contemporary Disturbance (e.g., cattle grazing, agriculture) deter the presence of the special-status wildlife species from occupying the Study Area;
- The Study Area is outside the documented nesting range of special-status wildlife species.

The nine (9) special-status wildlife species with moderate or high potential to occur within the Study Area are described in the table below:

Table 2: Special-status Wildlife Species with Moderate or High Potential to Occur

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Avifauna				
golden eagle <i>Aquila chrysaetos</i>	BLM: S CDF: S CDFW: FP, WL IUCN: LC G5 S3	Golden eagles are found primarily in rolling foothills, mountain areas, sage-juniper flats, and desert in broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinon and juniper woodlands, upper montane coniferous forest and valley foothill grassland habitats up to 12,000 feet. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Moderate Potential. The Study Area is ranked as Moderate to High according to the CWHR Predicted Habitat Suitability Map. The Study Area contains rolling foothills and large open areas that are preferred by this species.	Not Observed: See Section 6 for general recommendations for avifauna species.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Bell's sage sparrow <i>Artemisiospiza belli belli</i>	CDFW: WL G5T2T3 S3	<i>A. belli belli</i> inhabit coastal scrub and chaparral habitats often dominated by chamise and/or California sagebrush, and other open, scrubby habitats. In chaparral <i>A. belli belli</i> tend toward younger, less dense stands, becoming less common in older, taller stands. Nest sites are often located on the ground within shrubs, bunchgrasses, and occasionally on the ground under shrubs including California sagebrush, brittlebush, white sage, black sage, California buckwheat, bush mallow, chamise, cholla, and willow.	Moderate Potential. The Study Area is ranked as Unranked to Moderate according to the CWHR Predicted Suitability Map. The Study Area contains suitable chaparral habitat.	Not Observed: See Section 6 for general recommendations for avifauna species.
white-tailed kite Elanus leucurus	BLM: S CDFW: FP IUCN: LC G5 S3S4	This species is located in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland within cismontane woodland, marsh and swamp, riparian woodland, valley and grassland, and wetland habitats. <i>E. leucurus</i> forages in open grasslands, meadows, or marshes closed to isolated, dense-topped trees for nesting and perching.	Moderate Potential. The Study Area is ranked as Unranked to Low according to the CWHR Predicted Suitability Map. The Study Area contains suitable open meadows and grassland.	Not Observed: See Section 6 for general recommendations for avifauna species.
American peregrine falcon <i>Falco peregrinus anatum</i>	CDF: S CDFW: FP USFWS: BCC FD SD G4T4 S3S4	<i>F. peregrinus anatum</i> require protected cliffs and ledges for cover, and often breed near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes or mounds; however, they will nest on human-made structures and will occasionally use snag cavities or old nests of other raptors. Nests are a scrape on a depression or ledge in an open site.	Moderate Potential. The Study Area is ranked as Moderate to High according to the CWHR Predicted Suitability Map. The Study Area may contain suitable forging and nesting habitat for this species.	Not Observed: See Section 6 for general recommendations for avifauna species.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
Insects				
obscure bumble bee <i>Bombus caliginosus</i>	IUCN: VU G4? S1S2	<i>Bombus caliginosus</i> inhabits open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests. Males patrol circuits in search of mates. This species is classified as a medium long-tongued species, whose food plants include <i>Ceanothus</i> , <i>Cirsium</i> , <i>Clarkia</i> , <i>Keckiella</i> , <i>Lathyrus</i> , <i>Lotus</i> , <i>Lupinus</i> , <i>Rhododendron</i> , <i>Rubus</i> , <i>Trifolium</i> , and <i>Vaccinium</i> .	Moderate Potential. The Study Area may provide suitable habitat for this species.	Not Observed. See Section 6 for general recommendations for insect species.
western bumble bee <i>Bombus occidentalis</i>	USFS: S Xerces: IM G2G3 S1	The habitat for this species is described as open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. Typically nests underground in abandoned rodent burrows or other cavities. Food plants of <i>Bombus occidentalis</i> include <i>Ceanothus</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , <i>Cirsium</i> , <i>Geranium</i> , <i>Grindellia</i> , <i>Lupinus</i> , <i>Melilotus</i> , <i>Monardella</i> , <i>Rubus</i> , <i>Solidago</i> , and <i>Trifolium</i> .	Moderate Potential. The Study Area may provide suitable habitat for this species.	Not Observed. See Section 6 for general recommendations for insect species.
Mammals				
pallid bat <i>Antrozous pallidus</i>	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H G4 S4	<i>A. pallidus</i> are found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley & foothill grassland habitats. Most common in open, dry habitats with rocky areas for roosting. This species forages along river channels. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate Potential. The Study Area ranks as Low to Moderate according to the CWHR Predicted Suitability Map. The forests and rocky areas within the Study Area may provide suitable habitat for this species.	Not Observed. See Section 6 for general recommendations for mammalian species.



SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS/ RECOMMENDATIONS
western red bat <i>Lasiurus blossevillii</i>	CDFW: SSC IUCN: LC WBWG: H G4 S3	<i>L. blossevillii</i> roosts primarily in trees, often 2-40ft above the ground from sea level through mixed conifer forests. Typical habitats include cismontane woodland, lower montane coniferous forest, riparian forests and woodlands. This species prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate Potential. The Study Area is classified as Low to Moderate potential according to the CWHR Predicted Suitability Map. Riparian woodland/forest habitat exist adjacent to the Study Area that may be suitable for this species.	Not Observed. See Section 6 for general recommendations for mammalian species.
long-eared myotis <i>Myotis evotis</i>	CDFW: SSC IUCN: LC WBWG: H G4 S3	<i>M. evotis</i> is found in all brush, woodland and forested habitats from sea level to approximately 9,000 feet in elevation; however, prefers coniferous woodlands and forests. Foraging occurs along habitat edges, in open spaces and over water. Nursery colonies are often found within buildings, crevices, spaces under bark and snags. Caves are used primarily as night roosts.	Moderate Potential. The Study Area is classified as Unranked to Moderate potential according to the CWHR Predicted Suitability Map. Forest habitats exist within the Study Area.	Not Observed. See Section 6 for general recommendations for mammalian species.

No (0) special-status wildlife species were observed within the Study Area during the BA site visit on March 16, 2022, and May 17, 2022. Recommendations for special-status wildlife species are discussed in Section 6.

Please refer to Appendix B for a complete list of all wildlife species observed during the site assessments of the Study Area.

Section 6.0: Assessment Summary and Recommendations/Mitigations

Jacobszoon & Associates, Inc. performed a BA analysis for Northern Sonoma County Fire Protection District (NSCFPD) for a proposed fuel break (Appendix D: Map 1, Vicinity Map). The project proposes treatment on approximately 200 acres of mixed vegetation along an existing fire road. The project area extends approximately 250 feet off road centerline on both sides of the alignment for a total width of approximately 500 feet. The treatable road segment is approximately 17,325 feet (3.28 miles) in length stretching from Pocket Peak to Geyser Peak.

The BA surveys were conducted on July 13, 2021, March 16, 2022 and May 17, 2022, which consisted of approximately 14 survey hours. Rare and Special-Status Plant Surveys were also completed on these dates.



6.1 Natural Communities

The Study Area and immediate surroundings were assessed during site visits to determine local natural communities present. Natural communities observed were classified using data collected in the field and the MCV2 (CNPS 2022b).

6.1.1 Non-Sensitive Natural Communities

Non-sensitive natural communities are those communities that are not afforded special protection under CEQA, and/or other Federal, State, and local laws, regulations, and ordinances.

Three (3) non-sensitive natural communities (scrub oak chaparral, wild oats and annual brome grasslands, and Douglas fir forest and woodland) were observed within the Study Area (Appendix D: Map 4, MCV2 Alliance Map).

A small stand of interior live oak and a small stand of gray pine were observed within the scrub oak chaparral alliance. There are no recommendations for non-sensitive natural communities within the Study Area at this time.

6.1.2 Sensitive Natural Communities

Sensitive natural communities include those that are listed in CNDDDB as well as observed MCV2 alliances or associations with state rarity ranks of S1-S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2022). No (0) sensitive natural communities were observed within the Study Area. There are no recommendations for sensitive natural communities within the Study Area at this time.

6.2 Special-Status Species

Thirty-six (36) special-status plant species and nine (9) wildlife species have moderate or high potential to occur within the Study Area based on habitat requirements present. Please refer to the table in section 5.2, Special-Status Species, for a complete list, state rarity ranks, and habitat descriptions of species with moderate or high potential to occur within the Study Area.

Recommendations for special-status species are discussed below.

6.2.1 Special-Status Plant Species

Many special-status plant species are afforded special protections under CEQA Section 15380 and the Native Plant Protection Act (NPPA). Out of the thirty-six (36) special-status plant species that have a moderate or high potential to occur within the Study Area, two (2) special-status plants, serpentine birds beak (*Cordylanthus tenuis ssp. brunneus*) (Rank 4.3, G4G5T3, S3) and green monardella (*Monardella viridis*) (Rank 4.3, G3, S3), were observed during the site visits on July 13, 2021, March 16, 2022 and May 17, 2022 (Appendix D: Map 7, Rare Plant Location Map).

Approximately seven-hundred and thirty (730) serpentine birds beak (*Cordylanthus tenuis ssp. brunneus*) were located along the existing fuel break between GPS (38.780228,-122.866535) and GPS (38.771095, -122.850312).



Approximately forty-eight (48) green monardella (*Monardella viridis*) were located at five different locations within the study area: Twelve (12) at GPS (38.786937, -122.885216); twelve (12) at GPS (38.786290, -122.884309); seven (7) at GPS (38.780806, -122.868427); sixteen (16) at GPS (38.778024, -122.862177); one (1) at GPS (38.775461, -122.852605). No populations have been recorded on CNDDDB in this location for either special-status species.

Cordylanthus tenuis ssp. brunneus (Rank 4.3, G4G5T3, S3) is an herbaceous annual with a blooming period from July through August. If treatment occurs during the blooming period, then implementation of a no disturbance buffer is recommended (MM BIO-1b). No fire ignition or other accelerates are allowed within the buffer during the blooming period. Treatment can only occur in areas with this special-status species during the dormant season.

Monardella viridis (Rank 4.3, G3, S3) is a perennial herb with a blooming period from June through September. There are approximately forty-eight (48) individuals located at five different locations within the study area. Per mitigation measure BIO-1b, a no disturbance buffer (min 50ft) is recommended to avoid loss of this species. Typically, if disturbance cannot be avoided or disturbance is deemed as significant, then mitigation measures BIO-1c will be implemented, CDFW will be consulted, and a Compensatory Mitigation Plan will be established to offset unavoidable losses of special-status plants. However, CDFW does not require protective measures for CNPS List 3 or 4 plants; therefore, treatment can occur during the dormant season.

Recommendations for special-status plants are listed below:

- If these species are observed within the Study Area, avoidance will be implemented by flagging a no disturbance buffer (min 50ft); No fire ignition is allowed within the buffer during the blooming period.
- Treatment can occur during dormant season.

6.2.2 Special-Status Wildlife Species

Nine (9) special-status wildlife species have moderate or high potential to occur within the Study Area. No (0) special-status wildlife species were identified within the Study Area during the site visits. Recommendations to protect special-status wildlife species with moderate or high potential to occur within the Study Area are discussed below.

Avifauna

Four (4) special-status avian species, golden eagle (*Aquila chrysaetos*), Bell's sage sparrow (*Artemisospiza belli belli*), white-tailed kite (*Elanus leucurus*), and American peregrine falcon (*Falco peregrinus anatum*) have a moderate or high potential to occur within the Study Area based on habitat types present. Additionally, most non-game bird species in California are protected under the Migratory Bird Treaty Act (MBTA) which prohibits the deliberate destruction of active nests belonging to protected species. Groundbreaking activities within the Study Area during avian breeding periods have the potential to significantly impact nesting migratory bird species.



Recommendations for special-status avian species and migratory bird species are listed below:

- It is recommended that any active bird nest not be removed, relocated, or otherwise disturbed for any purpose until all fledglings have left the nest.
- It is recommended that nesting bird surveys be conducted by a qualified biologist prior to the commencement of any activity that results in the removal of vegetation during nesting bird season. Nesting bird season is between February 15th and August 31st of any year.
- Nesting bird surveys should be conducted no more than 14 days prior to initiation of tree/shrub removal or ground disturbance and should cover the entire work area and surrounding areas within 500 feet. No-disturbance buffers for active bird nests should be established by a qualified biologist.

No (0) special-status avian species or avian nests were observed during the site visits on July 13, 2021, March 16, 2022, and May 17, 2022.

Insects

Two (2) special-status insect species have a moderate or high potential to occur within the Study Area. This species includes the obscure bumble bee (*Bombus caliginosus*), and western bumble bee (*Bombus occidentalis*).

Recommendations for special-status insect species are listed below:

- If special-status insect nests are observed, it is recommended that active nests not be removed, relocated, or otherwise disturbed until the nest becomes inactive.
- Prescribed burning within occupied or suitable habitat for special-status bumble bees will occur from October through February to avoid the bumble bee flight season
- Land managers could consider planting or cover cropping with beneficial forage or host species for special-status insects.
- Forage species for the western bumblebee include *Ceanothus*, *Centaurea*, *Chrysothamnus*, *Cirsium*, *Geranium*, *Grindellia*, *Lupinus*, *Melilotus*, *Monardella*, *Rubus*, *Solidago*, and *Trifolium*.
- Forage species for the obscure bumble bee include *Ceanothus*, *Cirsium*, *Clarkia*, *Keckiella*, *Lathyrus*, *Lotus*, *Lupinus*, *Baccharis*, *Rhododendron*, *Rubus*, *Trifolium*, and *Vaccinium*.

No (0) special-status insects were observed during the site visits on July 13, 2021, March 16, 2022, and May 17, 2022.

Mammals

Three (3) special-status mammal species have moderate or high potential to occur within the Study Area. These species include the pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), and long-eared myotis (*Myotis evotis*).

Existing or proposed activities within the Study Area have the potential to impact bat species for which there may be suitable habitat within and adjacent to the Study Area.



Recommendations for special-status mammal species are listed below:

- It is recommended that if evidence of bat roosts are observed (i.e. bat guano, ammonia odor, grease stained cavities) around trees or structures, pre-construction bat surveys should be conducted by a qualified biologist to address any potential occurrence of this species.
- If suitable roosting habitat for special-status bats will be affected by project activities, a qualified wildlife biologist will conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., Anabat, etc.).
- Visual surveys will include trees within 0.25 mile of project activities.

No (0) special-status mammals were observed during the site visits on July 13, 2021, March 16, 2022 and May 17, 2022

6.3 Wildlife Corridors

No significant change to foraging or wintering habitat for migratory birds is expected as a result of the proposed development. Additionally, no significant impacts to migratory corridors for amphibian, aquatic, avian, mammalian, or reptilian species is expected as a result of the proposed project.

6.4 Critical Habitat

The Study Area does not contain and is not adjacent to critical habitat for any Federal or State-listed species (Appendix E: USFWS IPAC Official Species List).



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Appendix A: List of Potential Special-Status Species



