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natural resource planning & management



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Biological Assessment Report

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Section 1.0: Introduction

This biological assessment was prepared by Jacobszoon and Associates Inc. for the City of Ukiah for the purpose a lot line adjustment to reconfigure parcels for future single-family residential development on approximately 55 acres. The project site is located just west of Ukiah, CA within Sections 19 and 30, Township 15N, Range 12W, Mount Diablo Base and Meridian, in the Ukiah USGS 7.5-minute quadrangle, APNs: 001-040-83, 157-070-01, 157-070-02, and 003-190-01 (Appendix D: Map 1, Study Area- Topographic Map). A site visit was conducted on February 5, 2021. A botanical survey was conducted on March 30, 2021. Additional botanical survey results will be amended in once completed.

The purpose of this study was to identify and map areas within the parcel that are potential sensitive natural communities and to locate special-status plants and special-status animal habitats to determine if they would be directly or potentially impacted by the proposed project. The Study Area referred to within this report comprises approximately 55 acres and includes existing dirt and gravel roads, fire breaks, water tank pad sites, and areas cleared for potential house sites (Appendix D: Map 2, Study Area-Aerial Map).

This report includes the following:

- Regulations and Project Description (Section 2)
- Field Survey Methodology (Section 3)
- Study Area Setting (Section 4)
- Field Survey Results (Section 5)
- Assessment Summary and Recommendations (Section 6)
- Tables of Special-Status Plants and Wildlife within CNDDDB nine quads (Appendix A)
- List of Species Observed (Appendix B)
- Representative Photographs of Study Area (Appendix C)
- Supporting Maps (Appendix D)
- Supporting Documents (Appendix E)

Section 2.0: Regulations and Descriptions

2.1 Regulatory Setting

In addition to the requirements of Mendocino County's permitting process, the project shall comply with Federal, State, and local regulations designed to protect sensitive natural resources. The following natural resources are protected under one or more of several Federal and/or State regulations and should be considered when designing and/or implementing the proposed project within the Study Area:

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

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.

2.2 Natural Communities and Sensitive Natural Communities

Sensitive Natural Communities: protected under the California Fish and Game Code (CFGC), administered by California Department of Fish and Wildlife (CDFW 2020):

- Includes terrestrial vegetation or plant communities that are ranked by NatureServe and considered “threatened” or “endangered” by CDFW, lists of such are included in *List of Vegetation Alliances and Associations* (CDFW 2020).

2.3 Special-Status Species

Special-status Plant and Wildlife Species including Critical Habitat: protected under one or more of the Federal Endangered Species Act (ESA), California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), administered by the U.S. Fish and Wildlife Service (USFWS), and/or CDFW:

- Includes plants listed under the ESA and/or CESA, or those plants ranked by the California Native Plant Society (CNPS) as Rank 1, 2, 3 and 4.
- Includes wildlife listed under the ESA and/or CESA, and wildlife listed by CDFW as Species of Special Concern, Fully Protected Species, and/or Special status including Invertebrates, Birds of Conservation Concern listed by USFWS, Species of Concern listed by National Marine Fisheries Service (NMFS), Western Bat Working Group (WBWG).

Section 3.0: Field Survey Methodology

3.1 Assessment Methods

The biological resource assessment is designed to identify sensitive communities within the Study Area and determine the existence or potential occurrence for special-status species. The assessment is also designed to address the potential for cumulative impacts to biological resources that may occur as a result of the project and to make recommendations to reduce or mitigate potential impacts.



The biological resource assessment 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 CDFW's California Wildlife Habitat Relationships System (CWHR).

Jacobszoon & Associates Inc. senior biologist Alicia Ives Ringstad conducted a biological resource assessment of the Study Area on February 5, 2021, consisting of approximately six (6) hours. The Study Area was assessed to 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 2021).

3.2 Database and Resource Descriptions

Prior to conducting field surveys, available reference materials were reviewed, including the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) *Web Soil Survey*, the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), the Ukiah 7.5'-minute USGS quadrangle topographic map, and the most recent available aerial imagery. The 100-year flood zone was assessed using the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (NFHL) (Appendix D, Map 8: FEMA National Flood Hazard Layer Map). 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).

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 including Mendocino Cypress (*Hesperocyparis pygmaea*) 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.

Databases queried for the occurrence of special-status species include the USFWS Information for Planning and Consultation (IPaC), California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (online edition, v8-03 0.39), and the California Department of Fish and Wildlife California Natural Diversity Database (CNDDDB) Spotted Owl Data Viewer, RareFind and Quick Viewer processed and unprocessed data (online edition, v5.94.01). 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.



The CNPS database produces a list of sensitive plants that have population occurrences registered within the scoping range. Various habitat characteristics are included with each listed species, including 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 (Appendix D, Map 3: CNDDDB Vicinity Map). The database is continually updated with new sensitive species population data.

California Wildlife Habitat Relationships (CWHR) Predicted Habitat Suitability is a dataset accessed through CNDDDB BIOS Commercial/Spotted Owl Viewer that represents areas of suitable habitat within species' documented ranges. 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. CWHR examines whether the areas being examined in the biological assessment is habitat which *may* support a species of special concern. 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 2021).

3.3 Database Resource Assessment

A scoping of the CNDDDB and CNPS Inventory of Rare and Endangered Plants was performed to identify existing and historical occurrences of special status species and sensitive terrestrial communities within the project vicinity. The scoping extended to twelve quads surrounding and including the Ukiah 7.5-minute USGS Quadrangles and included the Boonville, Cow Mountain, Elledge Peak, Laughlin Range, Orrs Springs, Potter Valley, Purdy's Gardens, Redwood Valley, and Ukiah 7.5-minute USGS Quadrangles. In addition, a 0.25-mile radius scoping area was completed for the identification of northern spotted owl (*Strix occidentalis caurina*, NSO) Activity Centers. No spotted owl territories (Activity Centers) are located within the 0.25-mile buffer.

Prior to the site visit, the databases listed above were accessed to determine whether sensitive biological communities, special-status species or other sensitive areas were documented within the vicinity of the Study Area (Appendix D: Map 3, CNDDDB Vicinity Map). 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 adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).



- Unlikely: Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Study Area is unsuitable or of 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 adjacent to the Study Area is suitable. The species has a moderate probability of being found on-site.
- High Potential: All the habitat components meeting the species requirements are present and/or most of the habitat on or 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.

A complete list of all special-status species and communities listed in the nine-quad scoping of the CNDDDB and CNPS as well as those listed in an official USFWS IPaC search of the project area is included in Appendix A: Scoping Table of Special-Status Species and Communities and Potential to occur within the Study Area, and in supporting documents within Appendix E.

3.4 Biological Communities

Biological 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), USDA Forest Service Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) system, and the Manual of California Vegetation Online Edition (MCV2 Alliances, CNPS 2021b). However, in some cases it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by 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 *Manual of California Vegetation* (MCV; Sawyer, Keeler-Wolf, and Evans 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 the CNDDDB still maintains records of some of the old Holland vegetation types, these types are no longer the accepted standard, and the CDFW Vegetation Classification and Mapping Program (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 MCV classification system. Global and state rarity rankings have been assigned for various types on the recent VegCAMP lists.



3.4.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other Federal, State, and local laws, regulations, and ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species, and are described in Section 5.1.

3.4.2 Sensitive Biological 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 *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *List of Vegetation Alliances* (CDFW, 2020), *A Manual of California Vegetation* (CNPS 2021b), California Streams, and USFWS National Wetlands Inventory (NWI).

Sensitive Natural Communities

CDFW considers any MCV2 alliance or association with a state rank of S1-S3 a sensitive natural community. 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.