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Amphibians				
California giant salamander <i>Dicamptodon ensatus</i>	CDFW: SSC IUCN: NT G2G3 S2S3	California giant salamander (<i>Dicamptodon ensatus</i>) occur in wet coastal forests near streams and seeps within meadows, North Coast coniferous forest and riparian forest habitat from Mendocino County south to Monterey County and east to Napa County. Aquatic larvae are found in cold, clear streams, occasionally in lakes and ponds. Adults are known from wet forests under rocks and logs near streams and lakes. Adults leave terrestrial habitats to reproduce, and both the reproduction and larval stages are aquatic with breeding occurring mostly in the spring.	Low Potential. Water features and moist forested habitat that support these species do not exist within the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
foothill yellow-legged frog <i>Rana boylei</i>	*SE/ST CDFW: SSC BLM: S IUCN: NT USFS: S G3 S3	The foothill yellow-legged frog is found in or near partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including chaparral, cismontane woodland, coastal scrub, Klamath/North Coast flowing waters, lower montane coniferous forest, meadows and seeps, riparian forest, riparian woodland and Sacramento/San Joaquin flowing waters. This species needs at least some cobble-sized substrate for egg-laying and need at least 15 weeks to attain metamorphosis. * CESA listing status varies by clade as follows: Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades are endangered; northeast/Northern Sierra and Feather River clades are threatened; listing of the Northwest/North Coast clade is not warranted.	Low Potential. The Study Area does not contain waterbodies that this species inhabits.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
California red-legged frog <i>Rana draytonii</i>	FT CDFW: SSC IUCN: VU G2G3 S2S3	California red-legged frogs (CRLF) inhabit lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation in a variety of habitats, including artificial flowing waters, artificial stand water, freshwater marsh, swamps, riparian forest, riparian scrub or woodlands, wetlands, Sacramento/ San Joaquin flowing wand standing waters and South coast flowing and standing waters. Breeding tends to occur primarily in ponds, less likely in streams, and happens from November to April. This species requires 11-20 weeks of permanent water for larval development and must have access to estivation habitat. This ranid frog will also use upland habitats outside of the breeding season and may be discovered under logs, rocks, and other debris during wet conditions.	Low Potential. The Study Area does not contain waterbodies that this species inhabits.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
red-bellied newt <i>Taricha rivularis</i>	CDFW: SSC IUCN: LC G2 S2	<i>T. rivularis</i> occur in coastal drainages from Humboldt County south to Sonoma County, inland to Lake County within broadleaved upland forest, North Coast coniferous forest, redwood, and riparian forest and woodland habitats. There is an isolated population of uncertain origin in Santa Clara County. Adults are active at the surface in moist environments. Transformed juveniles leave aquatic environments and go into hiding in underground shelters, often until ready to reproduce. This species will migrate over 1km to breed, typically in streams with moderate flow and clean, rocky substrate.	Low Potential. The Study Area is outside the known range for this species. The Study Area does not contain waterbodies that this species inhabits.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Avifauna				
tricolored blackbird <i>Agelaius tricolor</i>	ST BLM: S CDFW: SSC IUCN: EN NABCI: RWL USFWS: BCC G1G2 S1S2	<i>A. tricolor</i> is largely endemic to California, most numerous in the Central Valley and vicinity within freshwater marsh, marsh and swamp. Swamp and wetland habitats. This species is highly colonial requiring open water, protected nest substrate and foraging area with insect prey within a few km of the colony.	Low Potential. The Study Area is outside the known range for this species. Riparian areas that this species resides in do not exist within the Study Area	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
golden eagle <i>Aquila chrysaetos</i>	BLM: S CDF: S CDFW: FP, WL IUCN: LC G5 S3	Golden eagles are found primarily in rolling foothills, mountain areas, sage-juniper flats, and desert in broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinon and juniper woodlands, upper montane coniferous forest and valley foothill grassland habitats up to 12,000 feet. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Moderate Potential. The Study Area is ranked as Moderate to High according to the CWHR Predicted Habitat Suitability Map. The Study Area contains rolling foothills and large open areas that are preferred by this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
great egret <i>Ardea alba</i>	CDF: WL IUCN: LC G5 S4	Great blue herons located in brackish marsh, estuary, freshwater marsh, marsh and swamp, riparian forest and wetland habitats. They are colonial nesters in tall trees, cliffsides and sequestered spots on marshes. Rookery sites are located in close proximity to foraging areas; marshes, lake margins, tide-flats, rivers, streams and wet meadows.	Low Potential. The Study Area is outside the known range for this species. The Study Area contains no still water habitat that that this species prefers.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
great blue heron <i>Ardea herodias</i>	CDF: S IUCN: LC G5 S4	Great blue herons located in brackish marsh, estuary, freshwater marsh, marsh and swamp, riparian forest and wetland habitats. They are colonial nesters in tall trees, cliffsides and sequestered spots on marshes. Rookery sites are located in close proximity to foraging areas; marshes, lake margins, tide-flats, rivers, streams and wet meadows.	Low Potential. The Study Area is ranked is Unranked to Low according to the CWHR Predicted Suitability Map. The Study Area contains no still water habitat that this species prefers.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Bell's sage sparrow <i>Artemisiospiza belli belli</i>	CDFW: WL G5T2T3 S3	<i>A. belli belli</i> inhabit coastal scrub and chaparral habitats often dominated by chamise and/or California sagebrush, and other open, scrubby habitats. In chaparral <i>A. belli belli</i> tend toward younger, less dense stands, becoming less common in older, taller stands. Nest sites are often located on the ground within shrubs, bunchgrasses, and occasionally on the ground under shrubs including California sagebrush, brittlebush, white sage, black sage, California buckwheat, bush mallow, chamise, cholla, and willow.	Potential. The Study Area is ranked as Unranked to Moderate according to the CWHR Predicted Suitability Map. The Study Area contains suitable chaparral habitat.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
burrowing owl <i>Athene cunicularia</i>	BLM: S CDFW: SSC IUCN: LC USFWS: BCC G4 S3	<i>A. cunicularia</i> are often found in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean/Sonoran Desert scrub and valley and foothill habitats, often in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. <i>A. cunicularia</i> are subterranean nesters (fossorial), dependent on burrowing mammals, usually California ground squirrel burrows, but can also use burrows from prairie dogs, badgers, marmots, skunks or other small mammals.	Low Potential. The Study Area contains minimal sections of grassland therefore this species is unlikely to be present.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT SE BLM: S NABCI:RWL USFS: S USFWS: BCC G5T2T3 S1	Western yellow-billed cuckoos breed in large blocks of riparian habitats (particularly woodlands with cottonwoods and willows). Dense understory foliage appears to be an important factor in nest site selection. This species makes their nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. often between 3 to 90 feet (1 to 28 meters).	Low Potential. The Study Area is outside the known range for this species. There is no riparian forest habitat within the Study Area for this species to utilize.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
snowy egret <i>Egretta thula</i>	IUCN: LC G5 S4	Snowy egrets are colonial nesters in marsh & swamp, meadow & seep, riparian forest, riparian woodland, and wetland habitats. Nest sites are situated in protected beds of dense tules close to foraging areas such as marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Low Potential. The Study Area is outside the known range for this species. The Study Area does not contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
white-tailed kite <i>Elanus leucurus</i>	BLM: S CDFW: FP IUCN: LC G5 S3S4	This species is located in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland within cismontane woodland, marsh and swamp, riparian woodland, valley and grassland, and wetland habitats. <i>E. leucurus</i> forages in open grasslands, meadows, or marshes closed to isolated, dense-topped trees for nesting and perching.	Moderate Potential. The Study Area is ranked as Unranked to Low according to the CWHR Predicted Suitability Map. The Study Area contains suitable open meadows and grassland.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.
American peregrine falcon <i>Falco peregrinus anatum</i>	CDF: S CDFW: FP USFWS: BCC FD SD G4T4 S3S4	<i>F. peregrinus anatum</i> are year-long residents in Mendocino County. Peregrine falcons require protected cliffs and ledges for cover, and often breed near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes or mounds; however, they will nest on human-made structures and will occasionally use snag cavities or old nests of other raptors. Nests are a scrape on a depression or ledge in an open site.	High Potential. The Study Area is ranked as Moderate to High according to the CWHR Predicted Suitability Map. The Study Area may contain suitable forging and nesting habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
bald eagle <i>Haliaeetus leucocephalus</i>	BLM: S CDF: S CDFW: FP IUCN: LC USFS: S USFWS: BCC FD SE G5 S3	<i>H. leucocephalus</i> are located near the ocean shore, lake margins, and rivers for both nesting and wintering within lower montane coniferous forest and old-growth habitats. Most nests are located within 1 mile of water in large, old-growth, or dominant live trees with open branches, especially ponderosa pine trees. They communally roost in the winter.	Low Potential. The Study Area is ranked Low according to the CWHR Predicted Suitability Map. The Study Area contains very marginal wintering habitat.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
osprey <i>Pandion haliaetus</i>	CDF: S CDFW: WL IUCN: LC G5 S4	<i>P. haliaetus</i> occupy riparian forest habitat. They forage over ocean shore, bays, freshwater lakes and larger streams. They construct large nests in large trees, snags, and blown-out treetops within 15 miles of a good fish-producing body of water.	Low Potential. The Study Area is ranked from Low to Moderate according to the CWHR Predicted Suitability Map. Waterbodies that this species resides on do not exist within the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
purple martin <i>Progne subis</i>	CDFW: SSC IUCN: LC G5 S3	<i>P. subis</i> often woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine in broadleaved upland forest and lower montane coniferous forest habitats. Typically, <i>P. subis</i> forage in open areas near water, and their diet consists primarily of invertebrates (dragonflies, beetles, flies etc.). Nest often located in tall, isolated tree/snag in old woodpecker cavities, but also in human-made structures.	Low Potential. The majority of the Study Area is Unranked to Low by the CWHR Predicted Suitability Map. There is no coniferous forest habitat within the Study Area for this species to utilize.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
northern spotted owl <i>Strix occidentalis caurina</i>	FT ST CDF: S IUCN: NT NABCI: YWL G3G4T3 S2	<i>S. occidentalis caurina</i> are year-round residents in dense, structurally complex forests, primarily with old-growth conifers. Nests on snags and within tree cavities, and often is associated with existing structures (old raptor nests, squirrel nests and A. pomo nests).	Low Potential. The Study Area is outside the known range for this species. The Study Area does not contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Crustaceans				
conservancy fairy shrimp <i>Branchinecta conservatio</i>		<i>B. lynchi</i> is a small freshwater crustacean (0.12 to 1.5 inches long). The vernal pool fairy shrimp is endemic to the grasslands of the Central Valley, Central coast mountains, and South Coast mountains, in astatic rain-filled pools in valley and foothill grassland, vernal pool and wetland habitats. The vernal pool fairy shrimp has an ephemeral life cycle and exists only in small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
An isopod <i>Calasellus californicus</i>	G2 S2	There is no published information on the life history or behavior of this species. This species has been found in freshwater habitat; the known collections are from a freshwater well and two springs near Kelseyville, CA.	No Potential. The only known populations of this species do not lie within Sonoma County.	Not Present. There are no further recommendations for this species.
California linderiella <i>Linderiella occidentalis</i>	G2G3 S2S3	<i>L. occidentalis</i> are the most common fairy shrimp in the Central Valley. They are often found in the same vernal pools as the Vernal pool fairy shrimp, seasonal vernal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. The water in the pools has very low alkalinity, conductivity, and total dissolved solids.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Barr's amphipod <i>Stygobromus cherylae</i>	G1 S1	Very little is known about <i>S. cherylae</i> . According to CNDDDB RareFind the only information regarding this species is that it is known only from a spring box in Sonoma County, approximately 19.5km east of Geyserville.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
California freshwater shrimp <i>Syncaris pacifica</i>	FE SE IUNC: EN G2 S2	California freshwater shrimp are endemic to Marin, Sonoma and Napa counties. They inhabit shallow pools away from mainstream flow. In the winter they are in undercut banks with exposed roots and in the summer they are near leafy branches touching the water.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Fish				
Sacramento perch <i>Archoplites interruptus</i>	CDFW: SSC AFS: TH G2G3 S1	<i>A. interruptus</i> historically are found in the sloughs, slow-flowing rivers and lakes of the Central Valley. They prefer warm water but can tolerate a wide range of physio-chemical water conditions. Aquatic vegetation is essential for young.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.
Clear Lake prickly sculpin <i>Cottus asper</i>		<i>C. gulosus</i> are found in Pacific Slope drainages from lower Columbia River drainage in Washington to Morro Bay in California (including Sacramento-San Joaquin River drainage except upper Pit River); absent in Rogue and Klamath River drainages in southern Oregon and northern California. This species inhabits sand and gravel riffles of headwaters and creeks, also in sand-gravel runs and backwaters of small to large rivers. They prefer permanent streams where the water does not exceed 25-26° C and where ample flow keeps the dissolved oxygen level near saturation. <i>C. gulosus</i> favor areas that have adequate cover in the form of rocks, logs or overhanging banks. Eggs are deposited under rocks within swift water reaches of a stream.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Pacific lamprey <i>Entosphenus tridentatus</i>	AFS: VU BLM: S CDFW: SSC USFS: S G4 S4	<i>E. tridentatus</i> occur in aquatic habitats such as, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, and South coast flowing waters. This species is anadromous, but also with a number of permanent freshwater resident populations. This species is parasitic as adults, feeding on blood and body fluids of its prey. To breed, <i>E. tridentatus</i> migrate into fresh water and dig nests. Adults die post-breeding. Larvae/juveniles live 5-6 years in soft sand or mud of freshwater before returning to the ocean.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.
Delta smelt <i>Hypomesus transpacificus</i>	CDFW: SSC GNRTNR SNR	This species found generally in a wide variety of habitats in the Navarro River and Russian River basins where there is cover (e.g. fallen trees) and where alien predators are absent. They are most abundant in tributaries with clear, well oxygenated water with dominant substrates of cobble and boulder, and shallow depths (average 10-50 cm) with pools up to 1 m deep.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.
Clear Lake tule perch <i>Hysteroocarpus traskii lagunae</i>	CDFW: SSC G5T2T3 S2S3	<i>H. traskii lagunae</i> are endemic to three (3) highly altered lakes (Clear Lake, Lower Blue and Upper Blue Lake); however, it is expected that they are only commonly found in Upper Blue Lake as the other lakes have already lost a majority of their native fishes. Clear Lake and Lower Blue Lake are typically warm (summer temperatures 25-28°C) and shallow, with primarily sandy or soft bottom substrates. Upper Blue Lake is similar but is also clearer and colder. Tule perch are very tolerant of environmental variables; however, low water quality limits their distribution in their historic ranges. A key habitat requirement of <i>H. traskii lagunae</i> is cover, especially for pregnant females and small juveniles. This species is typically found in small shoals in deep (3+ m) tule beds, among rocks (especially along steep rocky shores), or among the branches of fallen trees.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Russian River tule perch <i>Hysteroecarpus traskii pomo</i>	AFS: VU CDFW: SSC G5T4 S4	<i>H. traskii pomo</i> inhabits the low elevation streams of the Russian River system. They require clear, flowing water with abundant cover. They also require deep (> 1 m) pool habitat. Mating occurs in July-Sept. In May-June the female bears 10-60 live fish.	No Potential. The Study Area is outside the range of this species.	Not Present. There are no further recommendations for this species.
Clear Lake hitch <i>Lavinia exilicauda chi</i>	ST AFS: VU USFS: S G4T1 S1	<i>L. exilicauda chi</i> are found exclusively in Clear Lake, Lake County, and associated ponds. This species spawns in tributary streams flowing into Clear Lake. Individuals over 80 days old (4-5 cm SL) are often found in the limnetic zone of Clear Lake; juveniles occupy near-shore shallow waters with protective aquatic vegetation. <i>L. exilicauda chi</i> requires clean, fine-to-medium gravel substrate for spawning and egg-laying, in lower reaches of intermittent tributary streams, mostly in sections that dry up in summer.	No Potential. No watercourses near the Study Area can support this species.	Not Present. There are no further recommendations for this species.
Navarro roach <i>Lavinia symmetricus navarroensis</i>	CDFW: SSC G4T1T2 S2S3	<i>L. symmetricus navarroensis</i> are generally found in small, warm intermittent streams, and dense populations are frequently found in isolated pools. They are most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams. Roach are tolerant of relatively high temperatures (30-35 C) and low oxygen levels (1-2 ppm). However, they are habitat generalists, also being found in cold, well-aerated clear "trout" streams, in human-modified habitats and in the main channels of rivers, such as the Russian and Tuolumne. This form appears to be abundant in both the Russian and Navarro rivers.	No Potential. The Study Area does not lie within the known range of this species.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Clear Lake- Russian River roach <i>Lavinia symmetricus</i> spp. 4	CDFW: SSC G4T2T3 S2S3	<i>L. symmetricus</i> are generally found in small, warm intermittent streams, and dense populations are frequently found in isolated pools. Roach are tolerant of relatively high temperatures (30-35 C) and low oxygen levels (1-2 ppm). However, they are habitat generalists, also being found in cold, well-aerated clear "trout" streams, in human-modified habitats and in the main channels of rivers. Clear Lake roach are restricted to the tributaries of Clear Lake, where they are widely distributed in the basin's seven major drainages. There are no recent collections from Clear Lake itself; roach are now unable to occupy the lake because of their vulnerability to alien predators.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
hardhead <i>Mylopharodon conocephalus</i>	CDFW: SSC USFS: S G3 S3	<i>M. conocephalus</i> are found within low to mid-elevation streams in the Sacramento-San Joaquin drainage and the Russian River. This species requires clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. They are not found where exotic centrarchids predominate.	No Potential. The adjacent watercourse (Little Sulphur Creek) to the Study Area may be suitable for this species. This Creek is located >1 mile from the study area.	Not Present. There are no further recommendations for this species.
steelhead - central California coast DPS <i>Oncorhynchus mykiss irideus</i> pop. 8	FT AFS: TH G5T2T3Q S2S3	<i>O. mykiss irideus</i> are anadromous coastal rainbow trout. As adults, this species requires high flows, with depths of at least 18cm for passage. Clean well-aerated gravel beds, typically in steep, rocky reaches of upper tributaries are needed for spawning. This DPS includes naturally spawned anadromous <i>O. mykiss</i> originating below natural and manmade impassable barriers from the Sacramento and San Joaquin Rivers and their tributaries; excludes such fish originating from San Francisco and San Pablo Bays and their tributaries.	No Potential. The adjacent watercourse (Little Sulphur Creek) to the Study Area may be suitable for this species. This Creek is located >1 mile from the study area.	Not Present. There are no further recommendations for this species.
chinook salmon – California coastal ESU <i>Oncorhynchus tshawytscha</i> pop. 17	FT AFS: TH G5T2Q S2	The Federal listing refers to wild spawned, coastal, spring and fall runs between Redwood Cr, Humboldt Co and Russian River, Sonoma Co. Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures greater than 27°C are lethal.	No Potential. The adjacent watercourse (Little Sulphur Creek) to the Study Area may be suitable for this species. This Creek is located >1 mile from the study area.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Insects				
obscure bumble bee <i>Bombus caliginosus</i>	IUCN: VU G4? S1S2	<i>Bombus caliginosus</i> inhabits open grassy coastal prairies and Coast Range meadows in coastal areas from Santa Barbara County to north to Washington state. Nesting occurs underground as well as above ground in abandoned bird nests. Males patrol circuits in search of mates. This species is classified as a medium long-tongued species, whose food plants include <i>Ceanothus</i> , <i>Cirsium</i> , <i>Clarkia</i> , <i>Keckiella</i> , <i>Lathyrus</i> , <i>Lotus</i> , <i>Lupinus</i> , <i>Baccharis</i> , <i>Rhododendron</i> , <i>Rubus</i> , <i>Trifolium</i> , and <i>Vaccinium</i> .	Moderate Potential. The Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.
western bumble bee <i>Bombus occidentalis</i>	USFS: S Xerces: IM G2G3 S1	The habitat for this species is described as open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. typically nests underground in abandoned rodent burrows or other cavities Food plants of <i>Bombus occidentalis</i> include <i>Ceanothus</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , <i>Cirsium</i> , <i>Geranium</i> , <i>Grindellia</i> , <i>Lupinus</i> , <i>Melilotus</i> , <i>Monardella</i> , <i>Rubus</i> , <i>Solidago</i> , and <i>Trifolium</i> .	Moderate Potential. The Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.
brownish dubiraphian riffle beetle <i>Dubiraphia brunnescens</i>	G1 S1	Found within the Upper Cache watershed (HUC 18020116+) within Lake County, CA, the brownish dubiraphian riffle beetle occurs in shallow water among submerged roots of various species of aquatic plant life (including <i>Salix sp.</i>) and on rocky shores.	No Potential. The Study Area does not lie within the known range of this species.	Not Present. There are no further recommendations for this species.
Borax Lake cuckoo wasp <i>Hedychridium milleri</i>	G1 S1	The Borax Lake cuckoo wasp are only found in the vicinity of Borax Lake in Lake County. They fly mainly in the hottest and driest months of summer, preferring subtropical and Mediterranean climates. They inhabit rocks and vegetation.	No Potential. The Study Area does not lie within the known range of this species.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	G2? S2?	<i>H. rickseckeri</i> habitat is considered unknown, and individuals have been observed in artificial ponds as well as vernal ponds. Adults of the species are capable of flight; however, are aquatic by nature. All known collection records (CNDDDB) are from 27 December to 30 July (most in April and May), which would correspond to when vernal pools are most likely to contain water.	Low Potential. Only known observance of this species in Sonoma County was over fifty years ago.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
serpentine cypress wood-boring beetle <i>Trachykele hartmani</i>	G1 S1	<i>T. hartmani</i> are restricted to Napa, Colusa, and Lake counties. They are bronze colored and larvae develop in Sargent cypress (<i>Hesperocyparis sargentii</i>) trees.	Low Potential. Only known observance of this species in Sonoma County was over thirty years ago.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Mammals				
pallid bat <i>Antrozous pallidus</i>	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H G4 S4	<i>A. pallidus</i> are found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley & foothill grassland habitats. Most common in open, dry habitats with rocky areas for roosting. This species forages along river channels. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate Potential. The Study Area ranks as Low to Moderate according to the CWHR Predicted Suitability Map. The forests and rocky areas within the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Sonoma tree vole <i>Arborimus pomo</i>	CDFW: SSC IUCN: NT G3 S3	<i>A. pomo</i> is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt. They are found in Douglas-fir, redwood and montane hardwood conifer forests. This species feeds almost exclusively on Douglas-fir needles but will occasionally eat grand fir, western hemlock, and/or Sitka spruce needles as well. Nests are frequently found in trees along the bole, in branch crotches, or in the top of snags. Nests are most often found along roads, skid trails, or forest edges; however, they could exist further in the forest with dense canopies making nest identification difficult.	No Potential. The Study Area is outside the range of this species.	Not Present. There are no further recommendations for this species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H G4 S2	<i>C. townsendii</i> inhabits mesic sites within broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow & seep, Mojavean desert scrub, riparian forest, riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, upper montane coniferous forest, and valley & foothill grassland. Females form maternity colonies in buildings, caves, mines and in basal hollows in large conifer trees and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	Low Potential. The Study Area ranks as Low according to the CWHR Predicted Suitability Map. Coniferous forest habitat is minimal within the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
North American porcupine <i>Erethizon dorsatum</i>	IUCN: LC G5 S3	<i>E. dorsatum</i> inhabit broadleaved upland forest, cismontane woodland, closed-cone coniferous forest, lower montane coniferous forest, North coast coniferous forest, and upper montane coniferous forest habitats. This herbivore eats leaves, twigs, and green plants like Skunk cabbage (<i>Symplocarpus foetidus</i>) and clovers (<i>Trifolium sp.</i>). This species makes its dens in hollow trees, decaying logs and caves in rocky areas. Recognized as primarily solitary and nocturnal, <i>E. dorsatum</i> may be seen foraging during daytime.	Low Potential. The Study Area is ranked as Unranked to Low according to the CWHR Predicted Suitability Map. Coniferous and oldgrowth forest habitat do not exist within the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
western red bat <i>Lasiurus blossevillii</i>	CDFW: SSC IUCN: LC WBWG: H G4 S3	<i>L. blossevillii</i> roosts primarily in trees, often 2-40ft above the ground from sea level through mixed conifer forests. Typical habitats include cismontane woodland, lower montane coniferous forest, riparian forests and woodlands. This species prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate Potential. The Study Area is classified as Low to Moderate potential according to the CWHR Predicted Suitability Map. Riparian woodland/forest habitat exist adjacent to the Study Area that may be suitable for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.
hoary bat <i>Lasiurus cinereus</i>	IUCN: LC WBWG: M G3G4 S3	<i>L. cinereus</i> prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding in broadleaved upland forest, cismontane woodland, lower montane coniferous forest, and North coast coniferous forest habitats. Hoary bats roost in dense foliage of medium to large trees. They feed primarily on moths and requires water.	Low Potential. The study area does lie within the known range for this species. However, the study area contains minimal suitable coniferous habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
long-eared myotis <i>Myotis evotis</i>	BLM:S IUCN: LC WBWG: M G5 S3	<i>M. evotis</i> is found in all brush, woodland and forested habitats from sea level to approximately 9,000 feet in elevation; however, prefers coniferous woodlands and forests. Foraging occurs along habitat edges, in open spaces and over water. Nursery colonies are often found within buildings, crevices, spaces under bark and snags. Caves are used primarily as night roosts.	Moderate Potential. The Study Area is classified as Unranked to Moderate potential according to the CWHR Predicted Suitability Map. Forest habitats exist within the Study Area.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.2 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
little brown bat <i>Myotis lucifugus</i>	IUCN: LC WBWG: M G2 S2S3	<i>M. lucifugus</i> typically lives and feeds in forested areas near or over water. The little brown bat lives in three different roosting sites throughout the year: day roosts, night roosts, and hibernation roosts. Stable, ambient temperatures greatly influence site selection. Manmade structures are often selected, however both day and night roosts may be found in trees, under rocks, and in piles of wood. Day roost provide excellent shelter, limited to no light, and typically have southwestern exposure. Night roosts are larger areas these bats can use when outside temperatures necessitate communal congregation for warmth. Hibernaculum habitats tend to include mines and caves and are typically warmer and more humid.	Low Potential. The Study Area is classified as Low potential according to the CWHR Predicted Suitability Map.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
fringed myotis <i>Myotis thysanodes</i>	BLM: S IUCN: LC USFS: S WBWG: H G4 S3	<i>M. thysanodes</i> are widespread in California, occurring in a wide variety of habitats including pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally found at 1300-2200m elevations (4000-7000ft). They forage around streams, lakes, and ponds and their prey consists mainly of beetles and other insects. Typical roosting habitat includes caves, mine tunnels, rock crevices and old buildings.	Low Potential. The majority of the Study Area is classified as Low potential according to CWHR Predicted Suitability Map. Pinyon-juniper and conifer woodland habitat are minimal within the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Yuma myotis <i>Myotis yumanensis</i>	BLM: S IUCN: LC WBWG: LM G5 S4	<i>M. yumanensis</i> commonly inhabits open forests and woodlands from British Columbia across the western U.S. and south into Baja and southern Mexico in lower montane coniferous forest, riparian forest, riparian woodland, and upper montane coniferous forest habitat. Foraging occurs almost exclusively over water. Typical roosting habitat are caves, mines, buildings, under bridges and in cliff and tree crevices. Maternity colonies are often in caves, mines, buildings and crevices.	Low Potential. The majority of the Study Area is classified as Low potential according to CWHR Predicted Suitability Map. The study area contains minimal suitable coniferous habitat for this species	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Fisher [West Coast DPS] <i>Pekania pennanti</i>	CDFW: SSC USFS: S BLM: S G5 S2S3	<i>P. pennanti</i> inhabit forest stands with late-successional characteristics including intermediate-to-large tree stages of coniferous forest and deciduous-riparian areas with high percent canopy closure in North coast coniferous forest, old growth and riparian forest habitat. <i>P. pennanti</i> use cavities, snags, logs and rocky areas for cover and denning and require large areas of mature, dense forest. Fishers are primarily solitary, except during breeding season (February – April).	No Potential. The Study Area does not lie within the known range of this species.	Not Present. There are no further recommendations for this species.
Mollusks				
western ridged mussel <i>Gonidea angulata</i>	G3 S1S2	<i>G. angulata</i> inhabits cold creeks and streams from low-to-mid elevations that are seasonally and not continuously turbid. <i>G. angulata</i> requires a host species to reproduce and disperse and can be found in diverse substrates from firm mud to coarse particles. Documented fish hosts for this species include hardhead (<i>Mylopharodon conocephalus</i>), pit sculpin (<i>Cottus pitensis</i>), and Tule perch (<i>Hysterocarpus traski</i>).	No Potential. There are no watercourses within the Study Area that support this species. Watercourses exist adjacent to the Study Area that may be suitable for this species.	Not Present. There are no further recommendations for this species.
Clear Lake Pyrg <i>Pyrgulopsis ventricosa</i>	IUCN: CR G1 S1	<i>P. ventricosa</i> inhabits springs and small spring-fed streams, where it is found on vegetation. It was historically widespread in the Clear Lake region but currently it is restricted to the Seigler Creek drainage in the south end of the Clear Lake basin.	Low Potential. The watercourses that flow adjacent to the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Reptiles				
green sea turtle <i>Chelonia mydas</i>	FT G3 S4	Marine; near shore, pelagic; tidal flat/shore, bay/sound; sand/dune. Feeding occurs in shallow, low-energy waters with abundant submerged vegetation, and also in convergence zones in the open ocean. Nesting occurs on beaches, usually on islands but also on the mainland. Beach development and illumination often make beaches unsuitable for successful nesting.	No Potential. The Study Area does not lie within the known range of this species.	Not Present. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
western pond turtle <i>Emys marmorata</i>	BLM: S CDFW: SSC IUCN: VU USFS: S G3G4 S3	In the eastern North Pacific, green turtles have been sighted as far north as southern Alaska, but most commonly occur from southern California to northwestern Mexico	Low Potential. The majority of the Study Area is listed as Low to Moderate potential according to the CWHR Predicted Suitability Map. Watercourses exist adjacent to the Study Area that may be suitable for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Plants				
Franciscan onion <i>Allium peninsulare</i> <i>var. franciscanum</i>	Rank 1B.2 G5T2 S2	Cismontane woodland, valley and foothill grassland, often in clay soils, sometimes on serpentine or volcanics. <i>A. peninsulare var. franciscanum</i> has a weak serpentine affinity of 1.8. Elevation ranges from 17 to 1050 feet (5 to 320 meters). A perennial herb (bulb), the blooming period is from May-Jun.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2 BLM: S G3 S3	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation ranges from 10 to 2609 feet (3 to 795 meters). An annual herb, the blooming period is from Mar-Jun.	Moderate Potential. Cismontane woodland and valley grassland habitat is present within the study area which this species requires.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
dimorphic snapdragon <i>Antirrhinum subcordatum</i>	Rank 4.3 G3 S3	Chaparral, lower montane coniferous forest, generally on serpentine or shale (ultramafic) in foothill woodland or chaparral on south and west-facing slopes. <i>A. subcordatum</i> has a broad endemic/strong serpentine affinity of 4.3. Elevation ranges from 607 to 2625 feet (185 to 800 meters). An annual herb, the blooming period is from Apr-Jul.	Low Potential. Chaparral and woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine and/or shale .	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
twig-like snapdragon <i>Antirrhinum virga</i>	Rank 4.3 G3? S3?	Chaparral, lower montane coniferous forest, often found in rocky openings, sometimes with serpentine (ultramafic). <i>A. virga</i> has a strong serpentine affinity of 2.8. Elevation ranges from 328 to 6611 feet (100 to 2015 meters). A perennial herb, the blooming period is from Jun-Jul.	Low Potential. Chaparral and Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
The Cedars manzanita <i>Arctostaphylos bakeri</i> <i>ssp. Sublaevis</i>	Rank 1B.2 SR G2T2 S2	Chaparral, closed-cone coniferous forest, in serpentine chaparral and Sargent cypress (<i>Hesperocyparis sargentii</i>) woodland, typically in canyons and on slopes. <i>A. bakeri</i> ssp. <i>sublaevis</i> has a strict endemic serpentine affinity of 6. Elevation ranges from 985 to 1198 feet (300 to 365 meters). A shrub, the blooming period is from Feb-May.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation and contains only minimal serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Howell's manzanita <i>Arctostaphylos hispidula</i>	Rank 4.2 G4 S3	Chaparral, often found on open, rocky, serpentine or sandstone sites (ultramafic). <i>A. hispidula</i> has a broad endemic serpentine affinity of 4.5. Elevation ranges from 394 to 4101 feet (120 to 1250 meters). A shrub, the blooming period is from Mar-Apr.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine and/or shale.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Konocti manzanita <i>Arctostaphylos manzanita</i> ssp. <i>Elegans</i>	Rank 1B.3 G5T3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, often on volcanic soils. Elevation ranges from 738 to 6004 feet (225 to 1830 meters). A shrub, the blooming period is from Mar-May.	High Potential. The study area contains chaparral and cismontane woodland that this species requires. CNDDDB occurrence of species in The Geysers Quadrangle from 1984 and in neighboring quadrangle (Mount St. Helena) from 2007. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>Decumbens</i>	Rank 1B.1 G3T1 S1	Chaparral (rhyolitic), Cismontane woodland. Elevation ranges from 245 to 1215 feet (75-370 meters). A perennial evergreen shrub, the blooming period is from Feb-Apr (May).	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>Raichei</i>	Rank 1B.1 BLM: S G3T2 S2	Chaparral, lower montane coniferous forest (openings), rocky, serpentine sites, often on slopes and ridges. <i>A. stanfordiana</i> ssp. <i>raichei</i> has a strong serpentine affinity of 2.6. Elevation ranges from 1591 to 3511 feet (485 to 1070 meters). A perennial evergreen shrub, the blooming period is from Feb-Apr.	Low Potential. Chaparral and Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
serpentine milkweed <i>Asclepias solanoana</i>	Rank 4.2 G3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, typically growing on serpentine soils and confined to clearings and gentle slopes with southern exposure. <i>A. solanoana</i> has a strict endemic serpentine affinity of 6.0. Elevation ranges from 755 to 6103 feet (230 to 1860 meters). A perennial herb, the blooming period is from May-Jul.	Low Potential. Chaparral, cismontane woodland, and Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Brewer's milk-vetch <i>Astragalus breweri</i>	Rank 4.2 G3 S3	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Often in grassy flats, meadows moist in spring, and open slopes in chaparral. Commonly on or near volcanic or serpentine sites. <i>A. breweri</i> has a strong serpentine affinity of 3.2. Elevation ranges from 296 to 2395 feet (90 to 730 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Cleveland's milk-vetch <i>Astragalus clevelandii</i>	Rank 4.3 G4 S4	Chaparral, cismontane woodland, riparian forest, ultramafic seeps and creeks; sandy stream banks, gravel bars moist in spring, hillside seeps on slopes. <i>A. clevelandii</i> has a strict endemic serpentine affinity of 6.1 and a USACE wetland status of FACW.. Elevation ranges from 656 to 4922 feet (200 to 1500 meters). A perennial herb, the blooming period is from Jun-Sep.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Rank 1B.2 BLM: S G4T3 S3	Cismontane woodland, valley and foothill grassland, chaparral, commonly on serpentine (ultramafic) in grasslands or in openings of chaparral. <i>A. rattanii</i> var. <i>jepsonianus</i> has a broad endemic/strong serpentine affinity of 4.3. Elevation ranges from 574 to 3297 feet (175 to 1005 meters). An annual herb, the blooming period is from Mar-Jun.	Low Potential. Chaparral, cismontane woodland, and valley grassland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mexican mosquito fern <i>Azolla microphylla</i>	Rank 4.2 G5 S4	Marshes and swamps, ponds and still water, wetlands. Elevation ranges from 99 to 328 feet (30 to 100 meters). A fern, the blooming period is in Aug.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
watershield <i>Brasenia schreberi</i>	Rank 2B.3 IUCN: LC G5 S3	Freshwater marshes and swamps. Aquatic, known from water bodies both natural and artificial. Elevation ranges from 3 to 7152 feet (1 to 2180 meters). A perennial rhizomatous herb (aquatic), the blooming period is from Jun-Sep.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
narrow-anthered brodiaea <i>Brodiaea leptandra</i>	Rank 1B.2 G3? S3?	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, often on volcanic substrates. <i>B. leptandra</i> has a weak serpentine affinity of 2.0. Elevation ranges from 99 to 1936 feet (30 to 590 meters). A perennial herb, the blooming period is from May-Jul.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
brassy bryum <i>Bryum chryseum</i>	Rank 4.3 G5 S3	Cismontane woodland, valley and foothill grassland, chaparral openings. Elevation ranges from 164 to 1969 feet (50 to 600 meters). A moss, there is no distinct blooming period.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
serpentine reed grass <i>Calamagrostis ophitidis</i>	Rank 4.3 G3 S3	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grasslands, often on serpentine, rocky sites. Elevation ranges from 296 to 3494 (90-1065 meters).	Low Potential. Chaparral and Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
The Cedars fairy-lantern <i>Calochortus raichei</i>	Rank 1B.2 BLM: S G2 S2	Closed-cone coniferous forest, chaparral, on serpentine (ultramafic) sites, usually on shaded slopes but also on barrens and talus. <i>C. raichei</i> has a strict endemic serpentine affinity of 6. Elevation ranges from 837 to 1411 feet (255 to 430 meters). A perennial herb (bulb), the blooming period is from May-Aug.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
pink star-tulip <i>Calochortus uniflorus</i>	Rank 4.2 G4 S4	Coastal scrub, coastal prairie, north coast coniferous forest, meadows and seeps. Seasonally moist meadows, sometimes within coastal scrub or forested habitats, usually in wetlands or at low elevations on the coast. <i>C. uniflorus</i> has a weak serpentine affinity of 1.7 and a USACE wetland status of FACW. Elevation ranges from 33 to 3511 feet (10 to 1070 meters). A perennial herb, the blooming period is from Apr-Jun.	Low Potential. The Study Area does not contain any wetlands or still water and is not located on the coast.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
small-flowered calycadenia <i>Calycadenia micrantha</i>	Rank 1B.2 USFS: S G2 S2	Chaparral, valley and foothill grassland, meadows and seeps, often found on rocky talus or scree, sparsely vegetated areas, roadsides and sometimes on serpentine. Elevation ranges from 1427 to 4610 feet (435 to 1405 meters). An annual herb, the blooming period is from Jun-Sep.	Moderate Potential. The study area contains chaparral and valley grassland habitat that this species requires. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
four-petaled pussypaws <i>Calyptridium quadripetalum</i>	Rank 4.3 G4 S4	Chaparral, lower montane coniferous forest, sandy or gravelly areas, generally on serpentine (ultramafic). <i>C. quadripetalum</i> has a broad endemic serpentine affinity of 4.6. Elevation ranges from 1034 to 6693 feet (315 to 2040 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. Chaparral and lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Mt. Saint Helena morning-glory <i>Calystegia collina ssp. oxyphylla</i>	Rank 4.2 G4T3 S3	Chaparral, lower montane coniferous forest, valley and foothill grassland, often along serpentine barrens, slopes and hillsides. <i>C. collina ssp. oxyphylla</i> has a strict endemic serpentine affinity of 5.6. Elevation ranges from 919 to 3314 feet (280 to 1010 meters). A perennial herb (rhizomatous), the blooming period is from Apr-Jun.	Low Potential. Chaparral and lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
three-fingered morning-glory <i>Calystegia collina ssp. tridactylosa</i>	Rank 1B.2 BLM: S G4T1 S1	Chaparral, cismontane woodland, often on rocky, gravelly openings on serpentine substrates. This species has a broad endemic serpentine affinity of 4.5. Elevation ranges from 1985 to 2313 feet (605 to 705 meters). A perennial herb, the blooming period is from Apr-Jun.	Low Potential. Chaparral and cismontane woodland forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
bristly sedge <i>Carex comosa</i>	Rank 2B.1 ICCN: LC G5 S2	Marshes and swamps, coastal prairie, valley and foothill grasslands, lake margins, wetlands. Elevation ranges from 17 to 3314 feet (5 to 1010 meters). A perennial rhizomatous herb, the blooming period is from May-Sep.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
northern meadow sedge <i>Carex praticola</i>	Rank 2B.2 G5 S2	Meadows and seeps, wetlands, moist to wet meadows. Elevation ranges from 49 to 10499 feet (15 to 3200 meters). A perennial rhizomatous herb, the blooming period is from May-Jul.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1 BLM: S G1 S1	Closed-cone coniferous forest, chaparral, cismontane woodland, known from volcanic or serpentine soils, dry shrubby slopes. <i>C. confusus</i> has a weak serpentine affinity of 1.3. Elevation ranges from 492 to 4200 feet (150 to 1280 meters). A shrub, the blooming period is from Feb-Jun.	High Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species: The Geysers quadrangle in 1927, and in neighboring Geyserville quadrangle in 2000, and Cloverdale and Mount St Helena quadrangles in 1980s.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Calistoga ceanothus <i>Ceanothus divergens</i>	Rank 1B.2 G2 S2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, often found in openings of chaparral or grasslands, sometimes on serpentine. Elevation ranges from 66 to 3002 feet (20 to 915 meters). <i>C. divergens</i> has a weak serpentine affinity of 2.0. A shrub, the blooming period is from Feb-Apr.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species: The Geysers quadrangle in 1893, and in neighboring	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
dwarf soaproot <i>Chlorogalum pomeridianum var. minus</i>	Rank 1B.2 BLM: S USFS: S G5T3 S3	Chaparral, often found on serpentine sites (ultramafic). Elevation ranges from 394 to 4003 feet (120 to 1220 meters). <i>C. pomeridianum var. minus</i> has a strict endemic serpentine affinity of 6.1. A perennial herb (bulb), the blooming period is from May-Aug.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Tracy's clarkia <i>Clarkia gracilis ssp. tracyi</i>	Rank 4.2 G5T3 S3	Chaparral, openings, usually on serpentine (5, broad endemic). Elevation ranges from 214 to 2133 feet (65 to 650 meters). An annual herb, the blooming period is from Apr-Jul.	Low Potential. Chaparral habitat is present within the study area. Minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
serpentine collomia <i>Collomia diversifolia</i>	Rank 4.3 G4 S4	Chaparral, cismontane woodland, often on rocky or gravelly sites. <i>C. diversifolia</i> has a strict endemic serpentine affinity of 5.6. Elevation ranges from 985 to 1969 feet (300 to 600 meters). An annual herb, the blooming period is from May-Jun.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation. Minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
serpentine bird's-beak <i>Cordylanthus tenuis ssp. brunneus</i>	Rank 4.3 G4G5T3 S3	Chaparral, closed-cone coniferous forest, cismontane woodland, often along barren, rocky serpentine soil (ultramafic). <i>C. tenuis ssp. brunneus</i> has a broad endemic serpentine affinity of 5.1. Elevation ranges from 1559 to 3002 feet (475 to 915 meters). An annual herb (hemiparasitic), the blooming period is from Jul-Aug.	Present. Species was observed on site during botanical surveys.	Present: Species was observed on site during botanical surveys. Approx 730 individuals total along road between GPS (38.780228,-122.866535) and GPS (38.771095, -122.850312). Please see section 6.2.1 for further recommendations.
Pennell's bird's-beak <i>Cordylanthus tenuis ssp. capillaris</i>	Rank 1B.2 FE SR G4G5T1 S1	Closed-cone coniferous forest, chaparral, often in open or disturbed areas on serpentine soils (ultramafic) within forest or chaparral habitats. <i>C. tenuis ssp. capillaris</i> has a strict endemic serpentine affinity of 6. Elevation ranges from 296 to 706 feet (90 to 215 meters). An annual herb (hemiparasitic), the blooming period is from Jun-Sep.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
serpentine cryptantha <i>Cryptantha dissita</i>	Rank 1B.2 BLM: S G3 S3	Chaparral, serpentine outcrops. This species has a broad endemic serpentine affinity of 4.4. Elevation ranges from 443 to 2412 feet (135 to 735 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. Chaparral habitat is present within the study area. CNDDDB occurrences of this species in neighboring Jimtown quadrangle in 2016. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
California lady's-slipper <i>Cypripedium californicum</i>	Rank 4.2 IUCN: EN G4 S4	Lower montane coniferous forest, bogs and fens (seeps and streambanks, usually serpentine). This species has a broad endemic serpentine affinity of 4.5 Elevation ranges from 99 to 9023 feet (30 to 2750 meters). A perennial herb (rhizomatous), the blooming period is from Apr-Aug.	Low Potential. Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
mountain lady's-slipper <i>Cypripedium montanum</i>	Rank 4.2 BLM: S IUCN: VU USFS: S G4 S4	Lower montane coniferous forest, broadleaved upland forest, cismontane woodland, north coast coniferous forest, often on dry, undisturbed slopes. Elevation ranges from 607 to 7300 feet (185 to 2225 meters). A perennial herb (rhizomatous), the blooming period is from Mar-Aug.	Moderate Potential. Lower montane coniferous forest and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
swamp larkspur <i>Delphinium uliginosum</i>	Rank 4.2 G3 S3	Chaparral, valley and foothill grassland, often found in moist drainages, meadows and creekbeds on mesic ultramafic substrates. <i>D. uliginosum</i> has a strict endemic serpentine affinity of 5.7. Elevation ranges from 1116 to 2002 feet (340 to 610 meters). A perennial herb, the blooming period is from May-Jun.	Low Potential. Chaparral and valley grassland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Cascade downingia <i>Downingia willamettensis</i>	Rank 2B.2 G2 S4	Cismontane woodland, valley and foothill grasslands, vernal pools, lake margins. Elevation ranges from 49 to 3642 feet (15 to 1110 meters). An annual herb, the blooming period is from Jun-Jul.	Moderate Potential. Cismontane woodland and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Koch's cord moss <i>Entosthodon kochii</i>	Rank 1B.3 BLM: S G1 S1	Cismontane woodland, often growing on soil over riverbanks. Elevation ranges from 607 to 1198 feet (185 to 365 meters). A moss, there is no distinct blooming period.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Humboldt County fuchsia <i>Epilobium septentrionale</i>	Rank 4.3 G4 S4	Broadleaved upland forest, north coast coniferous forest, often on dry, sandy or rocky ledges. Elevation ranges from 148 to 5906 feet (45 to 1800 meters). A perennial herb, the blooming period is from Jul-Sep.	Moderate Potential. Coniferous forest and upland forest habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Brandegee's erastrum <i>Eriastrum brandegeae</i>	Rank 1B.1 BLM: S G1Q S1	Chaparral, cismontane woodland, on barren volcanic soils, often in open areas. Elevation ranges from 1345 to 2773 feet (410 to 845 meters). An annual herb, the blooming period is from Apr-Aug.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	Rank 1B.2 G3 S3	Chaparral, serpentine and volcanic substrates, generally in shrubby vegetation. Elevation ranges from 296 to 2740 feet (90 to 835 meters). A perennial herb, the blooming period is from May-Sep.	Moderate Potential. Chaparral habitat is present within the study area. CNDDDB occurrences of this species in neighboring Mount St. Helena quadrangle in 1941 and 2011. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	Rank 1B.2 BLM: S USFS: S G2 S2	Chaparral, ultramafic, dry serpentine outcrops, balds and barrens. <i>E. nervulosum</i> has a strict endemic serpentine affinity of 6.2. Elevation ranges from 1460 to 6906 feet (445 to 2105 meters). A perennial herb (rhizomatous), the blooming period is from Jun-Sep.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
ternate buckwheat <i>Eriogonum ternatum</i>	Rank 4.3 G4 S4	Lower montane coniferous forest, often on serpentine outcrops. <i>E. ternatum</i> has a strict endemic serpentine affinity of 6.2. Elevation ranges from 1001 to 7300 feet (305 to 2225 meters). A perennial herb, the blooming period is from Jun-Aug.	Low Potential. Lower montane coniferous forest habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Loch Lomond button-celery <i>Eryngium constancei</i>	Rank 1B.1 FE SE G1 S1	Volcanic ash flow vernal pools, wetlands. Elevation ranges from 1509 to 2805 feet (460 to 855 meters). An annual or perennial herb, the blooming period is from Apr-Jun.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
bare monkeyflower <i>Erythranthe nudata</i>	Rank 4.3 G4 S4	Chaparral, cismontane woodland, moist areas, often along drainages and roadsides in serpentine seeps. Elevation ranges from 820 to 2297 feet (250 to 700 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
St. Helena fawn lily <i>Erythronium helenae</i>	Rank 4.2 G3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/ volcanic or serpentinite. Elevation ranges from 1145-4005 feet. Bloom Mar-May.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Purdy's fritillary <i>Fritillaria purdyi</i>	Rank 4.3 G4 S4	Chaparral, cismontane woodland, lower montane coniferous forest, usually on serpentine. <i>F. fritillary</i> has a broad endemic serpentine affinity of 4.5. Elevation ranges from 574 to 7399 feet (175 to 2255 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	Rank 1B.2 SE BLM: S G2 S2	Marshes and swamps (freshwater), vernal pools, often found in clay soils, usually in vernal pools or sometimes lake margins. Elevation ranges from 13 to 7907 feet (4 to 2410 meters). An annual herb, the blooming period is from Apr-Aug.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Toren's grimmia <i>Grimmia torenii</i>	Rank 1B.3 BLM:S G2 S2	Cismontane woodland, lower montane coniferous forest, chaparral, often found in openings, rocky, boulder and rock walls, carbonate, volcanic soils. Elevation ranges from 1067 to 3806 feet (325 to 1160 meters). A moss, no distinct blooming period.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Hall's harmonia <i>Harmonia hallii</i>	Rank 1B.2 BLM: S G2? S2?	Chaparral, serpentine hills and ridges, open, rocky areas. <i>H. hallii</i> has a strict endemic serpentine affinity of 6.1. Elevation ranges from 1099 to 3101 feet (335 to 945 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
nodding harmonia <i>Harmonia nutans</i>	Rank 4.3 G3 S3	Chaparral, cismontane woodland, often on rocky, volcanic substrates. Elevation ranges from 246 to 3199 feet (75 to 975 meters). An annual herb, the blooming period is from Mar-May.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
serpentine sunflower <i>Helianthus exilis</i>	Rank CBR IUNC: NT G3 S3	Chaparral, cismontane woodland, often in serpentine seeps. <i>H. exilis</i> has a strict endemic serpentine affinity of 5.7. Elevation ranges from 492 to 5004 feet (150 to 1525 meters). An annual herb, the blooming period is from Jun-Nov.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Mendocino tarplant <i>Hemizonia congesta ssp. calyculata</i>	Rank 4.3 G5T4 S4	Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine. <i>H. congesta ssp. calyculata</i> has a weak serpentine affinity of 1.5. Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.	Moderate Potential. Valley grassland and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
congested-headed hayfield tarplant <i>Hemizonia congesta ssp. congesta</i>	Rank 1B.2 G5T2 S2	Valley and foothill grassland, often in fallow fields, sometimes along roadsides. <i>H. congesta ssp. congesta</i> has a weak serpentine affinity of 1.3. Elevation ranges from 17 to 1706 feet (5 to 520 meters). An annual herb, the blooming period is from Apr-Nov.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
glandular western flax <i>Hesperolinon adenophyllum</i>	Rank 1B.2 BLM: S G2G3 S2S3	Chaparral, cismontane woodland, valley and foothill grassland, serpentine soils, generally found in serpentine chaparral. <i>H. adenophyllum</i> has a strict endemic serpentine affinity of 5.7. Elevation ranges from 1395 to 4413 feet (425 to 1345 meters). An annual herb, the blooming period is from May-Aug.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	Rank 1B.2 BLM: S G2 S2	Serpentine barrens at edges of chaparral. <i>H. bicarpellatum</i> has a strict endemic serpentine affinity of 6.2. Elevation ranges from 574 to 2707 feet (175 to 825 meters). An annual herb, the blooming period is from May-Jul.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Bolander's horkelia <i>Horkelia bolanderi</i>	Rank 1B.2 BLM: S G1 S1	Lower montane coniferous forest, chaparral, meadows and seeps, valley and foothill grassland, often found in grassy margins of vernal pools and meadows. Elevation ranges from 1493 to 2805 feet (455 to 855 meters). A perennial herb, the blooming period is from Jun-Aug.	Low Potential. Chaparral and lower montane coniferous forest habitat is present within the study area. The Study Area does not contain any vernal pools or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Parry's horkelia <i>Horkelia parryi</i>	Rank 1B.2 BLM: S USFS: S G2 S2	Chaparral, cismontane woodlands, often found in openings, especially known from the lone formation in Amador County. Elevation ranges from 279 to 3658 feet (85 to 1115 meters). A perennial herb, the blooming period is from Apr-Sep.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
thin-lobed horkelia <i>Horkelia tenuiloba</i>	Rank 1B.2 G2 S2	Broadleaved upland forest, chaparral, valley and foothill grassland, often on sandy soils in mesic openings. Elevation ranges from 148 to 2100 feet (45 to 640 meters). A perennial herb, the blooming period is from May-Jul.	Moderate Potential. Chaparral and valley grassland habitat is present within the study area. CNDDDB occurrences of this species in neighboring Geyserville quadrangle in 1991 and 1992. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
California satintail <i>Imperata brevifolia</i>	Rank 2B.1 USFS: S G4 S3	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkaline), riparian scrub. Elevation ranges from 0 to 3985 feet (0 to 1215 meters). A perennial rhizomatous herb, the blooming period is from Sep-May.	Moderate Potential. Chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
coast iris <i>Iris longipetala</i>	Rank 4.2 G3 S3	Coastal prairie, lower montane coniferous forest, meadows and seeps, wetland-riparian, mesic sites with heavy soils. Occurs usually in wetlands, sometimes in non-wetlands. Elevation ranges from 0 to 1969 feet (0 to 600 meters). A perennial herb, the blooming period is from Mar-May.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
small groundcone <i>Kopsiopsis hookeri</i>	Rank 2B.3 G4? S1S2	North coast coniferous forest, open woods, shrubby places, generally on Gaultheria shallon. Elevation ranges from 394 to 4708 feet (120 to 1435 meters). A perennial herb, the blooming period is from Apr-Aug.	Low Potential. The Study Area does not provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Burke's goldfields <i>Lasthenia burkei</i>	Rank 1B.1 FE SE G1 S1	Vernal pools and swales, meadows and seeps. Elevation ranges from 49 to 1969 feet (15 to 600 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Colusa layia <i>Layia septentrionalis</i>	Rank 1B.2 BLM: S G2 S2	Chaparral, cismontane woodland, valley and foothill grassland, scattered colonies in fields and grassy slopes in sandy or serpentine soil. Elevation ranges from 49 to 3609 feet (15 to 1100 meters). An annual herb, the blooming period is from Apr-May.	High Potential. Chaparral, cismontane woodland, and valley grassland habitat is present within the study area. CNDDDB occurrences of this species in The Geysers quadrangle in 1983. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
legenere <i>Legenere limosa</i>	Rank 1B.1 BLM: S G2 S2	Vernal pools, wetlands. Elevation ranges from 4 to 3297 feet (1 to 1005 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2 G4? S4?	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
large-flowered leptosiphon <i>Leptosiphon grandiflorus</i>	Rank 4.2 G3G4 S3S4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland, often on open, grassy flats, generally with sandy soils. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). An annual herb, the blooming period is from Apr-Aug.	Moderate Potential. Valley grassland and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	Rank 1B.2 G2G3 S2S3	Chaparral, cismontane woodland, valley and foothill grassland, usually volcanic soils. Elevation ranges from 330 to 1640 feet (100 to 500 meters). An annual herb, the blooming period is from Mar-May.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
broad-lobed leptosiphon <i>Leptosiphon latisectus</i>	Rank 4.3 G4 S4	Broadleaved upland forest, cismontane woodland. <i>L. latisectus</i> has a weak serpentine affinity of 2.0. Elevation ranges from 558 to 4922 feet (170 to 1500 meters). An annual herb, the blooming period is from Apr-Jun.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
woolly meadowfoam <i>Limnanthes floccosa</i> <i>ssp. Floccose</i>	Rank 4.2 G4T4 S3	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools, often in vernal wet areas, ditches and ponds. Elevation ranges from 197 to 4380 feet (60 to 1335 meters). An annual herb, the blooming period is from Mar-May.	Low potential. Chaparral and cismontane woodland habitat is present within the study area. However, it does not contain any vernal pools or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Sebastopol meadowfoam <i>Limnanthes vinculans</i>	Rank 1B.1 SE FE G1 S1	Meadows and seeps, Valley and foothill grassland, Vernal pools/ vernal mesic. Elevation ranges from 45-1000 feet. Blooms Apr-May.	Low Potential. The Study Area does not provide suitable habitat for this species. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Napa lomatium <i>Lomatium repostum</i>	Rank 1B.2 G2G3 S2S3	Chaparral, cismontane woodland, often found in rocky areas on volcanic or serpentine soils with mixed chaparral and California black oak (<i>Quercus kelloggii</i>) woodland communities. <i>L. repostum</i> has a strong serpentine affinity of 3.2. Elevation ranges from 296 to 2723 feet (90 to 830 meters). A perennial herb, the blooming period is from Mar-Jun.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Cobb Mountain lupine <i>Lupinus sericatus</i>	Rank 1B.2 BLM: S G2? S2?	Chaparral, cismontane woodland, lower montane coniferous forest, broadleaved upland forest, often found in stands of knobcone pine (<i>Pinus attenuata</i>)-oak woodland on open wooded slopes in gravelly soils, sometimes on serpentine. Elevation ranges from 394 to 4561 feet (120 to 1390 meters). A perennial herb, the blooming period is from Mar-Jun.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrences of this species in neighboring Whispering Pines quadrangle in 1990 and Mount St. Helena quadrangle in 1980 and 1986. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mt. Diablo cottonweed <i>Micropus amphiboles</i>	Rank 3.2 G3G4 S3S4	Valley and foothill grassland, cismontane woodland, chaparral, broadleaved upland forest, often on bare, grassy, or rocky slopes. Elevation ranges from 148 to 2707 feet (45 to 825 meters). An annual herb, the blooming period is from Mar-May.	Moderate Potential. Chaparral and cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
elongate copper moss <i>Mielichhoferia elongate</i>	Rank 4.3 USFS: S G5 S3S4	Cismontane woodland often grows on very acidic, metamorphic rock or substrate, usually in higher portions of fens. Substrates often are naturally enriched with heavy metals (e.g. copper) such as mine tailings. Elevation ranges from 17 to 3560 feet (5 to 1085 meters). A moss, there is no distinct blooming period.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
green monardella <i>Monardella viridis</i>	Rank 4.3 G3 S3	Broadleaved upland forest, chaparral, cismontane woodland. Elevation ranges from 328 to 3314 feet (100 to 1010 meters). A perennial herb, the blooming period is from Jun-Sep.	Present: Species was observed on site during botanical surveys.	Present: Species was observed on site during botanical surveys. Approx 48 individuals total at 5 locations ---12 at GPS (38.786937,-122.885216); 12 at GPS(38.786290,-122884309); 7 at GPS(38.780806,-122.868427); 16 at GPS(38.778024,-122.862177); 1 at GPS(38.775461,-122.852605). Please see section 6.2.1 for further recommendations.
Little mouse tail <i>Myosurus minimus ssp. apus</i>	Rank 3.1 G5T2Q S2	Valley and foothill grassland, vernal pools (alkaline). This species has a USACE wetland status of OBL. Elevation ranges from 0 to 6900 feet (0-2100 meters). An annual herb, the blooming period is from Mar-Jun.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
cotula navarretia <i>Navarretia cotulifolia</i>	Rank 4.2 G4 S4	Chaparral, cismontane woodland, valley and foothill grassland, often on adobe soils. Elevation ranges from 13 to 6004 feet (4 to 1830 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
<i>Navarretia leucocephala ssp. bakeri</i>	Rank 1B.1 G4T2 S2	Cismontane woodland, meadows and seeps, vernal pools and swales, valley and foothill grassland, lower montane coniferous forest, adobe or alkaline soils. Elevation ranges from 10 to 5512 feet (3 to 1680 meters). An annual herb, the blooming period is from Apr-Jul.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
few-flowered navarretia <i>Navarretia leucocephala ssp. pauciflora</i>	Rank 1B.1 FE ST BLM: S G4T1 S1	Vernal pools, volcanic ash flow and volcanic substrate within and adjacent to vernal pools. Elevation ranges from 1395 to 2805 feet (425 to 855 meters). An annual herb, the blooming period is from May-Jun.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
many-flowered navarretia <i>Navarretia leucocephala ssp. plieantha</i>	Rank 1B.2 FE SE G4T1 S1	Vernal pools, volcanic ash flow vernal pools (wetlands). Elevation ranges from 99 to 3002 feet (30 to 915 meters). An annual herb, the blooming period is from Apr-Jun.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
slender Orcutt grass <i>Orcuttia tenuis</i>	Rank 1B.1 FT SE G2 S2	Vernal pools, wetlands often on gravelly substrates. Elevation ranges from 82 to 5758 feet (25 to 1755 meters). An annual grass, the blooming period is from May-Sep.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Geysers panicum <i>Panicum acuminatum</i> <i>var. thermale</i>	Rank 1B.2 SE G5T2Q S2	Closed-cone coniferous forest, riparian forest, valley and foothill grassland, wetland, usually around moist, warm soil in the vicinity of hot springs. Elevation ranges from 1793 to 8104 feet (455 to 2470 meters). A perennial grass, the blooming period is from Jun-Sep.	Moderate Potential. Valley grassland habitat is present within the study area. CNDDDB occurrence of this species in The Geysers quadrangle in 1975 and 2017 and in neighboring Whispering Pines quadrangle in 1977 and 2017. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
Sonoma beardtongue <i>Penstemon newberryi</i> <i>var. sonomensis</i>	Rank 1B.3 BLM: S G4T3 S3	Chaparral, crevices in rock outcrops and talus slopes. Elevation ranges from 591 to 4610 feet (180 to 1405 meters). A perennial herb, the blooming period is from Apr-Aug.	Moderate Potential. Chaparral habitat is present within the study area. CNDDDB occurrence of this species in neighboring Mount St Helena quadrangle in 2020. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
narrow-petaled rein orchid <i>Piperia leptopetala</i>	Rank 4.3 G4 S4	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Elevation ranges from 1247 to 7300 feet (380 to 2225 meters). A perennial herb, the blooming period is from May-Jul.	Moderate Potential. Cismontane woodland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Michael's rein orchid <i>Piperia michaelii</i>	Rank 4.2 G3 S3	Coastal bluff scrub, coastal scrub, cismontane woodland, chaparral, closed-cone coniferous forest, lower montane coniferous forest, mudstone and humus, generally dry sites. Elevation ranges from 10 to 3002 feet (3 to 915 meters). A perennial herb, the blooming period is from Apr-Aug.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
eel-grass pondweed <i>Potamogeton zosteriformis</i>	Rank 2B.2 G5 S3	Marshes, swamps, wetlands, ponds, lakes and streams. Elevation ranges from 296 to 7005 feet (90 to 2135 meters). An annual herb (aquatic), the blooming period is from Jun-Jul.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Lake County stonecrop <i>Sedella leiocarpa</i>	Rank 1B.1 FE SE G1 S1	Valley and foothill grassland, vernal pools, cismontane woodland, level areas that are seasonally wet and dry out in late spring, usually volcanic in origin. Elevation ranges from 1690 to 2100 feet (515 to 640 meters). An annual herb, the blooming period is from Apr-May.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
marsh checkerbloom <i>Sidalcea oregana ssp. hydrophila</i>	Rank 1B.2 G5T2 S2	Meadows and seeps, riparian forest, wet soils along streambanks. Elevation ranges from 1493 to 6660 feet (455 to 2030 meters). A perennial herb, the blooming period is from Jul-Aug.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Kenwood Marsh checkerbloom <i>Sidalcea oregana ssp. valida</i>	Rank 1B.1 FE SE G5T1 S1	Marshes and swamps, along freshwater marsh edges, wetlands. Elevation ranges from 378 to 410 feet (115 to 125 meters). A perennial herb (rhizomatous), the blooming period is from Jun-Sep.	Low Potential. The Study Area does not contain any wetlands or still water. The study area is at 2500 feet elevation.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
bearded jewelflower <i>Streptanthus barbiger</i>	Rank 4.2 G3 S3	Chaparral, serpentine soils. <i>S. barbiger</i> has a strict endemic serpentine affinity of 6.0. Elevation ranges from 492 to 3511 feet (150 to 1070 meters). An annual herb, the blooming period is from May-Jul.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Socrates Mine jewelflower <i>Streptanthus brachiatus ssp. brachiatus</i>	Rank 1B.2 BLM: S G2T1 S1	Chaparral, closed-cone coniferous forest, serpentine sites in chaparral. <i>S. brachiatus ssp. brachiatus</i> has a strict endemic serpentine affinity of 5.6. Elevation ranges from 1985 to 6398 feet (605 to 1950 meters). A perennial herb, the blooming period is from May-Jun.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Freed's jewelflower <i>Streptanthus brachiatus ssp. hoffmanii</i>	Rank 1B.2 BLM: S G2T2 S2	Chaparral, cismontane woodland, on serpentine rock outcrops, primarily in geothermal development areas. <i>S. brachiatus ssp. brachiatus</i> has a strict endemic serpentine affinity of 6.1. Elevation ranges from 1591 to 3412 feet (485 to 1040 meters). A perennial herb, the blooming period is from May-Jul.	Low Potential. Chaparral and cismontane woodland habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Hoffman's bristly jewelflower <i>Streptanthus glandulosus ssp. hoffmanii</i>	Rank 1B.3 G4T2 S2	Chaparral, cismontane woodland, valley and foothill grassland, moist, steep rocky banks in serpentine and non-serpentine soils. Elevation ranges from 197 to 2510 feet (60 to 765 meters). An annual herb, the blooming period is from Mar-Jul.	High Potential. Chaparral and cismontane woodland habitat is present within the study area. CNDDDB occurrence of this species in The Geysers quadrangle in 1988 and in neighboring Jimtown quadrangle in 2018 and 2019. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
green jewelflower <i>Streptanthus hesperidis</i>	Rank 1B.2 BLM: S G2G3 S2S3	Chaparral, cismontane woodland, openings in chaparral or woodlands, serpentine, rocky sites. <i>S. hesperidis</i> has a strict endemic serpentine affinity of 6.0. Elevation ranges from 788 to 2510 feet (240 to 765 meters). An annual herb, the blooming period is from May-Jul.	Low Potential. Chaparral and cismontane wooldand habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
Morrison's jewelflower <i>Streptanthus morrisonii ssp. morrisonii</i>	Rank 1B.2 BLM: S G2T1? S1?	Chaparral, often found on serpentine outcrops in the Austin Creek area. <i>S. morrisonii ssp. morrisonii</i> has a strict endemic serpentine affinity of 6. Elevation ranges from 689 to 2051 feet (210 to 625 meters). A perennial herb, the blooming period is from May-Sep.	Low Potential. Chaparral habitat is present within the study area. However, minimal soils within the study area contain serpentine.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	Rank 2B.2 G5T5 S2S3	Marshes and swamps, often found in shallow, clear water of lakes and drainage channels (wetlands). Elevation ranges from 17 to 7628 feet (5 to 2325 meters). A perennial herb, the blooming period is from May-Jul.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
marsh zigadenus <i>Toxicoscordion fontanum</i>	Rank 4.2 G3 S3	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps, vernal moist or marshy areas; often on serpentine sites. Elevation ranges from 50 to 3281 feet (15 to 1000 meters). A perennial herb, the blooming period is from Apr-Jul.	Low Potential. The Study Area does not contain any wetlands or still water.	Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.
beaked tracyina <i>Tracyina rostrata</i>	Rank 1B.2 USFS: S G2 S2	Cismontane woodland, valley and foothill grassland, chaparral, often observed in open grassy meadows commonly within oak woodland and grassland habitats. Elevation ranges from 492 to 2609 feet (150 to 795 meters). An annual herb, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland, chaparral, and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Napa bluecurls <i>Trichostema ruygtii</i>	Rank 1B.2 G1G2 S1S2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest, often in open, sunny areas or vernal pools. Elevation ranges from 99 to 2231 feet (30 to 680 meters). An annual herb, the blooming period is from Jun-Oct.	Moderate Potential. Cismontane woodland, chaparral, and valley grassland habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3 G4G5 S3?	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 706 to 4593 feet (215 to 1400 meters). A shrub, the blooming period is from May-Jun.	Moderate Potential. Cismontane woodland and chaparral habitat is present within the study area. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Please see section 6.2.1 for further recommendations.