Critical Habitat

Critical habitat is a term defined by the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. Federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Aquatic Resources

Watercourses and other waterbodies were classified using guidance from the *California Forest Practice Rules 2020* (FPR). Wetlands are determined using the USFWS National Wetland Inventory (NWI) database and are defined in the 1987 USACE Wetlands Delineation Manual as "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas. Wet areas are areas with observed hydrophytic vegetation and/or other hydrologic indicators that suggest the area is influenced by ponding or flooding for a significant amount of time throughout the growing season. Wet areas should be given the same protections as wetlands for the purposes of this assessment until a wetland delineation is conducted to confirm the presence and extent of wetlands.

3.5 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 Mendocino 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, is 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.

The site assessment is intended to identify the presence or absence of suitable habitat for special-status species known to occur within the Study Area. The site visit does not constitute a full season protocol-level survey and is not intended to determine the actual presence or absence of a species. If a special-status species is observed during the site visit, its presence will be recorded and discussed. All plant and wildlife species observed were recorded and are included in Appendix B.

Section 4.0: Study Area Setting

4.1 Climate and Hydrology

The project site is located west of Ukiah, CA within Sections 19 and 30, Township 15N, Range 12W, Mount Diablo Base and Meridian, in the Ukiah USGS 7.5-minute quadrangle (Appendix D: Map 1, Study Area). The Study Area is located along a ridgetop that divides the Orrs Creek – Russian River watershed (HUC-12, 180101100403). The average annual precipitation is 41 to 63 inches, the average annual air temperature is 55-60 degrees F, and the average frost-free period is 240 to 340 days.

4.2 Topography and Soils

The Study Area is located at approximately 840-1,600 feet in elevation and is underlain by two (2) soil mapping units, according to the United States Department of Agriculture, Natural Resources Conservation Service’s *Web Soil Survey*: Map Unit Symbol 141, Hopland loam, 30 to 50 percent slopes; and Map Unit Symbol 151, Hopland-Wohly loams, 50 to 75 percent slopes (Appendix D: Map 4, Soil Map). A description of the soil series are as follows:

Hopland loam, 30 to 50 percent slopes (Map Unit Symbol 141): This map unit is located on mountains and hills. Included in this unit are small areas of Squawrock, Hellman, Witherell and Cumiskey soils. California black oak and Pacific madrone are the main tree species. Among the trees of limited extent are Douglas-fir, Oregon white oak, interior live oak and blue oak. The elevation range is 490 to 2,400 feet.



- Hopland loam is moderately deep, well drained soils formed in material weathered from sandstone and shale. Redvine soils are on dissected stream terraces and have slopes of 2 to 30 percent.

Hopland-Wohly loams, 50 to 75 percent slopes (Map Unit Symbol 151): This map unit is on hills and mountains. Included in this unit are small areas of Bearwallow, Cassabonne, Hellman and Squawrock soils. The native vegetation is mainly oaks and scattered pockets of Douglas-fir. The elevation range is 500 to 2,500 feet.

- Hopland soil is moderately deep, well drained soils formed in material weathered from sandstone and shale.
- Wholy soil is moderately deep, well drained soils formed in material weathered from sandstone and shale.

4.3 Biota and Land Use

Regionally, the Study Area has historically been used primarily for timber and firewood production, recreation, homesite development, and wildlife habitat (USDA Web Soil Survey, 2021). Section 5 provides a detailed account of the biological communities found on-site, including sensitive and non-sensitive biological communities and additionally the special-status flora and fauna with potential to occur within the Study Area.

Section 5.0: Field Survey Results

5.1 Biological Communities

The Study Area and immediate surroundings were assessed prior to a site visit on February 5, 2021 to determine local biological communities present and develop a comprehensive list of all plant and wildlife species that may be present. Natural communities referred to in this report include Holland 1986 descriptions, USFS CALVEG classifications, and the Manual of California Vegetation (MCV2) alliance descriptions.

Holland Descriptions:

The Study Area is within Cismontane woodland, Valley and foothill grassland and Broadleaved upland forest habitat as best classified by the habitat classification system described by Holland 1986. Descriptions of these habitat types are as follows:

- Valley and Foothill Grassland: Introduced, annual Mediterranean grasses and native herbs. On most sites the native bunch grass species, such as needle grass, have been largely or entirely supplanted by introductions. Stands rich in natives usually found on unusual substrates, such as serpentinite or somewhat alkaline soils.
- Cismontane Woodland: Trees deciduous, evergreen, or both, with open canopies. Broadleaved trees, especially oaks, dominate, although conifers may be present in or emergent through the canopy. Understories may be open and herbaceous or closed and shrubby. This type occurs on a variety of sites below the conifer forests in Mediterranean California.



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

USFS CALVEG Classifications:

According to USDA Forest Service CALVEG mapping delineation, the regionally dominant vegetation type within the Study Area is comprised of Black oak, Oregon white oak, Pacific Douglas-fir, Douglas-fir-Ponderosa pine, Interior live oak and Interior mixed hardwood (Appendix D: Map 5, CALVEG Classification Map). Descriptions of these vegetation types are as follows:

- California Black oak: California Black Oak (*Quercus kelloggii*) occurs extensively in this zone at elevations up to about 6000 feet (1830 m). It has been mapped abundantly as a dominant hardwood in the Eastern Klamath Mountains and Oregon Mountain Subsections (Mountains Section) and in the Eastern and Central Franciscan and Konocti Flows Subsections (Ranges Section) and scattered 13 among twenty-five other subsections in the three sections. It may develop into relatively pure stands on moderately steep slopes or may associate with Oregon White Oak (*Q. garryana* var. *garryana*) and/or Canyon Live Oak (*Q. chrysolepis*) on drier or harsher sites. These stands are commonly found within or below the Douglas-fir (*Pseudotsuga menziesii*), Mixed Conifer - Pine and Ponderosa Pine (*Pinus ponderosa*) types, often as a result of fire or other disturbance, especially in Douglas-fir areas. Black Oak commonly is a major understory hardwood in those conifer types and also typically grows on better soils than those of the Canyon Live Oak-dominant type. Commonly associated shrubs include both upper and lower montane species such as various Manzanitas (*Arctostaphylos* spp.), shrub Oaks (*Quercus* spp.), Deerbrush (*Ceanothus intergerrimus*), Brewer Oak (*Q. garryana* var. *breweri*), Wedgeleaf Ceanothus (*C. cuneatus*), etc.
- Pacific Douglas-Fir: Douglas-fir (*Pseudotsuga menziesii*) is the dominant overstory conifer over a large area in the Mountains, Coast, and Ranges Sections. This alliance has been mapped at various densities in most subsections of this zone at elevations usually below 5600 feet (1708 m). Tanoak (*Lithocarpus densiflorus* var. *densiflorus*) is the most common hardwood associate on mesic sites towards the west. Along western edges of the Mountains Section, a scattered overstory of Douglas-fir often exists over a continuous Tanoak understory with occasional Madrones (*Arbutus menziesii*). Canyon Live Oak (*Quercus chrysolepis*) becomes an important hardwood associate on steeper or drier slopes and those underlain by shallow soils. Black Oak (*Q. kelloggii*) may often associate with this conifer but usually is not abundant. In addition, any of the following tree species may be sparsely present in Douglas-fir stands: Redwood (*Sequoia sempervirens*), Ponderosa Pine (*Pinus ponderosa*), Incense Cedar (*Calocedrus decurrens*), White Fir (*Abies concolor*), Oregon White Oak (*Q. garryana*) and Bigleaf Maple (*Acer macrophyllum*), among others. The shrub understory may also be quite diverse and includes a wide range of shrubs and forbs.