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Abbreviation

FC
FE
FT
FPE
FPT
FPD
FD
SE
ST
SR
SCE
SCT
SCD
SD
AFS_EN
AFS_TH
AFS_VU
BLM_S
BCC
CDF_S
CDFW_SSC
CDFW_FP
CDFW_WL
IUCN_CD
IUCN_CR
IUCN_DD
IUCN_EN
IUCN_EW
IUCN_EX
IUCN_LC
IUCN_NE
IUCN_NT
IUCN_VU
NABCI_RWL
NABCI_YWL
NMFS_SC
USFS_S
USFWS_BCC

Organization

Federal Candidate
Federal Endangered
Federal Threatened
Federally Proposed for listing as Endangered
Federally Proposed for listing as Threatened
Federally Proposed for delisting
Federally Delisted
State Endangered
State Threatened
State Rare
State Candidate for listing as Endangered
State Candidate for listing as Threatened
State Candidate for delisting
State Delisted
American Fisheries Society - Endangered
American Fisheries Society - Threatened
American Fisheries Society – Vulnerable
Bureau of Land Management – Sensitive
USFWS Birds of Conservation Concern
Calif. Dept. of Forestry & Fire Protection – Sensitive
Calif. Dept. of Fish & Wildlife – Species of Special Concern
Calif. Dept. of Fish & Wildlife – Fully Protected
Calif. Dept. of Fish & Wildlife – Watch List
IUCN – Conservation Dependent
IUCN – Critically Endangered
IUCN – Data Deficient
IUCN – Endangered
IUCN – Extinct in the Wild
IUCN – Extinct
IUCN – Least Concern
IUCN – Not Evaluated
IUCN – Near Threatened
IUCN – Vulnerable
North American Bird Conservation Initiative – Red Watch List
North American Bird Conservation Initiative – Yellow Watch List
National Marine Fisheries Service – Species of Concern
U. S. Forest Service – Sensitive
U. S. Fish & Wildlife Service – Birds of Conservation Concern



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Abbreviation

WBWG_H
WBWG_MH
WBWG_M
WBWG_LM
Xerces: CI
Xerces: IM
Xerces: VU
Xerces: DD
CA Rare Plant Rank (CRPR)

Organization

Western Bat Working Group – High Priority
Western Bat Working Group – Medium-High Priority
Western Bat Working Group – Medium Priority
Western Bat Working Group – Low-Medium Priority
Xerces Society – Critically Imperiled
Xerces Society – Imperiled
Xerces Society – Vulnerable
Xerces Society – Data Deficient
California Native Plant Society (CNPS)

California Rare Plant Ranks (CRPRs) are a ranking system developed by the California Native Plant Society (CNPS) to define and categorize rarity in the California flora. All plants that are assigned to a California Rare Plant Rank category are tracked by the CNDDDB; however, element occurrence (EO) information is only maintained for CRPR 1 and 2 plants, and some CRPR 3 plants. Most CRPR 3 and 4 plants that have EO information in this Inventory and the CNDDDB were previously assigned to CRPR 1 or 2; their EO data reflect their prior rank and have generally not been updated since the date of their change to CRPR 3 or 4.

Rank 1A	CRPR Rank 1A: Presumed Extirpated or Extinct — Plants presumed extirpated in California and either rare or extinct elsewhere. These plants have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.
Rank 1B	CRPR Rank 1B: Rare or Endangered — Plants rare, threatened, or endangered in California and elsewhere. These plants are rare throughout their entire range with the majority also being endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century.
Rank 2A	CRPR Rank 2A: Extirpated in California — Plants presumed extirpated in California but common elsewhere. These plants are presumed extirpated because they have not been observed or documented in California for many years. This list only includes plants that are presumed extirpated in California but are common elsewhere in their range outside of the state.
Rank 2B	CRPR Rank 2B: Rare or Endangered in California — Plants rare, threatened, or endangered in California but common elsewhere. Except for being common beyond the boundaries of California, 2B plants would have been ranked 1B.
Rank 3	CRPR Rank 3: Needs Review — Plants about which more information is needed. These plants are united by one common theme—we lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic, yet if taxonomically valid would demonstrably qualify for rank 1B or 2B.
Rank 4	CRPR Rank 4: Uncommon in California — Plants of limited distribution, a watch list. These plants are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

Threat Rank

California Rare Plant Ranks at each level also include a threat rank (e.g., CRPR 4.3) and are assigned as follows:



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THREAT RANK DESCRIPTION

- 0.1 Seriously threatened in California — Over 80% of occurrences threatened / high degree and immediacy of threat.
- 0.2 Moderately threatened in California — 20-80% of occurrences threatened / moderate degree and immediacy of threat.
- 0.3 Not very threatened in California — Less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known.

Global Rank

The Global Rank (G-rank) is an indication of the overall condition and imperilment of an element throughout its global range. It is a letter+number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heavier on the rarity factors. The Global Ranks are assigned by NatureServe in coordination with the state program(s) where the element occurs.

GLOBAL RANK	DEFINITION
GX	Presumed Extinct — Not located despite intensive searches and virtually no likelihood of rediscovery.
GH	Possibly Extinct — Known from only historical occurrences but still some hope of rediscovery. There is evidence that the species may be extinct or the ecosystem may be eliminated throughout its range, but not enough to state this with certainty.
G1	Critically Imperiled — At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, very restricted range, very severe threats, or other factors.
G2	Imperiled — At high risk of extinction due to restricted range, very few populations or occurrences (often 20 or fewer), steep declines, severe threats, or other factors.
G3	Vulnerable — At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, threats, or other factors.
G4	Apparently Secure — At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
G5	Secure — At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
GNR	Unranked — Global rank not yet assessed.
GU	Unrankable — Currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
G#G#	Range Rank — A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community.
G#T#	Intraspecific Taxon — The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' Global Rank.
?	Qualifier: Inexact Numeric Rank — A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.



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- Q Qualifier: Questionable Taxonomy — The distinctiveness of this entity as a taxon or community at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.
- C Qualifier: Captive or Cultivated Only — The taxon or community at present is presumed or possibly extinct or eliminated in the wild across its entire native range but is extant in cultivation, in captivity, as a naturalized population (or populations) outside its native range, or as a reintroduced population or ecosystem restoration, not yet established.

State Rank

The State Rank (S-rank) is an indication of the condition and imperilment of an element throughout its range within the state. As with the G-rank, it is a letter+number score that reflects a combination of Rarity, Threat and Trend factors, weighted more heavily on rarity. The State Ranks are assigned by the CNDDDB biologists using standard natural heritage methodology.

STATE RANK

DESCRIPTION

- SX Presumed Extirpated — Species is believed to be extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
- SH Possibly Extirpated (Historical) — Species occurred historically in the state, and there is some possibility that it may be rediscovered. All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists.
- S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.
- S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure — At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
- S5 Secure — At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
- SNR Unranked — State conservation status not yet assessed.
- SU Unrankable — Currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.
- S#S# Range Rank — A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.
- ? Qualifier: Inexact or Uncertain — A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.



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Ultramafic (serpentine) Affinity:

≥ 5.5	strict endemic	taxa with 95% of their occurrences on ultramafics	
< 5.5	≥ 4.5	broad endemic	taxa with 85-94% of their occurrences on ultramafics
< 4.5	≥ 3.5	transition from broad endemic to strong indicator	taxa with 75-84% of their occurrences on ultramafics
< 3.5	≥ 2.5	strong indicator	taxa with 65-74% of their occurrences on ultramafics
< 2.5	≥ 1.5	weak indicator	taxa with 55-64% of their occurrences on ultramafics
< 1.5	≥ 1.0	weak indicator / indifferent	taxa with 50-54% of their occurrences on ultramafics

National Wetland Plant List Indicator Rating Definitions

OBL (Obligate Wetland Plants)—Almost always occur in wetlands.

FACW (Facultative Wetland Plants)—Usually occur in wetlands but may occur in non-wetlands.

FAC (Facultative Wetland Plants)—Occur in wetlands and non-wetlands.

FACU (Facultative Upland Plants)—Usually occur in non-wetlands but may occur in wetlands.

UPL (Upland Plants)—Almost never occur in wetlands.

Potential to Occur:

No Potential. Habitat on and within 100 feet adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and within 100 feet adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or within 100 feet adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or within 100 feet adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:

Present. Species was observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

Not Present. Species is assumed to not be present due to a lack of key habitat components.

Not Observed. Species was not observed during surveys.



Appendix B: List of Species Observed



SCIENTIFIC NAME	COMMON NAME
Plants	
<i>Achyrrachaena mollis</i>	blow wives
<i>Acmispon brachycarpus</i>	short podded lotus
<i>Acmispon glaber</i>	deer weed
<i>Adelinia grandis</i>	Pacific hounds' tongue
<i>Adenostoma fasciculatum</i>	chamise
<i>Agoseris heterophylla</i>	annual agoseris
<i>Agoseris retrosa</i>	spear leaved agoseris
<i>Aira caryophyllea</i>	silvery hairgrass
<i>Aphyllon faciculatum</i>	clustered broomrape
<i>Arbutus menziesii</i>	madrone
<i>Arctostaphylos canescens ssp. sonomensis</i>	Sonoma manzanita
<i>Arctostaphylos manzanita ssp. glaucescens</i>	white leaf common manzanita
<i>Arctostaphylos viscida ssp. pulchella</i>	white leaf manzanita
<i>Arctostaphylos viscida ssp. viscida</i>	smooth white leaf manzanita
<i>Arctostaphylos glandulosa spp. cushingiana</i>	cushing manzanita
<i>Avena barbata</i>	slim oat
<i>Baccharis pilularis</i>	coyote bush
<i>Briza maxima</i>	rattlesnake grass
<i>Brodiaea elegans</i>	harvest brodiaea
<i>Bromus diandrus</i>	rippgut
<i>Bromus hordeaceus</i>	soft brome
<i>Bromus rubens</i>	red brome
<i>Calandrinia menziesii</i>	red maid
<i>Calochortus amabilis</i>	golden fairy lantern
<i>Calystegia occidentalis</i>	bush morning glory
<i>Cardamine hirsuta</i>	hairy bittercress
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Castilleja foliolosa</i>	woolly indian paintbrush
<i>Ceanothus cuneatus var. cuneatus</i>	white buck brush
<i>Ceanothus cuneatus var. ramulosus</i>	blue buck brush
<i>Ceanothus foliosus var. foliosus</i>	wavyleaf ceanothus
<i>Ceanothus integerrimus</i>	deerbrush
<i>Ceanothus thyrsiflorus</i>	blueblossom
<i>Centaurea melitensis</i>	tocalote
<i>Centaurea solstitialis</i>	yellow star thistle
<i>Cerocarpus betuloides</i>	mountain mahogany
<i>Chlorogalum pomeridianum var. pomeridianum</i>	common soaproot



SCIENTIFIC NAME	COMMON NAME
<i>Cirsium occidentale</i>	Western red thistle
<i>Clarkia affinis</i>	chaparral fairyfan
<i>Clarkia gracilis subs. gracilis</i>	graceful clarkia
<i>Clarkia purpurea</i>	purple clarkia
<i>Clematis lasiantha</i>	chaparral clematis
<i>Cordylanthus tenuis ssp. brunneaus</i>	serpentine bird's beak
<i>Croton setiger</i>	turkey mullein
<i>Cryptantha flaccida</i>	beaked cryptantha
<i>Cryptanthia milobakeri</i>	Milo Baker's cryptantha
<i>Cynosurus echinatus</i>	dogtail grass
<i>Daucus pusillis</i>	wild carrot
<i>Delphinium nudicaule</i>	red larkspur
<i>Dichelostemma congestum</i>	ookow
<i>Diplacus aurantiacus</i>	sticky monkey flower
<i>Dipterostemon capitatus</i>	blue dicks
<i>Elymus cap-medusae</i>	medusa head
<i>Elymus glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Willow herb
<i>Eriodictyon californicum</i>	yerba santa
<i>Eriogonum nudum</i>	nude buckwheat
<i>Eriophyllum lanatum</i>	woolly sunflower
<i>Erodium cicutarium</i>	redstem stork bill
<i>Festuca bromoides</i>	brome fescue
<i>Festuca microstachys</i>	Small fescue
<i>Frangula californica</i>	California coffeeberry
<i>Galium aparine</i>	cleaver
<i>Galium porrigens</i>	climbing bedstraw
<i>Gastridium phleoides</i>	nit grass
<i>Geranium molle</i>	dove foot geranium
<i>Gilia capitata ssp. capitata</i>	blue field gilia
<i>Gnaphalium palustre</i>	lowland cudweed
<i>Grindelia camporum</i>	gumweed
<i>Helianthella californica</i>	California helianthella
<i>Hemizonia congesta ssp. luzulifolia</i>	woodrush tarweed
<i>Heteromeles arbutifolia</i>	toyon
<i>Hieracium albiflorum</i>	white flowered hawkweed
<i>Hirschfeldia incana</i>	wild mustard
<i>Hosackia crassifolia</i>	broad leaved lotus