- Interior Mixed Hardwood: No single species is dominant in the Interior Mixed Hardwood Alliance, a mixture that has been mapped most extensively in the Central Franciscan and Ultrabasic Complex Subsections of the Mountains Section and the Mount St. Helena Flows and Valleys, Coast Franciscan and Marin Hills and Valleys Subsections of the Coast Section. It also occurs with less abundance in thirteen other subsections in all three sections. The mixture in this area includes diverse proportions of Oregon White (*Quercus garryana*), Canyon Live (*Q. chrysolepis*) and Blue (*Q. douglasii*) Oaks, with lesser amounts of California Bay (*Umbellifera californica*) and Coast Live Oak (*Q. agrifolia*). Conifer associates are mainly Douglas-fir (*Pseudotsuga menziesii*) and in western areas, Redwood (*Sequoia sempervirens*). This alliance has been mapped at elevations generally below about 4000 feet (1220 m). Annual grasses and forbs typically occur in these open sites.
- Oregon White Oak: Oregon White Oak (*Quercus garryana*) is widely distributed from British Columbia to this zone, with outlying scattered populations further east and south to the Sierra Nevada Mountains and southern California. The tree form (*Q. g. var. garryana*) becomes a local canopy dominant in woodlands of the three sections of this zone across thirty-one subsections, becoming especially prominent in seven of them. Mapped elevations of this type are usually below about 5800 feet (1768 m). Often developing on poor, exposed or droughty soils in inland valleys, foothills or rocky ridges, the Oregon White Oak type also is found in poorly drained areas having occasional standing water or next to stream terraces. On better sites, it is usually out-competed by species such as Douglas-fir (*Pseudotsuga menziesii*) and California Black Oak (*Q. kelloggii*), often becoming a minor element in mixed hardwood types. Other associated species include other conifers such as Ponderosa Pine (*Pinus ponderosa*), Gray Pine (*P. sabiniana*) and various Oaks (*Quercus spp.*). Open sites often have a grass understory.
- Douglas-fir-Pine: Douglas-fir (*Pseudotsuga menziesii*) shares canopy dominance with Ponderosa Pine (*Pinus ponderosa*) at elevations below about 6000 feet (1830 m) in drier sites of the Mountains and Ranges Sections, and more rarely in the eastern sectors of the Coast Section. The type has been mapped within twenty-nine subsections, having greater spatial frequency towards the east and south sections of the zone. Knobcone Pine (*P. attenuata*) may occasionally be present as a minor component of the conifer overstory. Pacific Madrone (*Arbutus menziesii*), California Black Oak (*Quercus kelloggii*), Canyon Live Oak (*Q. chrysolepis*) and Bigleaf Maple (*Acer macrophyllum*) are often present in the understory, while Tanoak (*Lithocarpus densiflorus var. densiflorus*) is usually absent. This type may grade into the Mixed Conifer - Pine type in the Coast Ranges as site conditions become more mesic or disturbance factors less significant in the landscape. It is less prominent in the moister, outermost Klamath Mountains area where it intermixes with Pacific Douglas-fir forests.



- Interior Live Oak: The Interior Live Oak (*Quercus wislizenii*) Alliance occurs mainly in southern areas of the Coast and Mountains Sections as mapped in eight subsections. It is often found to the north and east of the Coast Live Oak (*Q. agrifolia*) Alliance distribution and topographically above Blue Oak (*Q. douglasii*) dominated stands towards the east. This type often indicates xeric or rocky sites when associated with other hardwood types and has been mapped at elevations up to about 4400 feet (1342 m). The shrubby form (*Q. wislizenii* var. *frutescens*) may also dominate a site, especially in areas of frequent fires. Occasional trees and shrubs such as Douglas-fir (*Pseudotsuga menziesii*), Gray Pine (*Pinus sabiniana*), Blue Oak (*Q. douglasii*), Oregon White Oak (*Q. garryana*) and Chamise (*Adenostoma fasciculatum*) may be associated with this pure hardwood alliance. Interior Live Oak is known to hybridize with California Black Oak (*Q. kelloggii*) and Coast Live Oak (*Q. agrifolia*), occasionally making field identification more difficult.

MCV2 Alliances:

Biological communities observed were classified using data collected in the field and the Manual of California Vegetation Online Edition (MCV2 Alliances, CNPS 2020b). Five (5) MCV2 Alliance communities (Appendix D: Map 6: MCV2 Classification Map) were observed on site:

- *Quercus garryana* Forest & Woodland Alliance: Oregon white oak forest and woodland
- *Pseudotsuga menziesii* Forest & Woodland Alliance: Douglas-fir forest and woodland
- *Quercus kelloggii* Forest and Woodland Alliance: California black oak forest and woodland
- *Umbellularia californica* Forest & Woodland Alliance: California bay forest and woodland
- *Pinus attenuata* Forest & Woodland Alliance: Knobcone pine forest and woodland

Detailed descriptions of these communities are as follows:

Quercus garryana Forest & Woodland Alliance: Oregon white oak forest and woodland:

- Characteristics Species: *Quercus garryana* var. *garryana* is dominant or co-dominant in the tree canopy with *Juniperus occidentalis*, *Pinus jeffreyi*, *Pinus ponderosa*, *Pinus sabiniana*, *Pseudotsuga menziesii*, *Quercus chrysolepis*, *Quercus kelloggii* and *Umbellularia californica*.
- Vegetation Layers: Trees < 30 m; canopy is open to continuous. Shrub layer is usually open. Herbaceous layer is open to intermittent and mostly grassy.
- Membership Rules:
 - *Quercus garryana* > 30% relative cover in the tree canopy; > 25% absolute cover, and lacking an appreciable conifer cover.
 - *Quercus garryana* > 30% relative cover in the tree canopy often with other oaks such as *Q. kelloggii*.
- Habitats: Raised stream benches, terraces, slopes. and ridges of all aspects.
- State Rarity Rank: S3
- Global Rarity Rank: G4



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

- 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*, *Cornus nuttali*, *Pinus contorta*, *Pinus lambertiana*, *Quercus agrifolia*, *Quercus chrysolepis*, *Quercus garryana*, *Quercus kelloggii*, and *Sequoia sempervirens*.
- Vegetation Layer: Trees <75m; canopy intermittent to continuous, and it may be two-tiered. Shrubs are infrequent or common. Herbaceous layer is sparse or abundant.
- 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.
- Habitats: All topographic positions and aspects. Substrates various, including serpentine.
- State Rarity Rank: S4
- Global Rarity Rank: G5

Quercus kelloggii Forest and Woodland Alliance: California black oak forest and woodland:

- Characteristics Species: *Quercus kelloggii* is dominant or co-dominant in the tree canopy with *Abies concolor*, *Arbutus menziesii*, *Calocedrus decurrens*, *Pinus attenuata*, *Pinus ponderosa*, *Pseudotsuga menziesii*, *Quercus agrifolia*, *Quercus chrysolepis*, *Quercus garryana*, *Quercus lobata* and *Umbellularia californica*.
- Vegetation Layers: Trees < 40 m; canopy is open to continuous. Shrub layer is open to intermittent. Herbaceous layer is sparse or grassy.
- Membership Rules:
 - *Quercus kelloggii* > 50% relative cover in overstory, and conifers are not conspicuous; or *Q. kelloggii* > 30% relative cover in the overstory and *Pinus ponderosa* may co-dominate.
 - *Quercus kelloggii* > 50% relative cover in the tree canopy; emergent conifers <10% relative cover.
 - *Quercus kelloggii* and *Pinus ponderosa* 30-60% relative cover in the overstory.
- Habitats: All topographic positions and aspects. Soils are moderately to excessively drained.
- State Rarity Rank: S4
- Global Rarity Rank: G4

Pinus attenuata Forest & Woodland Alliance: Knobcone pine forest and woodland:

- Characteristic Species: *Pinus attenuata* is dominant or co-dominant in the tree canopy with *Arbutus menziesii*, *Juniperus occidentalis*, *Notholithocarpus densiflorus*, *Pinus contorta*, *Pinus coulteri*, *Pinus monticola*, *Pinus radiata*, *Pinus sabiniana*, *Pseudotsuga menziesii*, *Quercus chrysolepis* and *Quercus wislizeni*.
- Vegetation Layers: Trees < 25 m; canopy is open to continuous and one or two tiered. Shrub layer is sparse to continuous. Herbaceous layer is sparse.