SCIENTIFIC NAME	COMMON NAME
<i>Hypericum concinnum</i>	Gold wire
<i>Hypericum perforatum</i>	klamathweed
<i>Hypochaeris glabra</i>	smooth cats ear
<i>Hypochaeris radicata</i>	hairy cats ear
<i>Juncus mexicanus</i>	Mexican rush
<i>Juncus patens</i>	spreading rush
<i>Lathyrus vestitus</i>	Pacific pea
<i>Lepechinia calycina</i>	pitcher sage
<i>Leptosiphon bicolor</i>	true baby stars
<i>Linum bienne</i>	flax
<i>Logfia gallica</i>	narrowleaf cottonrose
<i>Lomatium dasycarpum</i>	woolly fruited lomatium
<i>Lonicera interrupta</i>	chaparral honeysuckle
<i>Lupinus bicolor</i>	mini lupine
<i>Lupinus bicolor</i>	miniature lupine
<i>Lysimachia arvensis</i>	scarlet pimpernel
<i>Madia elegans</i>	common madia
<i>Madia exigua</i>	small tarweed
<i>Melica californica</i>	California melic
<i>Micropus californicus</i>	q-tips
<i>Monardella viridis</i>	green monardella
<i>Navarretia heterodoxa</i>	Calistoga navarretia
<i>Navarretia melita</i>	skunk navarretia
<i>Navarretia pubescens</i>	purple navarretia
<i>Pedicularis densiflora</i>	warriors' plume
<i>Pentagramma triangularis</i>	gold back fern
<i>Petrorhagia dubia</i>	windmill pink
<i>Phacelia imbricata</i>	imbricate phacelia
<i>Pickeringia montana</i>	chaparral pea
<i>Pinus coulteri</i>	Coulter pine
<i>Pinus ponderosa</i>	ponderosa pine
<i>Pinus sabiniana</i>	gray pine
<i>Plagiobothrys tenellus</i>	Pacific popcorn flower
<i>Plantago erecta</i>	California plantain
<i>Plantago lanceolata</i>	ribwort
<i>Prunus emarginata</i>	bitter cherry
<i>Pseudognaphalium californicum</i>	ladies' tobacco
<i>Pseudotsuga menziesii</i>	Douglas-fir



SCIENTIFIC NAME	COMMON NAME
<i>Quercus berberidifolia</i>	scrub oak
<i>Quercus chrysolepis</i>	canyon live oak
<i>Quercus douglasii</i>	blue oak
<i>Quercus kelloggii</i>	black oak
<i>Quercus parvula ssp. shrievii</i>	Shrieve's oak
<i>Quercus wislizeni</i>	interior live oak
<i>Rosa spithamea</i>	ground rose
<i>Sambucus nigra</i>	blue elderberry
<i>Sanicula crassicaulis</i>	Pacific sanicle
<i>Scrophularia californica</i>	bee plant
<i>Senecio sylvaticus</i>	woodland groundsel
<i>Silene laciniata</i>	cardinal catchfly
<i>Sisymbrium altissimum</i>	tumble mustard
<i>Sisyrinchium bellum</i>	blue eye grass
<i>Solanum xanti</i>	purple nightshade
<i>Sonchus asper</i>	sow thistle
<i>Stachys bullata</i>	California hedge nettle
<i>Stachys rigida</i>	rough hedge nettle
<i>Symphoricarpos mollis</i>	creeping snowberry
<i>Torilis arvensis</i>	field hedge parsley
<i>Torreya californica</i>	California nutmeg
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Toxicoscordion fremontii</i>	death camas
<i>Trifolium hirtum</i>	rose clover
<i>Turritis glabra</i>	tower rockcress
<i>Umbellularia californica</i>	California bay
<i>Verbascum thapsus</i>	woolly mullein
<i>Viola lobata</i>	moose horn violet
<i>Vicia americana</i>	American vetch
<i>Whipplea modesta</i>	modesty
<i>Wyethia angustifolia</i>	narrow leaved mule ears
Wildlife	
Amphibians	
N/A	N/A



Avifauna	
<i>Calypte anna</i>	Anna's hummingbird
<i>Junco hyemalis</i>	dark eyed junco
<i>Colaptes auratus</i>	northern flicker
<i>Corvus corax</i>	common raven
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Aphelocoma californica</i>	western scrub jay
<i>Melospiza crissalis</i>	California towhee
<i>Haemorhous mexicanus</i>	house finch
<i>Cyanocitta stelleri</i>	Steller's jay
<i>Pipilo maculatus</i>	spotted towhee
<i>Cathartes aura</i>	turkey vulture
<i>Zonotrichia leucophrys</i>	white crown sparrow
<i>Chamaea fasciata</i>	wren
<i>Buteo lineatus</i>	red shoulder hawk
<i>Oreothlypis celata</i>	orange-crowned warbler
<i>Callipepla californica</i>	California quail
<i>Tachycineta bicolor</i>	tree swallow
<i>Troglodytes pacificus</i>	Pacific wren
Mammals	
<i>Lepus californicus</i>	black-tailed jackrabbit
<i>Odocoileus hemionus</i>	mule deer
<i>Puma concolor</i>	mountain lion
<i>Canis latrans</i>	coyote
<i>Sus scrofa</i>	wild pig
<i>Thomomys bottae</i>	Botta's pocket gopher
<i>Ostospermophilus beecheyi</i>	ground squirrel
Reptiles	
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Aspidoscelis tigris</i>	tiger whiptail



Appendix C: Representative Photos of the Study Area



Photo 1:

Description:

In Study Area, standing in a scrub oak chaparral alliance on the north side of the road and looking west towards the ridgeline. Showing wild oats and annual brome grassland alliance alongside parts of a previous wildfire burn scar southwest of the road.

Date: 9/29/2022



Photo 2:

Description:

In Study Area, facing east showing an example of the scrub oak chaparral alliance on the north side of the road.

Date: 3/16/22



Photo 3:

Description:

In Study Area, looking southeast towards Geyser Peak. Showing the transition from the scrub oak chaparral alliance to the wild oats and annul brome grasslands alliance on the south side of the road.

Date: 9/29/2022



Photo 4:

Description:

In Study Area, standing in a scrub oak chaparral alliance and looking northeast towards the Douglas fir forest and woodland alliance in the north.

Date: 3/16/22



Photo 5:

Description:

Showing a small interior live oak stand within a scrub oak chaparral alliance.

Date: 9/29/2022



Photo 6:

Description:

In Study Area, facing south towards a small gray pine stand within a scrub oak chaparral alliance.

Date: 9/29/2022



Photo 7:

Description:

In Study Area, facing northwest towards an example of a scrub oak chaparral alliance.

Date: 9/29/2022



Photo 8:

Description:

An example of the special-status plant *Monardella viridis* (green monardella) blooming.

Rank 4.3

G3

S3

Date: 3/16/2022





<p>Photo 9:</p> <p>Description: An example of the special-status plant <i>Mondardella viridis</i> (green monardella) not in bloom.</p> <p>Rank 4.3 G3 S3</p> <p>Date: 3/16/2022</p>	
<p>Photo 10:</p> <p>Description: A close-up of the special-status plant <i>Cordylanthus tenuis ssp. brunneus</i> (serpentine bird's beak).</p> <p>Rank 4.3 G4G5T3 S3</p> <p>Date: 3/16/2022</p>	



Photo 11:

Description:
An example of the special-status plant *Cordylanthus tenuis ssp. brunneus* (serpentine bird's beak).

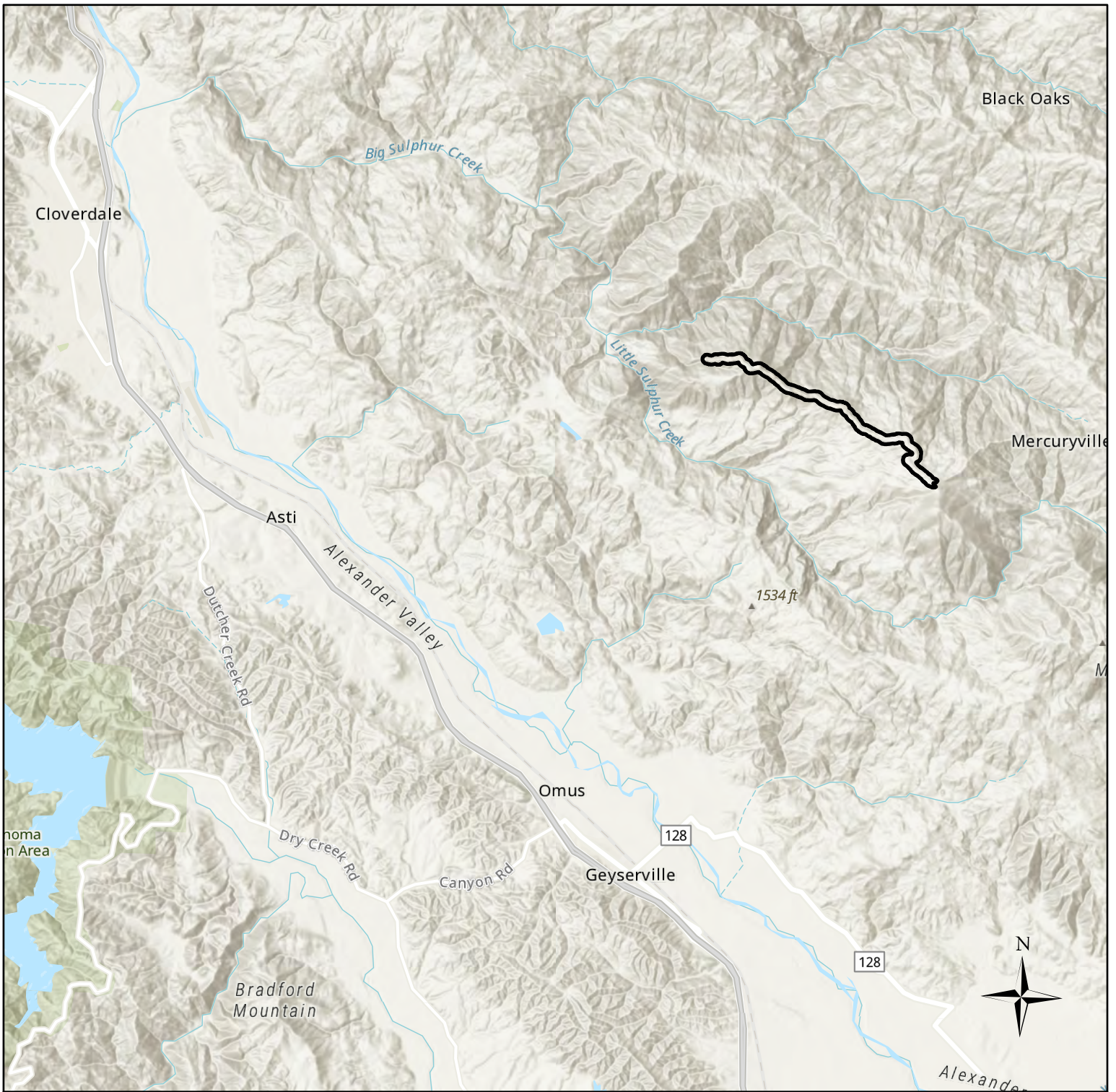
Rank 4.3
G4G5T3
S3

Date: 3/16/2022



Appendix D: Supporting Figures (Maps)

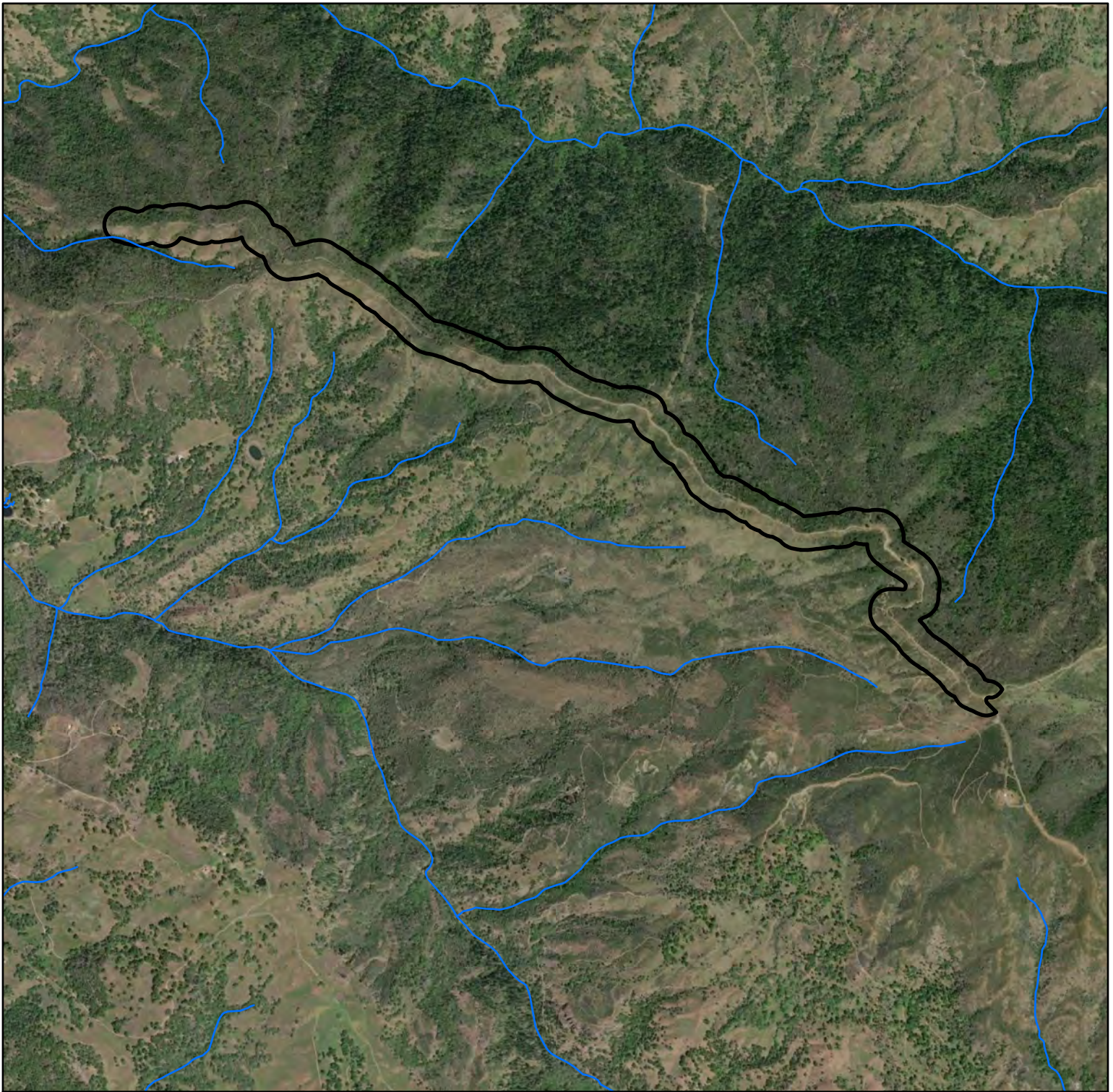




Geyser Peak to Pocket Peak Fuel Break Vicinity Map



T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5' Topo
 Quads: 'Asti' and 'The Geysers'
 APNs: 141-010-021, 141-060-001, 141-130-021,
 141-160-002, 117-130-013, Sonoma County, CA

 Study Area

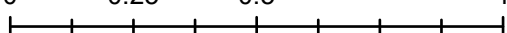


Geyser Peak to Pocket Peak Fuel Break Study Area Map

T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5' Topo
Quads: 'Asti' and 'The Geysers'
APNs: 141-010-021, 141-060-001, 141-130-021,
141-160-002, 117-130-013, Sonoma County, CA

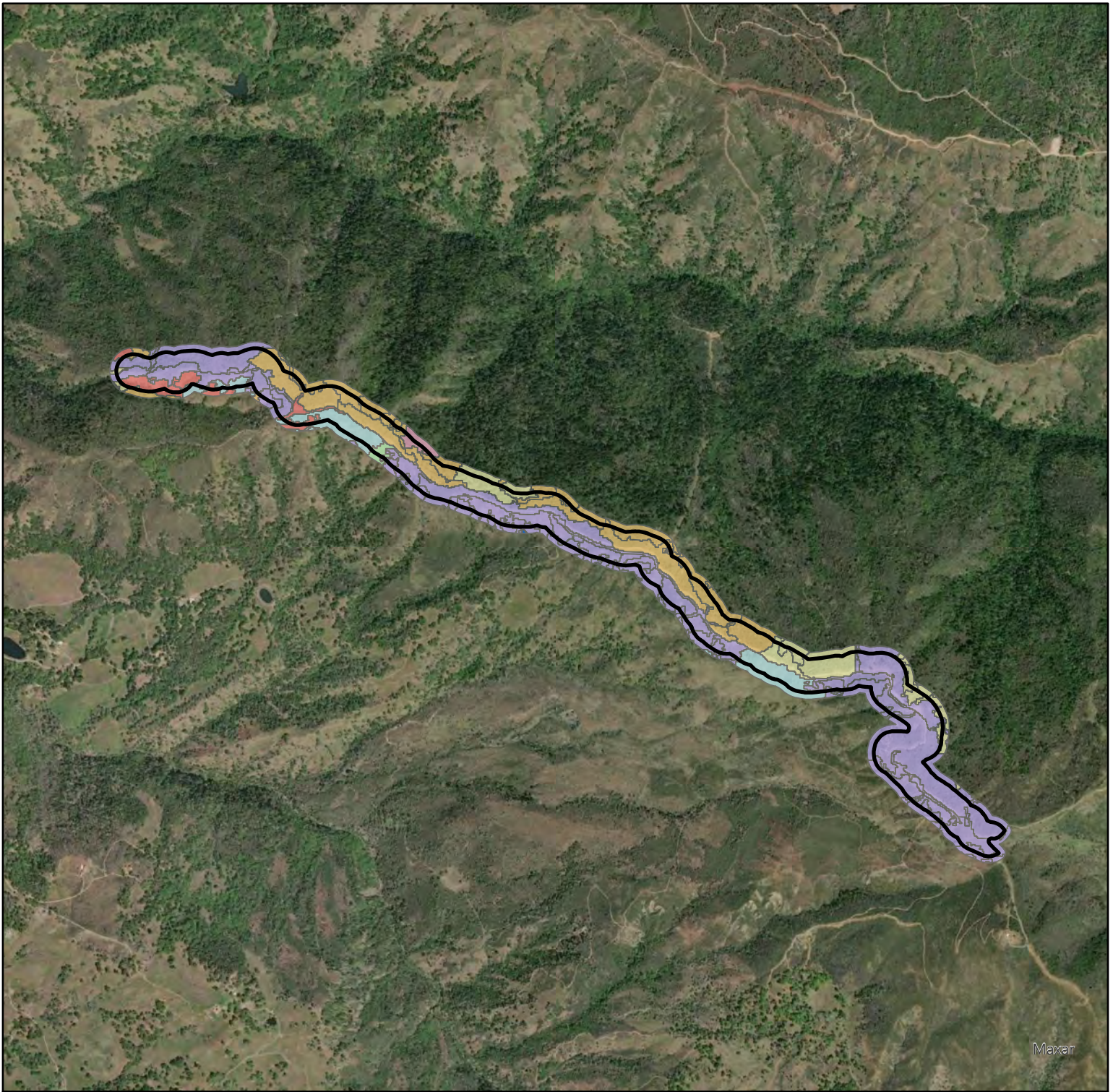
 Study Area
 California_Streams



0 0.25 0.5 1 Miles




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natural resource planning & management



Maxar

Geyser Peak to Pocket Peak Fuel Break CalVeg Classification Map

T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5' Topo
 Quads: 'Asti' and 'The Geysers'
 APNs: 141-010-021, 141-060-001, 141-130-021,
 141-160-002, 117-130-013, Sonoma County, CA

0 1,000 2,000 4,000 Feet



Study Area

CalVeg Classification

- Lower Montane Mixed Chaparral
- Scrub Oak
- Annual Grasses and Forbs
- Interior Mixed Hardwood
- Gray Pine
- Coast Live Oak
- Canyon Live Oak
- Black Oak



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Geyser Peak to Pocket Peak Fuel Break - Biological Resource Assessment: MCV2 Alliance Map

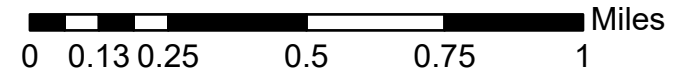
Client: Northern Sonoma County Fire Protection District






Site Address:

APNs: 141-010-021, 141-060-001, 141-130-021,
141-160-002, 117-130-013

Sections 3 & 27, T10N, T11N, R19W, MDBM

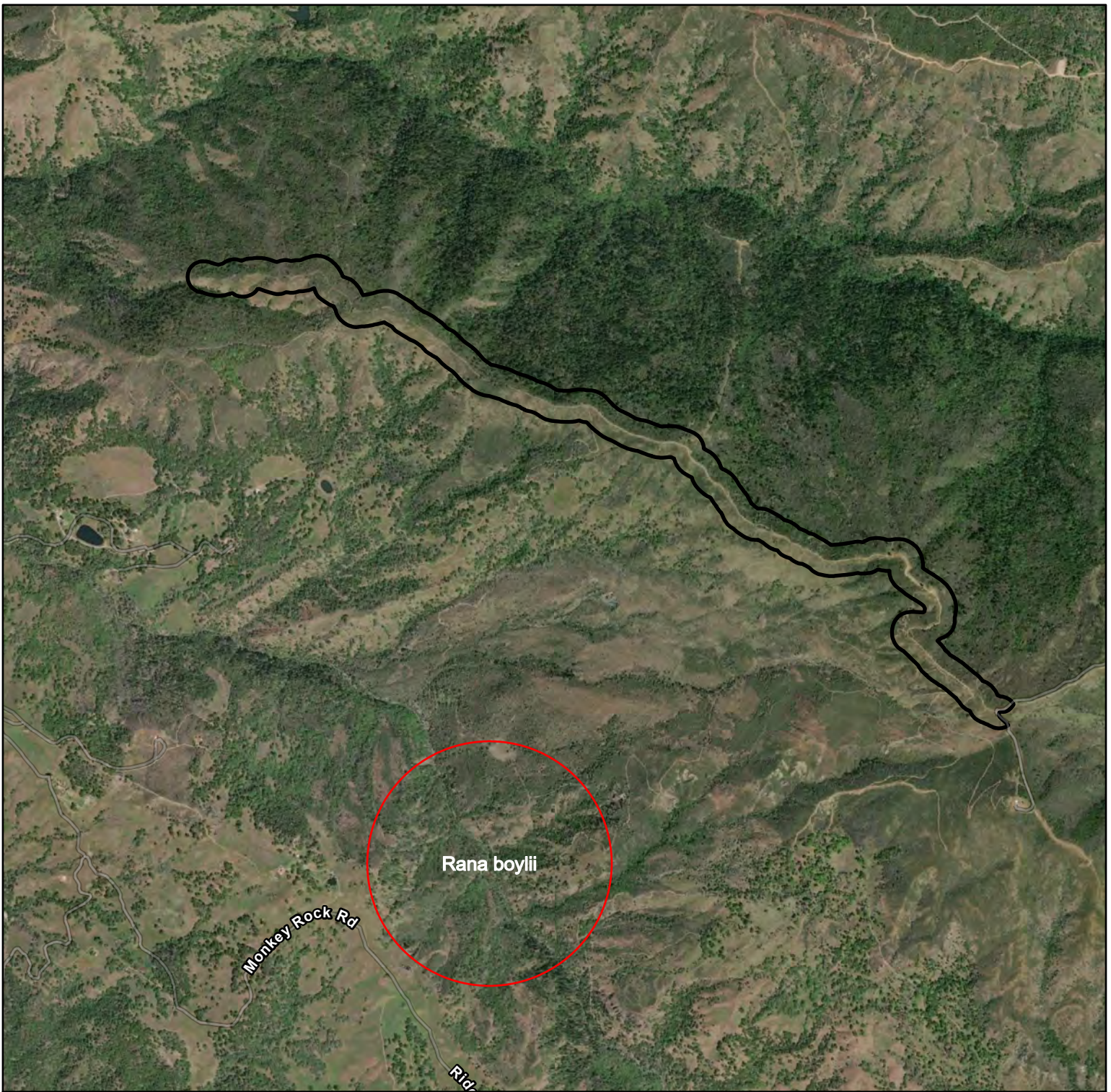
Asti & The Geysers USGS 7.5 Minute Quadrangles



-  Shaded Fuelbreak (500 ft)
-  Fire Road
-  Scrub oak chaparral
-  Wild oats and annual brome grasslands
-  Douglas fir forest and woodland