- Membership Rules
 - *Pinus attenuata* > 50% relative cover in the tree layer; if co-dominant, > 30% relative cover.
- Habitats: Slopes of all aspects, ridges. Soils are derived notably from ultramafic, granitic, sedimentary, and volcanic substrates.
- State Rarity S4
- Global Rarity G4

Umbellularia californica Forest & Woodland Alliance: California bay forest and woodland:

- Characteristic Species: *Umbellularia californica* is dominant or co-dominant in the tree or tall shrub canopy with *Acer macrophyllum*, *Aesculus californica*, *Alnus rhombifolia*, *Alnus rubra*, *Arbutus menziesii*, *Corylus cornuta*, *Juglans californica*, *Notholithocarpus densiflorus*, *Pinus sabiniana*, *Platanus racemosa*, *Pseudotsuga menziesii*, *Quercus agrifolia*, *Quercus chrysolepis*, *Quercus wislizeni* and *Sequoia sempervirens*.
- Vegetation Layers: Trees < 25 (30) m; canopy is intermittent to continuous. Shrub layer open to intermittent. Herbaceous layer is sparse to abundant.
- Membership Rules
 - Conifers < 30% relative cover in canopy, *Umbellularia californica* > 30% relative cover in the tree canopy.
 - *Umbellularia californica* usually > 50% relative cover in the overstory as a tree or tall shrub; when with *Alnus rhombifolia* or *Quercus wislizeni*, > 30% relative cover.
- Habitats: Alluvial benches, streamsides, valley bottoms, coastal bluffs, inland ridges, steep north-facing slopes, rocky outcrops. Soils are shallow to deep, sandy to clay loams. The USFWS Wetland Inventory (1996 national list) recognizes *Umbellularia californica* as a FAC plant.
- State Rarity: S3
- Global Rarity: G4

5.1.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other Federal, State, and local laws, regulations, and ordinances. The Study Area is comprised of three (3) non-sensitive biological communities, as classified under the MCV2 system:

Pseudotsuga menziesii Forest & Woodland Alliance: Douglas-fir forest and woodland
CDFW State Rarity Rank: S4 (Apparently Secure)

Quercus kelloggii Forest and Woodland Alliance: California black oak forest and woodland
CDFW State Rarity Rank: S4 (Apparently Secure)

Pinus attenuata Forest & Woodland Alliance: Knobcone pine forest and woodland
CDFW State Rarity Rank: S4 (Apparently Secure)

Descriptions of these communities are listed above in section 5.1, Biological Communities, and include the Manual of California Vegetation (MCV2) alliance descriptions.



5.1.2 Sensitive Biological Communities

Sensitive biological communities include those that are listed in CNDDDB as well as observed MCV2 alliances or associations with state ranks of S1-S3 and are listed on CDFW's *List of California Sensitive Natural Communities* (CDFW 2020). The Study Area is comprised of two (2) non-sensitive biological communities, as classified under the MCV2 system:

Quercus garryana Forest & Woodland Alliance: Oregon white oak forest and woodland
CDFW State Rarity Rank: S3 (Vulnerable).

Umbellularia californica Forest & Woodland Alliance: California bay forest and woodland
CDFW State Rarity Rank: S3 (Vulnerable).

Recommendations to avoid or mitigate potential impacts to sensitive natural communities are discussed in Section 6.0, Assessment Summary and Recommendations.

Sensitive Aquatic Resources:

The Study Area contains two (2) Class II watercourses and four (4) Class III watercourses that were observed and mapped on-site.

Recommendations to avoid or mitigate potential impacts to aquatic resources are discussed in Section 6.0, Assessment Summary and Recommendations.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Upon review of the resource databases (Appendix E: listed in Section 3.2, forty-six (46) special-status plant species have been documented within the vicinity of the Study Area. Please refer to Appendix A for a table of all special-status plant species which occur within a nine-quad search surrounding the Study Area and additional discussion of the potential for each species to occur within the Study Area. Special-status species documented within five miles of the Study Area are depicted in the CNDDDB Vicinity map (Appendix D: Map 3, CNDDDB Vicinity Map).