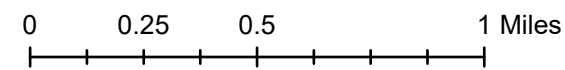
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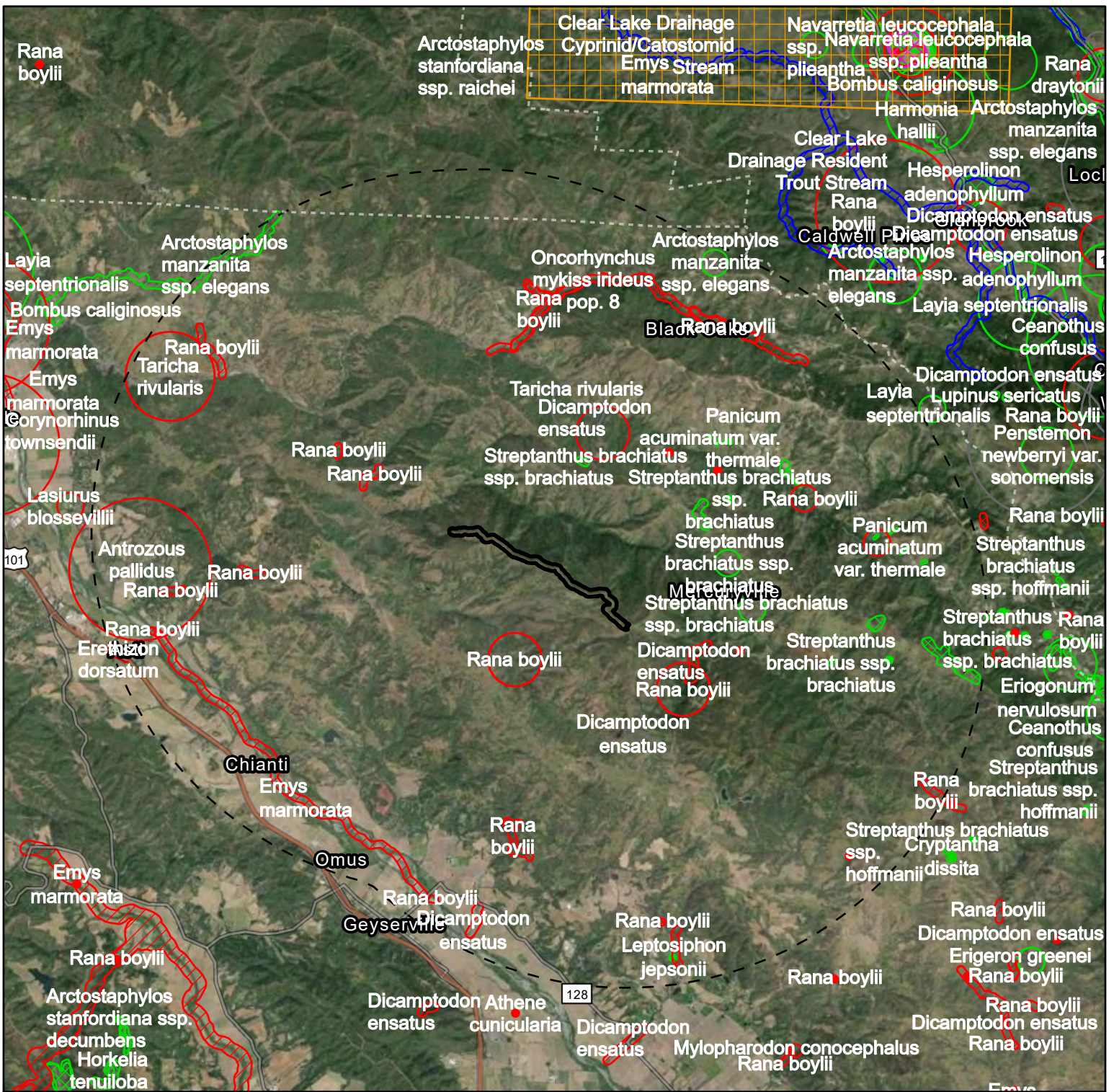


Geyser Peak to Pocket Peak Fuel Break CNDDDB Map

T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5' Topo
 Quads: 'Asti' and 'The Geysers'
 APNs: 141-010-021, 141-060-001, 141-130-021,
 141-160-002, 117-130-013, Sonoma County, CA

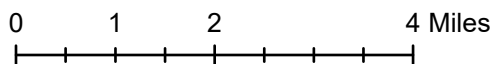


Study Area	CNDDDB Symbology	Terrestrial Comm. (specific)
Plant (80m)	Plant (specific)	Terrestrial Comm. (non-specific)
Plant (non-specific)	Plant (circular)	Terrestrial Comm. (circular)
Animal (80m)	Animal (specific)	Aquatic Comm. (80m)
Animal (non-specific)	Animal (circular)	Aquatic Comm. (specific)
Terrestrial Comm. (80m)		Aquatic Comm. (non-specific)
		Aquatic Comm. (circular)
		Multiple (80m)
		Multiple (specific)
		Multiple (non-specific)
		Multiple (circular)
		Sensitive EO's (Commercial only)



Geyser Peak to Pocket Peak Fuel Break CNDDB Vicinity Map

T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5'
 Topo Quads: 'Asti' and 'The Geysers'
 APNs: 141-010-021, 141-060-001, 141-130-021,
 141-160-002, 117-130-013, Sonoma County, CA



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- CNDDB Symbology**
- Study Area
 - Study Area 5-Mile Buffer
 - Plant (80m)
 - Plant (specific)
 - Plant (non-specific)
 - Plant (circular)
 - Animal (80m)
 - Animal (specific)
 - Animal (non-specific)
 - Animal (circular)
 - Terrestrial Comm. (80m)
 - Terrestrial Comm. (specific)
 - Terrestrial Comm. (non-specific)
 - Terrestrial Comm. (circular)
 - Aquatic Comm. (80m)
 - Aquatic Comm. (specific)
 - Aquatic Comm. (non-specific)
 - Aquatic Comm. (circular)
 - Multiple (80m)
 - Multiple (specific)
 - Multiple (non-specific)
 - Multiple (circular)
 - Sensitive EO's (Commercial only)



Geyser Peak to Pocket Peak Fuel Break- Biological Resource Assessment: MCV2 Alliance Map

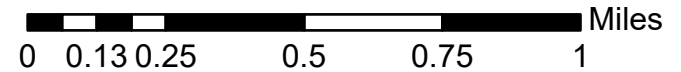
Client: Northern Sonoma County Fire Protection District





Site Address:

APNs: 141-010-021, 141-060-001, 141-130-021,
141-160-002, 117-130-013

Sections 3 & 27, T10N, T11N, R19W, MDBM

Asti & The Geysers USGS 7.5 Minute Quadrangles



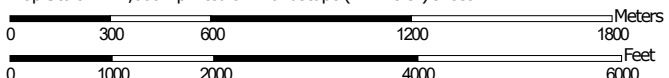
-  *Monardella viridis*
-  *Cordylanthus tenuis* ssp. *brunneus*
-  Shaded Fuelbreak (500 ft)
-  Fire Road



Soil Map—Sonoma County, California



Map Scale: 1:22,600 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/5/2022
Page 1 of 3

Map: 8 of 9

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 1:20,000.

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: Sonoma County, California

Survey Area Data: Version 16, Sep 14, 2022

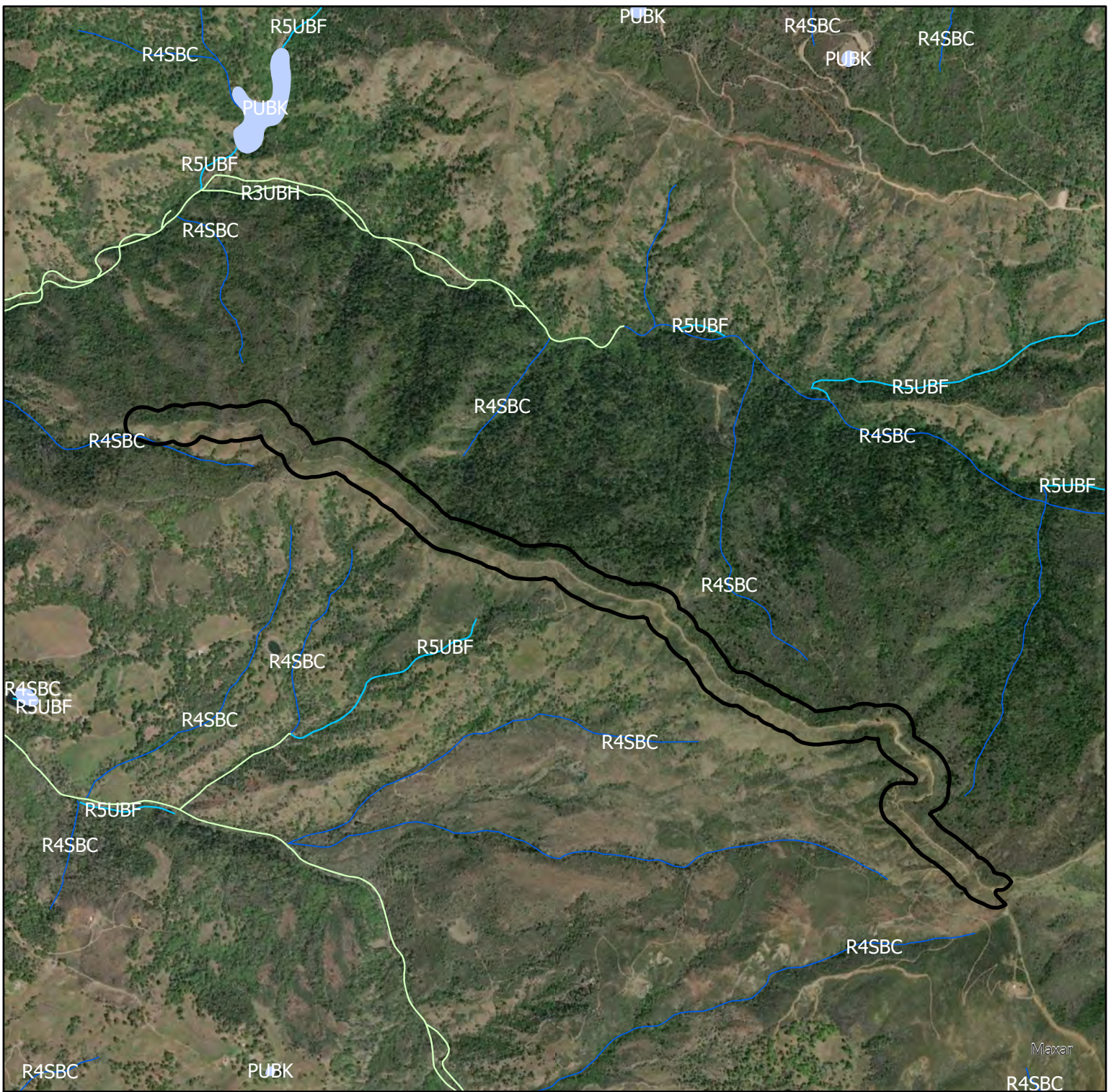
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2022—Apr 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HgG2	Henneke gravelly loam, 30 to 75 percent slopes, eroded	2.0	1.0%
HkG	Hugo very gravelly loam, 50 to 75 percent slopes	4.1	2.1%
JoG	Josephine loam, 50 to 75 percent slopes	1.1	0.6%
LkG	Los Gatos loam, 30 to 75 percent slopes, MLRA 15	157.6	78.9%
McF	Maymen gravelly sandy loam, 30 to 50 percent slopes	30.3	15.2%
RoG	Rock land	4.2	2.1%
YuF	Yorkville clay loam, 30 to 50 percent slopes	0.3	0.2%
Totals for Area of Interest		199.7	100.0%



Geyser Peak to Pocket Peak Fuel Break National Wetland Inventory Map

T10N, R9W, Sec 3, T11N, R9W, Sec 27, MDBM USGS 7.5' Topo
 Quads: 'Asti' and 'The Geysers'
 APNs: 141-010-021, 141-060-001, 141-130-021,
 141-160-002, 117-130-013, Sonoma County, CA

0 1,000 2,000 4,000 Feet



Study Area

Wetland Type

- Freshwater Pond
- Upper Perennial Riverine
- Intermittent Riverine
- Riverine

Appendix E: Supporting Documents



RE: Geyserville VTP Letter

Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>

Tue 12/13/2022 10:40 AM

To: Alicia Ives Ringstad <alicia@jeforestry.com>

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Sure thing Alicia, any time!
Have a great week, see you on the next one!

Andre' H. Benoist

California Department of Fish and Wildlife
Timber Conservation Program
SB 901 VMP Coordinator, Region 1

M-F 8am-5pm



California Department of
Fish and Wildlife

From: Alicia Ives Ringstad <alicia@jeforestry.com>
Sent: Tuesday, December 13, 2022 9:51 AM
To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Subject: Re: Geyserville VTP Letter

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Sounds good to me. Thank you again!

Alicia Ives Ringstad
Biological and Botanical Program Manager
Jacobszoon & Associates, Inc.
117 Clara Ave
Ukiah, CA 95482
(707) 485-5544 ext.104

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Sent: Tuesday, December 13, 2022 9:49 AM
To: Alicia Ives Ringstad <alicia@jeforestry.com>
Subject: RE: Geyserville VTP Letter

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Alicia,

I do not need a revised BA.

If Calfire or whoever else the BA was prepared for wants a revision, you can decide if its needed. Otherwise, keep the email I sent yesterday regarding the plants and that should work as well.

Happy to discuss further if you like.
Thank you, happy Tuesday!

Andre' H. Benoist

California Department of Fish and Wildlife
Timber Conservation Program
SB 901 VMP Coordinator, Region 1

M-F 8am-5pm



California Department of
Fish and Wildlife

From: Alicia Ives Ringstad <alicia@jeforestry.com>
Sent: Tuesday, December 13, 2022 8:54 AM
To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Subject: Re: Geyserville VTP Letter

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I don't believe the biologist who conducted the surveys went too far outside of the Project Area. He no longer works for us, but by looking at his GIS data, I don't see any points outside of the Project Area. I'm sure there are other plants outside of the boundary, but I can't say for sure since I don't have the data. I'm wondering if I should change the BA and our recommendations to state that the loss of *Monardella viridis* located within the Project Area is unavoidable and that CDFW does not require protective measures of CNPS List 3 and 4 plants and that a Compensatory Mitigation Plan is not necessary for this project. That being said, would I need a letter from CDFW stating that? Should I resend the BA with the new recommendations?

Again, thank you for all your help on this!

Alicia Ives Ringstad
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Jacobszoon & Associates, Inc.
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(707) 485-5544 ext.104

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Sent: Monday, December 12, 2022 4:36 PM
To: Alicia Ives Ringstad <alicia@jeforestry.com>
Subject: RE: Geyserville VTP Letter

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Alicia,

Thank you for the background.

I was talking to my supervisor this morning about your email, and other projects I am working on that have CNPS ranked plants.

From what I am hearing, we typically treat Ranks 1 & 2 as T&E species.

The Department will support and encourage protective measures for Ranks 3 & 4, but at this time we do not see a clear nexus for requiring protective measures.

One question that came to mind when I was reading the BA, was how many of the plants occur just outside of the project boundaries. They seem abundant within the project boundary. I am not sure if surveys peaked outside of the project area, but this would be useful information on future reports to support decisions regarding the plants.

Please let me know if you have any questions or need anything else.

Thank you!

Andre' H. Benoist

California Department of Fish and Wildlife

Timber Conservation Program

SB 901 VMP Coordinator, Region 1

M-F 8am-5pm



California Department of
Fish and Wildlife

From: Alicia Ives Ringstad <alicia@jeforestry.com>

Sent: Monday, December 12, 2022 1:12 PM

To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>

Subject: Re: Geyserville VTP Letter

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The forester does not want to have a buffer at all and wants to burn the area where the plant is. So also on Page 27 states:

If disturbance cannot be avoided or disturbance is deemed as significant, then mitigation measures BIO-1c will be implemented. CDFW will be consulted, and a Compensatory Mitigation Plan will be established to offset unavoidable losses of special-status plants. To mitigate adverse impacts of sensitive plant species, workers will attend a Workers Environmental Awareness Program (WEAP) training led by an RPF or qualified biologist (SPR BIO-2).

So, since they will be burning the Monardella, we need to have a consultation with CDFW. If we don't need a full compensatory Mitigation Plan, what else can we do as a mitigation?

Thank you for your help with this!

Alicia Ives Ringstad
Biological and Botanical Program Manager
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(707) 485-5544 ext.104

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Sent: Monday, December 12, 2022 1:00 PM
To: Alicia Ives Ringstad <alicia@jeforestry.com>
Subject: RE: Geyserville VTP Letter

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Hi Alicia!

Thank you for your patience on the letter.
I will get faster at this over time.

The plants described in the BA for the project are CNPS Ranked, not officially listed. Page 27 of the BA states a 50 foot buffer will be used to protect the 5 locations where Monardella plants are found. Our only comment was to consider protecting the buffer area during broadcast burning operations.

This protection measure seems reasonable for the project to proceed. A CMP is not necessary.

CMPs look different depending on who you are working with, what you are mitigating for, and what the regulatory department wants to see in the plan.

I have seen them as small as a page or two, and as long as 20-30 pages.

Sometimes a CMP can be avoided if the project proponent incorporates protective measures into their project, or gets the protective measure included in the permit as a condition instead of preparing an entire plan.

Hope that helps, happy to discuss further if you like.

Thank you!

Andre' H. Benoist

California Department of Fish and Wildlife
Timber Conservation Program
SB 901 VMP Coordinator, Region 1
M-F 8am-5pm

From: Alicia Ives Ringstad <alicia@jeforestry.com>
Sent: Monday, December 12, 2022 9:45 AM
To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Subject: Re: Geyserville VTP Letter

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attachments.

Hi Andre, I just got your letter for the Geyserville VTP, thank you. However, when I sent my first email I was wondering if we needed to develop a Compensatory Mitigation Plan for the unavoidable loss of *Monardella viridis*, since it is directly in the fire plan path. This plant is a list 4 species and is a perennial herb and the treatment cannot be conducted during the non-blooming period unless we consult with CDFW and either get approval to continue or develop a Compensatory Mitigation Plan to offset the unavoidable loss of the plant.

I have never prepared a Compensatory Mitigation Plan so I'm wondering how we go about that? Have you done this before or have some recommendations as how we develop this? Thank you for all your help!

Alicia Ives Ringstad
Biological and Botanical Program Manager
Jacobszoon & Associates, Inc.
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(707) 485-5544 ext.104

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Sent: Thursday, December 8, 2022 10:59 AM
To: Alicia Ives Ringstad <alicia@jeforestry.com>
Subject: RE: Geyserville VTP Letter

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Ok, thank you Alicia!

I will talk to my boss about it.
The species lists and mapping was very useful.
The survey results and avoidance measures were useful as well.

Just wondering if there is a way to reduce the volume of the 30 page report. I came from Caltrans, and I am used to the name and format of a BA. It looks great and reads nicely, but I am a bare bones sorta guy, and just wondering if we can all agree to a more concise format for ease of use and quick turnaround.

That's all I was thinking.
Thank you so much, letter coming to you asap.

Andre' H. Benoist

California Department of Fish and Wildlife
Timber Conservation Program
SB 901 VMP Coordinator, Region 1
M-F 8am-5pm

From: Alicia Ives Ringstad <alicia@jeforestry.com>
Sent: Thursday, December 8, 2022 10:11 AM
To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Subject: Re: Geyserville VTP Letter

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The BA is also for CAL-FIRE but I did send you the whole Biological Assessment as well because I wasn't sure if you would need that too. But if you need less information in the future, just let me know. I think since this is new for everyone, we don't necessarily know what information to include yet. Thank you!

Alicia Ives Ringstad
Biological and Botanical Program Manager
Jacobszoon & Associates, Inc.
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Ukiah, CA 95482
(707) 485-5544 ext.104

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Sent: Thursday, December 8, 2022 9:10 AM
To: Alicia Ives Ringstad <alicia@jeforestry.com>
Subject: RE: Geyserville VTP Letter

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Ok, you got it.
Should be out today.

Sorry it took me so long, I will get much faster at this over time.

If you are only preparing the BA for our use, I can talk to my boss about minimum information needed. We might be able to save you and your clients some time and cost.

Thank you!

Andre' H. Benoist

California Department of Fish and Wildlife
Timber Conservation Program
SB 901 VMP Coordinator, Region 1

M-F 8am-5pm

From: Alicia Ives Ringstad <alicia@jeforestry.com>
Sent: Thursday, December 8, 2022 9:00 AM
To: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>
Subject: Re: Geyserville VTP Letter

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Hi Andre, I think all we need is an electronic copy. Thank you!

Sent from my Verizon, Samsung Galaxy smartphone
Get [Outlook for Android](#)

From: Benoist, Andre@Wildlife <Andre.Benoist@Wildlife.ca.gov>

Sent: Thursday, December 8, 2022 8:20:56 AM

To: Alicia Ives Ringstad <alicia@jaforestry.com>

Subject: Geyserville VTP Letter

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Alicia!

The comment letter got finalized this morning and is going to clerical to format and send out. Is there anyone else besides you that we should send an electronic copy too?

Andre' H. Benoist

California Department of Fish and Wildlife

Timber Conservation Program

SB 901 VMP Coordinator, Region 1

M-F 8am-5pm

CNDDDB 9-Quad Species List 348 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812278	ASTI	Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812277	THE GEYSERS	Mapped and Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812276	WHISPERING PINES	Mapped and Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812267	JIMTOWN	Mapped and Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Dicamptodon ensatus	California giant salamander	AAAAH01020	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812267	JIMTOWN	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812277	THE GEYSERS	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812278	ASTI	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812288	HIGHLAND SPRINGS	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812287	KELSEYVILLE	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3812287	KELSEYVILLE	Mapped	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3812276	WHISPERING PINES	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii

Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812277	THE GEYSERS	Mapped and Unprocessed	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812288	HIGHLAND SPRINGS	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812287	KELSEYVILLE	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812278	ASTI	Mapped and Unprocessed	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3812288	HIGHLAND SPRINGS	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3812267	JIMTOWN	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812267	JIMTOWN	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3812267	JIMTOWN	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3812268	GEYSERVILLE	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Haliaeetus leucocephalus	bald eagle	ABNKC10010	Delisted	Endangered	FP	-	3812278	ASTI	Unprocessed	Animals - Birds - Accipitridae - Haliaeetus leucocephalus
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812267	JIMTOWN	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812268	GEYSERVILLE	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812278	ASTI	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812277	THE GEYSERS	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias

Animals - Birds	<i>Egretta thula</i>	snowy egret	ABNGA06030	None	None	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Ardeidae - <i>Egretta thula</i>
Animals - Birds	<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Birds - Cuculidae - <i>Coccyzus americanus occidentalis</i>
Animals - Birds	<i>Falco peregrinus anatum</i>	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Falconidae - <i>Falco peregrinus anatum</i>
Animals - Birds	<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Birds - Hirundinidae - <i>Progne subis</i>
Animals - Birds	<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC	-	3812287	KELSEYVILLE	Mapped	Animals - Birds - Hirundinidae - <i>Progne subis</i>
Animals - Birds	<i>Progne subis</i>	purple martin	ABPAU01010	None	None	SSC	-	3812277	THE GEYSERS	Mapped and Unprocessed	Animals - Birds - Hirundinidae - <i>Progne subis</i>
Animals - Birds	<i>Agelaius tricolor</i>	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3812288	HIGHLAND SPRINGS	Mapped	Animals - Birds - Icteridae - <i>Agelaius tricolor</i>
Animals - Birds	<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL	-	3812287	KELSEYVILLE	Mapped and Unprocessed	Animals - Birds - Pandionidae - <i>Pandion haliaetus</i>
Animals - Birds	<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Birds - Pandionidae - <i>Pandion haliaetus</i>
Animals - Birds	<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL	-	3812267	JIMTOWN	Mapped	Animals - Birds - Pandionidae - <i>Pandion haliaetus</i>
Animals - Birds	<i>Pandion haliaetus</i>	osprey	ABNKC01010	None	None	WL	-	3812268	GEYSERVILLE	Unprocessed	Animals - Birds - Pandionidae - <i>Pandion haliaetus</i>
Animals - Birds	<i>Artemisiospiza belli belli</i>	Bell's sage sparrow	ABPBX97021	None	None	WL	-	3812288	HIGHLAND SPRINGS	Mapped	Animals - Birds - Passerellidae - <i>Artemisiospiza belli belli</i>
Animals - Birds	<i>Athene cucularia</i>	burrowing owl	ABNSB10010	None	None	SSC	-	3812268	GEYSERVILLE	Unprocessed	Animals - Birds - Strigidae - <i>Athene cucularia</i>
Animals - Birds	<i>Athene cucularia</i>	burrowing owl	ABNSB10010	None	None	SSC	-	3812267	JIMTOWN	Mapped	Animals - Birds - Strigidae - <i>Athene cucularia</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3812266	MOUNT ST. HELENA	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3812276	WHISPERING PINES	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Birds	<i>Strix occidentalis caurina</i>	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Birds - Strigidae - <i>Strix occidentalis caurina</i>
Animals - Crustaceans	<i>Calasellus californicus</i>	An isopod	ICMAL34010	None	None	-	-	3812287	KELSEYVILLE	Mapped and Unprocessed	Animals - Crustaceans - Asellidae - <i>Calasellus californicus</i>
Animals - Crustaceans	<i>Syncaris pacifica</i>	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-	-	3812268	GEYSERVILLE	Unprocessed	Animals - Crustaceans - Atyidae - <i>Syncaris pacifica</i>
Animals - Crustaceans	<i>Syncaris pacifica</i>	California freshwater shrimp	ICMAL27010	Endangered	Endangered	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Crustaceans - Atyidae - <i>Syncaris pacifica</i>
Animals - Crustaceans	<i>Linderiella occidentalis</i>	California linderiella	ICBRA06010	None	None	-	-	3812287	KELSEYVILLE	Mapped	Animals - Crustaceans - Chirocephalidae - <i>Linderiella occidentalis</i>
Animals - Crustaceans	<i>Stygobromus cherylae</i>	Barr's amphipod	ICMAL05D60	None	None	-	-	3812266	MOUNT ST. HELENA	Mapped	Animals - Crustaceans - Crangonyctidae - <i>Stygobromus cherylae</i>
Animals - Fish	<i>Archoplites interruptus</i>	Sacramento perch	AFCQB07010	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Fish - Centrarchidae - <i>Archoplites interruptus</i>

Animals - Fish	<i>Cottus asper</i> ssp.	Clear Lake prickly sculpin	AFC4E02021	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Fish - Cottidae - <i>Cottus asper</i> ssp.
Animals - Fish	<i>Lavinia exilicauda</i> chi	Clear Lake hitch	AFCJB19011	None	Threatened	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped and Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia exilicauda</i> chi
Animals - Fish	<i>Lavinia exilicauda</i> chi	Clear Lake hitch	AFCJB19011	None	Threatened	-	-	3812288	HIGHLAND SPRINGS	Mapped and Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia exilicauda</i> chi
Animals - Fish	<i>Lavinia exilicauda</i> chi	Clear Lake hitch	AFCJB19011	None	Threatened	-	-	3812287	KELSEYVILLE	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia exilicauda</i> chi
Animals - Fish	<i>Lavinia symmetricus</i> navarroensis	Navarro roach	AFCJB19023	None	None	SSC	-	3812267	JIMTOWN	Unprocessed	Animals - Fish - Lavinia symmetricus navarroensis
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812267	JIMTOWN	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812268	GEYSERVILLE	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812287	KELSEYVILLE	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812277	THE GEYSERS	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812278	ASTI	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia symmetricus</i> ssp. 4
Animals - Fish	<i>Mylopharodon conocephalus</i>	hardhead	AFCJB25010	None	None	SSC	-	3812267	JIMTOWN	Mapped	Animals - Fish - Cyprinidae - <i>Mylopharodon conocephalus</i>
Animals - Fish	<i>Hysteroecarpus traskii</i> lagunae	Clear Lake tule perch	AFCQK02013	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> lagunae
Animals - Fish	<i>Hysteroecarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3812278	ASTI	Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> pomo
Animals - Fish	<i>Hysteroecarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3812277	THE GEYSERS	Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> pomo
Animals - Fish	<i>Hysteroecarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3812267	JIMTOWN	Mapped and Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> pomo
Animals - Fish	<i>Hysteroecarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3812268	GEYSERVILLE	Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> pomo
Animals - Fish	<i>Hysteroecarpus traskii</i> pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traskii</i> pomo
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	3812268	GEYSERVILLE	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	3812267	JIMTOWN	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None	SSC	-	3812277	THE GEYSERS	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>

Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3812278	ASTI	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 4
Animals - Fish	Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 4
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812268	GEYSERVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812267	JIMTOWN	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812278	ASTI	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812277	THE GEYSERS	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812288	HIGHLAND SPRINGS	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3812278	ASTI	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3812267	JIMTOWN	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3812268	GEYSERVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	3812278	ASTI	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	3812287	KELSEYVILLE	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	Candidate Endangered	-	-	3812277	THE GEYSERS	Mapped	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	Candidate Endangered	-	-	3812276	WHISPERING PINES	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Insects	Trachykele hartmani	serpentine cypress wood-boring beetle	IICOLX6010	None	None	-	-	3812266	MOUNT ST. HELENA	Mapped	Animals - Insects - Buprestidae - Trachykele hartmani
Animals - Insects	Hedychridium milleri	Borax Lake cuckoo wasp	IIHYM68020	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Insects - Chrysididae - Hedychridium milleri

Animals - Insects	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	IICOL5A010	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Insects - Elmidae - Dubiraphia brunnescens
Animals - Insects	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	IICOL5V010	None	None	-	-	3812287	KELSEYVILLE	Mapped	Animals - Insects - Hydrophilidae - Hydrochara rickseckeri
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3812287	KELSEYVILLE	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3812278	ASTI	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812266	MOUNT ST. HELENA	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812278	ASTI	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812268	GEYSERVILLE	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812267	JIMTOWN	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3812278	ASTI	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	-	3812278	ASTI	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis evotis	long-eared myotis	AMACC01070	None	None	-	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Myotis evotis
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus
Animals - Mammals	Myotis thysanodes	fringed myotis	AMACC01090	None	None	-	-	3812276	WHISPERING PINES	Mapped	Animals - Mammals - Vespertilionidae - Myotis thysanodes
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3812278	ASTI	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis

Animals - Mollusks	Pyrgulopsis ventricosa	Clear Lake pyrg	IMGASJ0F40	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Mollusks - Hydrobiidae - Pyrgulopsis ventricosa
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Mollusks - Unionidae - Gonidea angulata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812278	ASTI	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812277	THE GEYSERS	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812287	KELSEYVILLE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812288	HIGHLAND SPRINGS	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812276	WHISPERING PINES	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812268	GEYSERVILLE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812267	JIMTOWN	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812266	MOUNT ST. HELENA	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Community - Aquatic	Central Valley Drainage Rainbow Trout/Cyprinid Stream	Central Valley Drainage Rainbow Trout/Cyprinid Stream	CARA2422CA	None	None	-	-	3812276	WHISPERING PINES	Mapped	Community - Aquatic - Central Valley Drainage Rainbow Trout/Cyprinid Stream
Community - Aquatic	Clear Lake Drainage Cyprinid/Catostomid Stream	Clear Lake Drainage Cyprinid/Catostomid Stream	CARA2530CA	None	None	-	-	3812287	KELSEYVILLE	Mapped	Community - Aquatic - Clear Lake Drainage Cyprinid/Catostomid Stream
Community - Aquatic	Clear Lake Drainage Resident Trout Stream	Clear Lake Drainage Resident Trout Stream	CARA2520CA	None	None	-	-	3812287	KELSEYVILLE	Mapped	Community - Aquatic - Clear Lake Drainage Resident Trout Stream
Community - Aquatic	Clear Lake Drainage Resident Trout Stream	Clear Lake Drainage Resident Trout Stream	CARA2520CA	None	None	-	-	3812277	THE GEYSERS	Mapped	Community - Aquatic - Clear Lake Drainage Resident Trout Stream
Community - Aquatic	Clear Lake Drainage Resident Trout Stream	Clear Lake Drainage Resident Trout Stream	CARA2520CA	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Community - Aquatic - Clear Lake Drainage Resident Trout Stream
Community - Aquatic	Clear Lake Drainage Resident Trout Stream	Clear Lake Drainage Resident Trout Stream	CARA2520CA	None	None	-	-	3812276	WHISPERING PINES	Mapped	Community - Aquatic - Clear Lake Drainage Resident Trout Stream
Community - Aquatic	Clear Lake Drainage Seasonal Lakefish Spawning Stream	Clear Lake Drainage Seasonal Lakefish Spawning Stream	CARA2550CA	None	None	-	-	3812287	KELSEYVILLE	Mapped	Community - Aquatic - Clear Lake Drainage Seasonal Lakefish Spawning Stream
Community - Terrestrial	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Community - Terrestrial - Coastal and Valley Freshwater Marsh
Community - Terrestrial	Northern Basalt Flow Vernal Pool	Northern Basalt Flow Vernal Pool	CTT44131CA	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Community - Terrestrial - Northern Basalt Flow Vernal Pool
Community - Terrestrial	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	CTT44133CA	None	None	-	-	3812286	CLEARLAKE HIGHLANDS	Mapped	Community - Terrestrial - Northern Volcanic Ash Vernal Pool

Community - Terrestrial	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	CTT44133CA	None	None	-	-	3812287	KELSEYVILLE	Mapped	Community - Terrestrial - Northern Volcanic Ash Vernal Pool
Plants - Bryophytes	Grimmia torenii	Toren's grimmia	NBMUS32330	None	None	-	1B.3	3812276	WHISPERING PINES	Mapped	Plants - Bryophytes - Grimmiaceae - Grimmia torenii
Plants - Bryophytes	Mielichhoferia elongata	elongate copper moss	NBMUS4Q022	None	None	-	4.3	3812276	WHISPERING PINES	Mapped and Unprocessed	Plants - Bryophytes - Mielichhoferiaceae - Mielichhoferia elongata
Plants - Vascular	Chlorogalum pomeridianum var. minus	dwarf soaproot	PMLIL0G042	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Agavaceae - Chlorogalum pomeridianum var. minus
Plants - Vascular	Eryngium constancei	Loch Lomond button-celery	PDAP10Z0W0	Endangered	Endangered	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Apiaceae - Eryngium constancei
Plants - Vascular	Eryngium constancei	Loch Lomond button-celery	PDAP10Z0W0	Endangered	Endangered	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Apiaceae - Eryngium constancei
Plants - Vascular	Lomatium repostum	Napa lomatium	PDAP11B1M0	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Apiaceae - Lomatium repostum
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Asclepias solanoana	serpentine milkweed	PDASC021R0	None	None	-	4.2	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Apocynaceae - Asclepias solanoana
Plants - Vascular	Calycadenia micrantha	small-flowered calycadenia	PDAST1P0C0	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Asteraceae - Calycadenia micrantha
Plants - Vascular	Erigeron greenei	Greene's narrow-leaved daisy	PDAST3M5G0	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Asteraceae - Erigeron greenei
Plants - Vascular	Erigeron greenei	Greene's narrow-leaved daisy	PDAST3M5G0	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Asteraceae - Erigeron greenei
Plants - Vascular	Harmonia hallii	Hall's harmonia	PDAST650A0	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Asteraceae - Harmonia hallii
Plants - Vascular	Harmonia hallii	Hall's harmonia	PDAST650A0	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Asteraceae - Harmonia hallii
Plants - Vascular	Harmonia hallii	Hall's harmonia	PDAST650A0	None	None	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Asteraceae - Harmonia hallii
Plants - Vascular	Harmonia nutans	nodding harmonia	PDAST650D0	None	None	-	4.3	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Asteraceae - Harmonia nutans
Plants - Vascular	Helianthus exilis	serpentine sunflower	PDAST4N1J0	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Asteraceae - Helianthus exilis
Plants - Vascular	Helianthus exilis	serpentine sunflower	PDAST4N1J0	None	None	-	4.2	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Asteraceae - Helianthus exilis
Plants - Vascular	Hemizonia congesta ssp. calyculata	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Asteraceae - Hemizonia congesta ssp. calyculata
Plants - Vascular	Lasthenia burkei	Burke's goldfields	PDAST5L010	Endangered	Endangered	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Asteraceae - Lasthenia burkei
Plants - Vascular	Lasthenia burkei	Burke's goldfields	PDAST5L010	Endangered	Endangered	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Asteraceae - Lasthenia burkei
Plants - Vascular	Lasthenia burkei	Burke's goldfields	PDAST5L010	Endangered	Endangered	-	1B.1	3812267	JIMTOWN	Mapped	Plants - Vascular - Asteraceae - Lasthenia burkei

Plants - Vascular	<i>Layia septentrionalis</i>	<i>Colusa layia</i>	PDAST5N0F0	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Asteraceae - <i>Layia septentrionalis</i>
Plants - Vascular	<i>Layia septentrionalis</i>	<i>Colusa layia</i>	PDAST5N0F0	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Asteraceae - <i>Layia septentrionalis</i>
Plants - Vascular	<i>Layia septentrionalis</i>	<i>Colusa layia</i>	PDAST5N0F0	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Asteraceae - <i>Layia septentrionalis</i>
Plants - Vascular	<i>Layia septentrionalis</i>	<i>Colusa layia</i>	PDAST5N0F0	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Asteraceae - <i>Layia septentrionalis</i>
Plants - Vascular	<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	PDAST6D030	None	None	-	3.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Asteraceae - <i>Micropus amphibolus</i>
Plants - Vascular	<i>Azolla microphylla</i>	Mexican mosquito fern	PPAZO01030	None	None	-	4.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Azollaceae - <i>Azolla microphylla</i>
Plants - Vascular	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	PDBOR01070	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Boraginaceae - <i>Amsinckia lunaris</i>
Plants - Vascular	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	PDBOR01070	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Boraginaceae - <i>Amsinckia lunaris</i>
Plants - Vascular	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	PDBOR01070	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Boraginaceae - <i>Amsinckia lunaris</i>
Plants - Vascular	<i>Cryptantha dissita</i>	serpentine cryptantha	PDBOR0A0H2	None	None	-	1B.2	3812267	JIMTOWN	Mapped	Plants - Vascular - Boraginaceae - <i>Cryptantha dissita</i>
Plants - Vascular	<i>Cryptantha dissita</i>	serpentine cryptantha	PDBOR0A0H2	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Boraginaceae - <i>Cryptantha dissita</i>
Plants - Vascular	<i>Streptanthus barbiger</i>	bearded jewelflower	PDBRA2G040	None	None	-	4.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Brassicaceae - <i>Streptanthus barbiger</i>
Plants - Vascular	<i>Streptanthus barbiger</i>	bearded jewelflower	PDBRA2G040	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Brassicaceae - <i>Streptanthus barbiger</i>
Plants - Vascular	<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	Socrates Mine jewelflower	PDBRA2G072	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>
Plants - Vascular	<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	Socrates Mine jewelflower	PDBRA2G072	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>
Plants - Vascular	<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	Freed's jewelflower	PDBRA2G071	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>
Plants - Vascular	<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	Freed's jewelflower	PDBRA2G071	None	None	-	1B.2	3812267	JIMTOWN	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>
Plants - Vascular	<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	Freed's jewelflower	PDBRA2G071	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>
Plants - Vascular	<i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Hoffman's bristly jewelflower	PDBRA2G0J4	None	None	-	1B.3	3812277	THE GEYSERS	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>
Plants - Vascular	<i>Streptanthus hesperidis</i>	green jewelflower	PDBRA2G510	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus hesperidis</i>
Plants - Vascular	<i>Brasenia schreberi</i>	watershield	PDCAB01010	None	None	-	2B.3	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Cabombaceae - <i>Brasenia schreberi</i>
Plants - Vascular	<i>Brasenia schreberi</i>	watershield	PDCAB01010	None	None	-	2B.3	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Cabombaceae - <i>Brasenia schreberi</i>

Plants - Vascular	Downingia willamettensis	Cascade downingia	PDCAM060E0	None	None	-	2B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Campanulaceae - Downingia willamettensis
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Viburnum ellipticum	oval-leaved viburnum	PDCPR07080	None	None	-	2B.3	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Caprifoliaceae - Viburnum ellipticum
Plants - Vascular	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-	4.2	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. oxyphylla
Plants - Vascular	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. oxyphylla
Plants - Vascular	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. oxyphylla
Plants - Vascular	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-	4.2	3812267	JIMTOWN	Mapped and Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. oxyphylla
Plants - Vascular	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	PDCON04032	None	None	-	4.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. oxyphylla
Plants - Vascular	Calystegia collina ssp. tridactylosa	three-fingered morning-glory	PDCON04036	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Convolvulaceae - Calystegia collina ssp. tridactylosa
Plants - Vascular	Sedella leiocarpa	Lake County stonecrop	PDCRA0F020	Endangered	Endangered	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Crassulaceae - Sedella leiocarpa
Plants - Vascular	Sedella leiocarpa	Lake County stonecrop	PDCRA0F020	Endangered	Endangered	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Crassulaceae - Sedella leiocarpa
Plants - Vascular	Carex praticola	northern meadow sedge	PMCYP03B20	None	None	-	2B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Cyperaceae - Carex praticola
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812276	WHISPERING PINES	Mapped and Unprocessed	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812277	THE GEYSERS	Mapped and Unprocessed	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812278	ASTI	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans
Plants - Vascular	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	PDERI04271	None	None	-	1B.3	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos manzanita ssp. elegans

Plants - Vascular	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	PDERI041G4	None	None	-	1B.1	3812268	GEYSERVILLE	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos stanfordiana ssp. decumbens
Plants - Vascular	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos stanfordiana ssp. raichei
Plants - Vascular	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos stanfordiana ssp. raichei
Plants - Vascular	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos stanfordiana ssp. raichei
Plants - Vascular	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Ericaceae - Arctostaphylos stanfordiana ssp. raichei
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus breweri	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Fabaceae - Astragalus breweri
Plants - Vascular	Astragalus clevelandii	Cleveland's milk-vetch	PDFAB0F250	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Fabaceae - Astragalus clevelandii
Plants - Vascular	Astragalus clevelandii	Cleveland's milk-vetch	PDFAB0F250	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Fabaceae - Astragalus clevelandii
Plants - Vascular	Astragalus clevelandii	Cleveland's milk-vetch	PDFAB0F250	None	None	-	4.3	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Fabaceae - Astragalus clevelandii
Plants - Vascular	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	PDFAB0F7E1	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Fabaceae - Astragalus rattanii var. jepsonianus
Plants - Vascular	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	PDFAB0F7E1	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Fabaceae - Astragalus rattanii var. jepsonianus
Plants - Vascular	Lupinus sericatus	Cobb Mountain lupine	PDFAB2B3J0	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Fabaceae - Lupinus sericatus
Plants - Vascular	Lupinus sericatus	Cobb Mountain lupine	PDFAB2B3J0	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Fabaceae - Lupinus sericatus
Plants - Vascular	Lupinus sericatus	Cobb Mountain lupine	PDFAB2B3J0	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Fabaceae - Lupinus sericatus
Plants - Vascular	Monardella viridis	green monardella	PDLAM180Q2	None	None	-	4.3	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Lamiaceae - Monardella viridis
Plants - Vascular	Trichostema ruygtii	Napa bluecurls	PDLAM220H0	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Lamiaceae - Trichostema ruygtii
Plants - Vascular	Trichostema ruygtii	Napa bluecurls	PDLAM220H0	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Lamiaceae - Trichostema ruygtii
Plants - Vascular	Calochortus uniflorus	pink star-tulip	PMLIL0D1F0	None	None	-	4.2	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Liliaceae - Calochortus uniflorus

Plants - Vascular	<i>Erythronium helenae</i>	St. Helena fawn lily	PMLIL0U060	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Liliaceae - <i>Erythronium helenae</i>
Plants - Vascular	<i>Erythronium helenae</i>	St. Helena fawn lily	PMLIL0U060	None	None	-	4.2	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Liliaceae - <i>Erythronium helenae</i>
Plants - Vascular	<i>Erythronium helenae</i>	St. Helena fawn lily	PMLIL0U060	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Liliaceae - <i>Erythronium helenae</i>
Plants - Vascular	<i>Erythronium helenae</i>	St. Helena fawn lily	PMLIL0U060	None	None	-	4.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Liliaceae - <i>Erythronium helenae</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	PDLIM02043	None	None	-	4.2	3812287	KELSEYVILLE	Mapped and Unprocessed	Plants - Vascular - Limnathaceae - <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>
Plants - Vascular	<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	PDLIM02043	None	None	-	4.2	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Limnathaceae - <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>
Plants - Vascular	<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	-	1B.1	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Limnathaceae - <i>Limnanthes vinculans</i>
Plants - Vascular	<i>Hesperolinon adenophyllum</i>	glandular western flax	PDLIN01010	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon adenophyllum</i>
Plants - Vascular	<i>Hesperolinon adenophyllum</i>	glandular western flax	PDLIN01010	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped and Unprocessed	Plants - Vascular - Linaceae - <i>Hesperolinon adenophyllum</i>
Plants - Vascular	<i>Hesperolinon adenophyllum</i>	glandular western flax	PDLIN01010	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon adenophyllum</i>
Plants - Vascular	<i>Hesperolinon adenophyllum</i>	glandular western flax	PDLIN01010	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon adenophyllum</i>
Plants - Vascular	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	PDLIN01020	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon bicarpellatum</i>
Plants - Vascular	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	PDLIN01020	None	None	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon bicarpellatum</i>
Plants - Vascular	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	PDLIN01020	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Linaceae - <i>Hesperolinon bicarpellatum</i>
Plants - Vascular	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>
Plants - Vascular	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>
Plants - Vascular	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>

Plants - Vascular	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	PDMAL110K2	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>
Plants - Vascular	<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood Marsh checkerbloom	PDMAL110K5	Endangered	Endangered	-	1B.1	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Malvaceae - <i>Sidalcea oregana</i> ssp. <i>valida</i>
Plants - Vascular	<i>Toxicoscordion fontanum</i>	marsh zigadenus	PMLIL28050	None	None	-	4.2	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Melanthiaceae - <i>Toxicoscordion fontanum</i>
Plants - Vascular	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	PDPOR09080	None	None	-	4.3	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Montiaceae - <i>Calyptridium quadripetalum</i>
Plants - Vascular	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	PDPOR09080	None	None	-	4.3	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Montiaceae - <i>Calyptridium quadripetalum</i>
Plants - Vascular	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	PDPOR09080	None	None	-	4.3	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Montiaceae - <i>Calyptridium quadripetalum</i>
Plants - Vascular	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	PDPOR09080	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Montiaceae - <i>Calyptridium quadripetalum</i>
Plants - Vascular	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	PDPOR09080	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Montiaceae - <i>Calyptridium quadripetalum</i>
Plants - Vascular	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	PDONA050J4	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Onagraceae - <i>Clarkia gracilis</i> ssp. <i>tracyi</i>
Plants - Vascular	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	PDONA050J4	None	None	-	4.2	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Onagraceae - <i>Clarkia gracilis</i> ssp. <i>tracyi</i>
Plants - Vascular	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	PDONA050J4	None	None	-	4.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Onagraceae - <i>Clarkia gracilis</i> ssp. <i>tracyi</i>
Plants - Vascular	<i>Cypripedium montanum</i>	mountain lady's-slipper	PMORC0Q080	None	None	-	4.2	3812278	ASTI	Unprocessed	Plants - Vascular - Orchidaceae - <i>Cypripedium montanum</i>
Plants - Vascular	<i>Piperia michaelii</i>	Michael's rein orchid	PMORC1X110	None	None	-	4.2	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Orchidaceae - <i>Piperia michaelii</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812268	GEYSERVILLE	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	PDSCR0J0S1	None	None	-	4.3	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>
Plants - Vascular	<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	Pennell's bird's-beak	PDSCR0J0S2	Endangered	Rare	-	1B.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Orobanchaceae - <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>
Plants - Vascular	<i>Erythranthe nudata</i>	bare monkeyflower	PDSCR1B200	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Phrymaceae - <i>Erythranthe nudata</i>

Plants - Vascular	<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	PDSCR2S070	None	None	-	4.3	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Plantaginaceae - <i>Antirrhinum subcordatum</i>
Plants - Vascular	<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	PDSCR2S070	None	None	-	4.3	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Plantaginaceae - <i>Antirrhinum subcordatum</i>
Plants - Vascular	<i>Antirrhinum virga</i>	twig-like snapdragon	PDSCR2S090	None	None	-	4.3	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Plantaginaceae - <i>Antirrhinum virga</i>
Plants - Vascular	<i>Antirrhinum virga</i>	twig-like snapdragon	PDSCR2S090	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Plantaginaceae - <i>Antirrhinum virga</i>
Plants - Vascular	<i>Antirrhinum virga</i>	twig-like snapdragon	PDSCR2S090	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Plantaginaceae - <i>Antirrhinum virga</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812287	KELSEYVILLE	Mapped and Unprocessed	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	PDSCR1L483	None	None	-	1B.3	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Plantaginaceae - <i>Penstemon newberryi</i> var. <i>sonomensis</i>
Plants - Vascular	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	PDSCR1L483	None	None	-	1B.3	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Plantaginaceae - <i>Penstemon newberryi</i> var. <i>sonomensis</i>
Plants - Vascular	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	PDSCR1L483	None	None	-	1B.3	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Plantaginaceae - <i>Penstemon newberryi</i> var. <i>sonomensis</i>
Plants - Vascular	<i>Calamagrostis ophitidis</i>	serpentine reed grass	PMPOA170V0	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Poaceae - <i>Calamagrostis ophitidis</i>
Plants - Vascular	<i>Calamagrostis ophitidis</i>	serpentine reed grass	PMPOA170V0	None	None	-	4.3	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Poaceae - <i>Calamagrostis ophitidis</i>
Plants - Vascular	<i>Calamagrostis ophitidis</i>	serpentine reed grass	PMPOA170V0	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Poaceae - <i>Calamagrostis ophitidis</i>
Plants - Vascular	<i>Imperata brevifolia</i>	California satintail	PMPOA3D020	None	None	-	2B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Poaceae - <i>Imperata brevifolia</i>
Plants - Vascular	<i>Imperata brevifolia</i>	California satintail	PMPOA3D020	None	None	-	2B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Poaceae - <i>Imperata brevifolia</i>
Plants - Vascular	<i>Orcuttia tenuis</i>	slender Orcutt grass	PMPOA4G050	Threatened	Endangered	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia tenuis</i>
Plants - Vascular	<i>Panicum acuminatum</i> var. <i>thermale</i>	Geysers panicum	PMPOA24028	None	Endangered	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Poaceae - <i>Panicum acuminatum</i> var. <i>thermale</i>
Plants - Vascular	<i>Panicum acuminatum</i> var. <i>thermale</i>	Geysers panicum	PMPOA24028	None	Endangered	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Poaceae - <i>Panicum acuminatum</i> var. <i>thermale</i>
Plants - Vascular	<i>Collomia diversifolia</i>	serpentine collomia	PDPLM02020	None	None	-	4.3	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Polemoniaceae - <i>Collomia diversifolia</i>
Plants - Vascular	<i>Collomia diversifolia</i>	serpentine collomia	PDPLM02020	None	None	-	4.3	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Polemoniaceae - <i>Collomia diversifolia</i>
Plants - Vascular	<i>Eriastrum brandegeeeae</i>	Brandegee's eriastrum	PDPLM030H0	None	None	-	1B.1	3812277	THE GEYSERS	Mapped	Plants - Vascular - Polemoniaceae - <i>Eriastrum brandegeeeae</i>

Plants - Vascular	Eriastrum brandegeeeae	Brandegee's eriastrum	PDPLM030H0	None	None	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Polemoniaceae - Eriastrum brandegeeeae
Plants - Vascular	Eriastrum brandegeeeae	Brandegee's eriastrum	PDPLM030H0	None	None	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Polemoniaceae - Eriastrum brandegeeeae
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812287	KELSEYVILLE	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812288	HIGHLAND SPRINGS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812277	THE GEYSERS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812268	GEYSERVILLE	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3812267	JIMTOWN	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon grandiflorus	large-flowered leptosiphon	PDPLM090K0	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon grandiflorus
Plants - Vascular	Leptosiphon jepsonii	Jepson's leptosiphon	PDPLM09140	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Polemoniaceae - Leptosiphon jepsonii
Plants - Vascular	Leptosiphon jepsonii	Jepson's leptosiphon	PDPLM09140	None	None	-	1B.2	3812267	JIMTOWN	Mapped	Plants - Vascular - Polemoniaceae - Leptosiphon jepsonii
Plants - Vascular	Leptosiphon jepsonii	Jepson's leptosiphon	PDPLM09140	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Polemoniaceae - Leptosiphon jepsonii
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Navarretia cotulifolia	cotula navarretia	PDPLM0C040	None	None	-	4.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Polemoniaceae - Navarretia cotulifolia
Plants - Vascular	Navarretia leucocephala ssp. bakeri	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. bakeri
Plants - Vascular	Navarretia leucocephala ssp. bakeri	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. bakeri
Plants - Vascular	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	-	1B.1	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. pauciflora
Plants - Vascular	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	-	1B.1	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. pauciflora

Plants - Vascular	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. pauciflora
Plants - Vascular	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	-	1B.1	3812277	THE GEYSERS	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. pauciflora
Plants - Vascular	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. plieantha
Plants - Vascular	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	-	1B.2	3812287	KELSEYVILLE	Mapped and Unprocessed	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. plieantha
Plants - Vascular	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. plieantha
Plants - Vascular	Eriogonum nervulosum	Snow Mountain buckwheat	PDPGN08440	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Polygonaceae - Eriogonum nervulosum
Plants - Vascular	Eriogonum nervulosum	Snow Mountain buckwheat	PDPGN08440	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Polygonaceae - Eriogonum nervulosum
Plants - Vascular	Potamogeton zosteriformis	eel-grass pondweed	PMPOT03160	None	None	-	2B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Potamogetonaceae - Potamogeton zosteriformis
Plants - Vascular	Potamogeton zosteriformis	eel-grass pondweed	PMPOT03160	None	None	-	2B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Potamogetonaceae - Potamogeton zosteriformis
Plants - Vascular	Stuckenia filiformis ssp. alpina	northern slender pondweed	PMPOT03091	None	None	-	2B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Potamogetonaceae - Stuckenia filiformis ssp. alpina
Plants - Vascular	Delphinium uliginosum	swamp larkspur	PDRAN0B1V0	None	None	-	4.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium uliginosum
Plants - Vascular	Delphinium uliginosum	swamp larkspur	PDRAN0B1V0	None	None	-	4.2	3812276	WHISPERING PINES	Unprocessed	Plants - Vascular - Ranunculaceae - Delphinium uliginosum
Plants - Vascular	Myosurus minimus ssp. apus	little mousetail	PDRAN0H031	None	None	-	3.1	3812286	CLEARLAKE HIGHLANDS	Unprocessed	Plants - Vascular - Ranunculaceae - Myosurus minimus ssp. apus
Plants - Vascular	Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-	1B.1	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus confusus
Plants - Vascular	Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-	1B.1	3812277	THE GEYSERS	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus confusus
Plants - Vascular	Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-	1B.1	3812268	GEYSERVILLE	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus confusus
Plants - Vascular	Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-	1B.1	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus confusus
Plants - Vascular	Ceanothus divergens	Calistoga ceanothus	PDRHA04240	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus divergens
Plants - Vascular	Ceanothus divergens	Calistoga ceanothus	PDRHA04240	None	None	-	1B.2	3812277	THE GEYSERS	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus divergens

Plants - Vascular	Ceanothus divergens	Calistoga ceanothus	PDRHA04240	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus divergens
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3812276	WHISPERING PINES	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3812286	CLEARLAKE HIGHLANDS	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3812287	KELSEYVILLE	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3812288	HIGHLAND SPRINGS	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi
Plants - Vascular	Horkelia parryi	Parry's horkelia	PDROS0W0C0	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Unprocessed	Plants - Vascular - Rosaceae - Horkelia parryi
Plants - Vascular	Horkelia tenuiloba	thin-lobed horkelia	PDROS0W0E0	None	None	-	1B.2	3812268	GEYSERVILLE	Mapped	Plants - Vascular - Rosaceae - Horkelia tenuiloba
Plants - Vascular	Brodiaea leptandra	narrow-anthered brodiaea	PMLIL0C022	None	None	-	1B.2	3812268	GEYSERVILLE	Mapped	Plants - Vascular - Themidaceae - Brodiaea leptandra
Plants - Vascular	Brodiaea leptandra	narrow-anthered brodiaea	PMLIL0C022	None	None	-	1B.2	3812266	MOUNT ST. HELENA	Mapped	Plants - Vascular - Themidaceae - Brodiaea leptandra

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Scientific Name

Common Name

Family

Lifeform

Blooming Period

Fed List

State List

Global Rank

State Rank

CA Rare Plant Rank

General Habitats

Micro Habitats

Lowest Elevation

Highest Elevation

CA Endemic

Date Added


Photo

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▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u><i>Allium peninsulare</i></u> <u>var. franciscanum</u>	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	1B.2	Cismontane woodland, Valley and foothill grassland	Clay, Serpentinite (often), Volcanic	No Photo Available
<u><i>Amsinckia lunaris</i></u>	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	1B.2	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland		No Photo Available
<u><i>Antirrhinum subcordatum</i></u>	dimorphic snapdragon	Plantaginaceae	annual herb	Apr-Jul	None	None	4.3	Chaparral, Lower montane coniferous forest	Serpentinite (sometimes)	No Photo Available
<u><i>Antirrhinum virga</i></u>	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	None	None	4.3	Chaparral, Lower montane coniferous forest	Openings, Rocky, Serpentinite (often)	No Photo Available
<u><i>Arctostaphylos bakeri</i></u> <u>ssp. sublaevis</u>	The Cedars manzanita	Ericaceae	perennial evergreen shrub	Feb-May	None	CR	1B.2	Chaparral, Closed-cone coniferous forest		No Photo Available
<u><i>Arctostaphylos hispidula</i></u>	Howell's manzanita	Ericaceae	perennial evergreen shrub	Mar-Apr	None	None	4.2	Chaparral		No Photo Available
<u><i>Arctostaphylos manzanita</i></u>	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	None	None	1B.3	Chaparral, Cismontane		No Photo

<u>ssp. elegans</u>							CA RARE	woodland, Lower montane coniferous forest	Available	
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u>Arctostaphylos stanfordiana</u> <u>ssp. decumbens</u>	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb- Apr(May)	None	None	1B.1	Chaparral, Cismontane woodland		No Photo Available
<u>Arctostaphylos stanfordiana</u> <u>ssp. raichei</u>	Raiche's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	None	None	1B.1	Chaparral, Lower montane coniferous forest		No Photo Available
<u>Asclepias solanoana</u>	serpentine milkweed	Apocynaceae	perennial herb	May- Jul(Aug)	None	None	4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest	Serpentinite	No Photo Available
<u>Astragalus breweri</u>	Brewer's milk- vetch	Fabaceae	annual herb	Apr-Jun	None	None	4.2	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland		No Photo Available
<u>Astragalus clevelandii</u>	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	None	None	4.3	Chaparral, Cismontane woodland, Riparian forest		No Photo Available
<u>Astragalus rattanii</u> var. <u>jepsonianus</u>	Jepson's milk- vetch	Fabaceae	annual herb	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<u>Azolla microphylla</u>	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	4.2	Marshes and swamps		No Photo Available
<u>Brasenia schreberi</u>	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	2B.3	Marshes and swamps		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u><i>Brodiaea leptandra</i></u>	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	None	None	1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland		No Photo Available
<u><i>Bryum chryseum</i></u>	brassy bryum	Bryaceae	moss		None	None	4.3	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<u><i>Calamagrostis ophitidis</i></u>	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	None	None	4.3	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland		No Photo Available
<u><i>Calochortus raichei</i></u>	The Cedars fairy-lantern	Liliaceae	perennial bulbiferous herb	May-Aug	None	None	1B.2	Chaparral, Closed-cone coniferous forest		No Photo Available
<u><i>Calochortus uniflorus</i></u>	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	4.2	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest		© 2021 Scot Loring
<u><i>Calycadenia micrantha</i></u>	small-flowered calycadenia	Asteraceae	annual herb	Jun-Sep	None	None	1B.2	Chaparral, Meadows and seeps,		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	Valley and foothill general grassland HABITATS	MICRO HABITATS	PHOTO
<u><i>Calyptridium quadripetalum</i></u>	four-petaled pussypaws	Montiaceae	annual herb	Apr-Jun	None	None	4.3	Chaparral, Lower montane coniferous forest		No Photo Available
<u><i>Calystegia collina ssp. oxyphylla</i></u>	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	4.2	Chaparral, Lower montane coniferous forest, Valley and foothill grassland		No Photo Available
<u><i>Calystegia collina ssp. tridactylosa</i></u>	three-fingered morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	1B.2	Chaparral, Cismontane woodland		No Photo Available
<u><i>Carex comosa</i></u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	2B.1	Coastal prairie, Marshes and swamps, Valley and foothill grassland		Dean Wm. Taylor 1997
<u><i>Carex praticola</i></u>	northern meadow sedge	Cyperaceae	perennial herb	May-Jul	None	None	2B.2	Meadows and seeps		No Photo Available
<u><i>Ceanothus confusus</i></u>	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	None	None	1B.1	Chaparral, Cismontane woodland, Closed-cone coniferous forest		No Photo Available
<u><i>Ceanothus divergens</i></u>	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	None	None	1B.2	Chaparral		No Photo Available
<u><i>Chlorogalum pomeridianum var. minus</i></u>	dwarf soaproot	Agavaceae	perennial bulbiferous herb	May-Aug	None	None	1B.2	Chaparral		No Photo Available
<u><i>Clarkia gracilis ssp. tracyi</i></u>	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	None	None	4.2	Chaparral		No Photo Available
<u><i>Collomia</i></u>	serpentine	Polemoniaceae	annual herb	May-Jun	None	None	4.3	Chaparral,		No Photo Available

<u>▲</u> SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u><i>alversifolia</i></u>	coliomia						CA RARE	Cismontane woodland		No Photo Available
<u><i>Cordylanthus tenuis</i> ssp. <i>brunneus</i></u>	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	None	None	4.3	Chaparral, Cismontane woodland, Closed-cone coniferous forest		No Photo Available
<u><i>Cordylanthus tenuis</i> ssp. <i>capillaris</i></u>	Pennell's bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	FE	CR	1B.2	Chaparral, Closed-cone coniferous forest		No Photo Available
<u><i>Cryptantha dissita</i></u>	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	1B.2	Chaparral		No Photo Available
<u><i>Cypripedium californicum</i></u>	California lady's-slipper	Orchidaceae	perennial rhizomatous herb	Apr-Aug(Sep)	None	None	4.2	Bogs and fens, Lower montane coniferous forest		© 2012 Barry Rice
<u><i>Cypripedium montanum</i></u>	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	4.2	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest		©2021 Scot Loring
<u><i>Delphinium uliginosum</i></u>	swamp larkspur	Ranunculaceae	perennial herb	May-Jun	None	None	4.2	Chaparral, Valley and foothill grassland		No Photo Available
<u><i>Downingia willamettensis</i></u>	Cascade downingia	Campanulaceae	annual herb	Jun-Jul(Sep)	None	None	2B.2	Cismontane woodland, Valley and foothill grassland, Vernal pools		No Photo Available
<u><i>Entosthodon kochii</i></u>	Koch's cord moss	Funariaceae	moss		None	None	1B.3	Cismontane woodland		No Photo Available


<u>SCIENTIFIC NAME</u>	<u>COUNTY COMMON NAME</u>	<u>FAMILY</u>	<u>LIFEFORM</u>	<u>BLOOMING PERIOD</u>	<u>FED LIST</u>	<u>STATE LIST</u>	<u>PLANT RANK</u>	<u>GENERAL HABITATS</u>	<u>MICRO HABITATS</u>	<u>PHOTO</u>
<u><i>Epilobium septentrionale</i></u>	Humboldt County fuchsia	Onagraceae	perennial herb	Jul-Sep	None	None	4.3 4.3 RARE	Broadleafed upland forest, North Coast coniferous forest		No Photo Available
<u><i>Erigeron greenei</i></u>	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	None	None	1B.2	Chaparral		No Photo Available
<u><i>Eriogonum nervulosum</i></u>	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	Jun-Sep	None	None	1B.2	Chaparral		No Photo Available
<u><i>Eriogonum ternatum</i></u>	ternate buckwheat	Polygonaceae	perennial herb	Jun-Aug	None	None	4.3	Lower montane coniferous forest		No Photo Available
<u><i>Eryngium constancei</i></u>	Loch Lomond button-celery	Apiaceae	annual/perennial herb	Apr-Jun	FE	CE	1B.1	Vernal pools		No Photo Available
<u><i>Erythranthe nudata</i></u>	bare monkeyflower	Phrymaceae	annual herb	May-Jun	None	None	4.3	Chaparral, Cismontane woodland		John Doyen 2015
<u><i>Erythronium helenae</i></u>	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland		No Photo Available
<u><i>Fritillaria purdyi</i></u>	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest		No Photo Available
<u><i>Gratiola heterosepala</i></u>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	1B.2	Marshes and swamps, Vernal pools		No Photo Available
<u><i>Grimmia torenii</i></u>	Toren's grimmia	Grimmiaceae	moss		None	None	1B.3	Chaparral, Cismontane woodland, Lower montane coniferous		©2021 Scot Loring

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>FAMILY</u>	<u>LIFEFORM</u>	<u>FLORING PERIOD</u>	<u>NO. ON LIST</u>	<u>STATE LIST</u>	<u>CA RARE RANK</u>	<u>HABITATS</u>	<u>MICRO HABITATS</u>	<u>PHOTO</u>
<i>Harmonia nutans</i>	nodding harmonia	Asteraceae	annual herb	Mar-May	None	None	4.3	Chaparral, Cismontane woodland	MICRO HABITATS	No Photo Available
<i>Harmonia nutans</i>	nodding harmonia	Asteraceae	annual herb	Mar-May	None	None	4.3	Chaparral, Cismontane woodland		No Photo Available
<i>Helianthus exilis</i>	serpentine sunflower	Asteraceae	annual herb	Jun-Nov	None	None	4.2	Chaparral, Cismontane woodland		No Photo Available
<i>Hemizonia congesta ssp. calyculata</i>	Mendocino tarplant	Asteraceae	annual herb	Jul-Nov	None	None	4.3	Cismontane woodland, Valley and foothill grassland		No Photo Available
<i>Hemizonia congesta ssp. congesta</i>	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	None	None	1B.2	Valley and foothill grassland		No Photo Available
<i>Hesperolinon adenophyllum</i>	glandular western flax	Linaceae	annual herb	May-Aug	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	Linaceae	annual herb	(Apr)May-Jul	None	None	1B.2	Chaparral		No Photo Available
<i>Horkelia bolanderi</i>	Bolander's horkelia	Rosaceae	perennial herb	(May)Jun-Aug	None	None	1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland		No Photo Available
<i>Horkelia parryi</i>	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	1B.2	Chaparral, Cismontane woodland		No Photo Available
<i>Horkelia tenuiloba</i>	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	None	None	1B.2	Broadleafed upland forest, Chaparral, Valley and foothill		No Photo Available



▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA	GENERAL HABITATS	MICRO HABITATS	PHOTO
							RARE PLANT RANK			
<i>Imperata brevifolia</i>	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	2B.1	Chaparral, Coastal scrub, Meadows and seeps, Mojavean desert scrub, Riparian scrub		No Photo Available
<i>Iris longipetala</i>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	4.2	Coastal prairie, Lower montane coniferous forest, Meadows and seeps		No Photo Available
<i>Kopsiopsis hookeri</i>	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	2B.3	North Coast coniferous forest		No Photo Available
<i>Lasthenia burkei</i>	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	FE	CE	1B.1	Meadows and seeps, Vernal pools		No Photo Available
<i>Layia septentrionalis</i>	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<i>Legenere limosa</i>	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	1B.1	Vernal pools		No Photo Available
<i>Leptosiphon acicularis</i>	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	4.2	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	Polemoniaceae	annual herb	Apr-Aug	None	None	4.2	Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Valley and foothill grassland		No Photo Available
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	4.3	Broadleafed upland forest, Cismontane woodland		No Photo Available
<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	4.2	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools		© 2021 Scot Loring
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	FE	CE	1B.1	Meadows and seeps, Valley and foothill grassland, Vernal pools		No Photo Available
<i>Lomatium repostum</i>	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u>Lupinus sericatus</u>	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	None	None	1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest		No Photo Available
<u>Micropus amphibolus</u>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	3.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<u>Mielichhoferia elongata</u>	elongate copper moss	Mielichhoferiaceae	moss		None	None	4.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Subalpine coniferous forest		No Photo Available
<u>Monardella viridis</u>	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	None	None	4.3	Broadleafed upland forest, Chaparral, Cismontane woodland		No Photo Available
<u>Myosurus minimus ssp. apus</u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	3.1	Valley and foothill grassland,		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA	Vernal pools		PHOTO
							RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	
<u>Navarretia cotulifolia</u>	cotula navarretia	Polemoniaceae	annual herb	May-Jun	None	None	4.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.1	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools		No Photo Available
<u>Navarretia leucocephala ssp. pauciflora</u>	few-flowered navarretia	Polemoniaceae	annual herb	May-Jun	FE	CT	1B.1	Vernal pools		No Photo Available
<u>Navarretia leucocephala ssp. plieantha</u>	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	FE	CE	1B.2	Vernal pools		No Photo Available
<u>Orcuttia tenuis</u>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	1B.1	Vernal pools		No Photo Available
<u>Panicum acuminatum var. thermale</u>	Geysers panicum	Poaceae	annual/perennial herb	Jun-Aug	None	CE	1B.2	Closed-cone coniferous forest, Riparian forest, Valley and foothill grassland		No Photo Available
<u>Penstemon newberryi var. sonomensis</u>	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	None	None	1B.3	Chaparral		Jason Matthias Mills 2020
<u>Piperia leptopetala</u>	narrow-petaled rein orchid	Orchidaceae	perennial herb	May-Jul	None	None	4.3	Cismontane woodland, Lower montane		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
								montane coniferous forest, Upper montane coniferous forest		
<i>Piperia michaelii</i>	Michael's rein orchid	Orchidaceae	perennial herb	Apr-Aug	None	None	4.2	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal scrub, Lower montane coniferous forest		No Photo Available
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	None	None	2B.2	Marshes and swamps		No Photo Available
<i>Sedella leiocarpa</i>	Lake County stonecrop	Crassulaceae	annual herb	Apr-May	FE	CE	1B.1	Cismontane woodland, Valley and foothill grassland, Vernal pools		No Photo Available
<i>Sidalcea oregana ssp. hydrophila</i>	marsh checkerbloom	Malvaceae	perennial herb	(Jun)Jul-Aug	None	None	1B.2	Meadows and seeps, Riparian forest		No Photo Available
<i>Sidalcea oregana ssp. valida</i>	Kenwood Marsh checkerbloom	Malvaceae	perennial rhizomatous herb	Jun-Sep	FE	CE	1B.1	Marshes and swamps		No Photo Available
<i>Streptanthus barbiger</i>	bearded jewelflower	Brassicaceae	annual herb	May-Jul	None	None	4.2	Chaparral		No Photo Available
<i>Streptanthus brachiatus ssp. brachiatus</i>	Socrates Mine jewelflower	Brassicaceae	perennial herb	May-Jun	None	None	1B.2	Chaparral, Closed-cone coniferous forest		No Photo Available
<i>Streptanthus brachiatus ssp. hoffmanii</i>	Freed's jewelflower	Brassicaceae	perennial herb	May-Jul	None	None	1B.2	Chaparral, Cismontane woodland		No Photo Available
<i>Streptanthus glandulosus ssp. hoffmanii</i>	Hoffman's bristly jewelflower	Brassicaceae	annual herb	Mar-Jul	None	None	1B.3	Chaparral, Cismontane woodland, Valley and		No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFE FORM	BLOOMING PERIOD	FED STATUS	STATE STATUS	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	PHOTO
<u><i>Streptanthus hesperidis</i></u>	jewelflower	Brassicaceae	perennial herb	May-Sep	None	None	1B.2	Chaparral, Cismontane woodland		No Photo Available
<u><i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i></u>	Morrison's jewelflower	Brassicaceae	perennial herb	May-Sep	None	None	1B.2	Chaparral		No Photo Available
<u><i>Stuckenia filiformis</i> ssp. <i>alpina</i></u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	2B.2	Marshes and swamps		Dana York (2016)
<u><i>Toxicoscordion fontanum</i></u>	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	Apr-Jul	None	None	4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps		No Photo Available
<u><i>Tracyina rostrata</i></u>	beaked tracyina	Asteraceae	annual herb	May-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland		No Photo Available
<u><i>Trichostema ruygtii</i></u>	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	None	None	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools		No Photo Available
<u><i>Viburnum ellipticum</i></u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	None	None	2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest		© 2006 Tom Engstrom

Showing 1 to 101 of 101 entries

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United States Department of the Interior



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In Reply Refer To:
Project Code: 2022-0089481
Project Name: Geysler Peak to Pocket Peak Fuelbreak

September 27, 2022

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 ECOS-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 ECOS-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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

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/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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: 2022-0089481

Project Name: Geysers Peak to Pocket Peak Fuelbreak

Project Type: Fire Management Planning

Project Description: The project proposes fuel treatment on approximately 200 acres of mixed vegetation along an existing fire road. The project area extends approximately 250 feet off road centerline on both sides of the alignment for a total width of approximately 500 feet. The treatable road segment is approximately 17,325 feet (3.28 miles) in length.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.77787345,-122.86215088045574,14z>



Counties: Sonoma County, 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 Fisheries¹, 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.

Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Few-flowered Navarretia <i>Navarretia leucocephala ssp. pauciflora</i> (= <i>N. pauciflora</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8242	Endangered
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Jacobszoon and Associates, Inc.

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State: CA

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