Of the forty-six (46) special-status plant species within the vicinity of the Study Area, seventeen (17) special-status plant species have a moderate to high potential to occur within the Study Area. The remaining twenty-nine (29) special-status plant species documented within the vicinity of the Study Area are unlikely to occur or do not have the potential to occur due to one or more of the following reasons:

- 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.
- Ecological conditions (last recorded observations, human-made or natural disturbance) have encroached on species to a point to cause presumed extinction.

The habitat requirements for the seventeen (17) special-status plant species with moderate or high potential to occur within the Study Area is described in the table below:

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Plants			
mountain lady's-slipper <i>Cypripedium montanum</i> Rank 4.2	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. Cismontane woodland and broadleaved upland forest are present within Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment or during the botanical survey conducted on March 30. There are no recommendations for this species.
Koch's cord moss <i>Entosthodon kochii</i> Rank 1B.3	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.	Moderate Potential. Cismontane woodland is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment and there are no recommendations for this species.
stinkbells <i>Fritillaria agrestis</i> Rank 4.2	Cismontane woodland, chaparral, valley and foothill grassland, pinyon and juniper woodland, sometimes on serpentine soil, mostly found in non-native grassland or in grassy openings in clay soil. This species has a serpentine affinity of 2.7 (strong indicator). Elevation ranges from 33 to 5102 feet (10 to 1555 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	Moderate Potential. The Study Area contains chaparral habitat that may be suitable for this species.	Not Observed. This species was not observed during the biological assessment or during the botanical survey conducted on March 30. There are no recommendations for this species.
Roderick's fritillary <i>Fritillaria roderickii</i> Rank 1B.1	Coastal bluff scrub, coastal prairie, valley and foothill grassland, often on grassy slopes, mesas. Elevation ranges from 66 to 2002 feet (20 to 610 meters). A perennial herb (bulb), the blooming period is from Mar-May.	Moderate Potential. Grassland habitat is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment or during the botanical survey conducted on March 30. There are no recommendations for this species.



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
<p>Mendocino tarplant</p> <p><i>Hemizonia congesta</i> ssp. <i>calyculata</i></p> <p>Rank 4.3</p>	<p>Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine. <i>H. congesta</i> ssp. <i>calyculata</i> has a serpentine affinity of 1.5 (weak indicator). Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.</p>	<p>Moderate Potential. Cismontane woodland and grassland habitat are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Jul-Nov).</p>
<p>congested-headed hayfield tarplant</p> <p><i>Hemizonia congesta</i> ssp. <i>congesta</i></p> <p>Rank 1B.2</p>	<p>Valley and foothill grassland, often in fallow fields, sometimes along roadsides. <i>H. congesta</i> ssp. <i>congesta</i> has a serpentine affinity (1.3, weak indicator/indifferent). Elevation ranges from 17 to 1706 feet (5 to 520 meters). An annual herb, the blooming period is from Apr-Nov.</p>	<p>Moderate Potential. Grassland habitat is present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Nov).</p>
<p>Contra Costa goldfields</p> <p><i>Lasthenia conjugens</i></p> <p>FE</p> <p>Rank 1B.1</p>	<p>Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodlands, often found in swales and low depressions in open grassy areas. Elevation ranges from 4 to 1477 feet (1 to 450 meters). An annual herb, the blooming period is from Mar-Jun.</p>	<p>Moderate Potential. The Study Area contains the required habitat (cismontane woodland and grassland habitat) and may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment or during the botanical survey conducted on March 30. There are no recommendations for this species.</p>
<p>bristly leptosiphon</p> <p><i>Leptosiphon acicularis</i></p> <p>Rank 4.2</p>	<p>Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 181 to 4922 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.</p>	<p>Moderate Potential. The Study Area contains the required habitat (cismontane woodland) and may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period for this species. It is recommended to survey for this species during the appropriate blooming period (Apr-Jul).</p>



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
<p>broad-lobed leptosiphon</p> <p><i>Leptosiphon latisectus</i></p> <p>Rank 4.3</p>	<p>Broadleaved upland forest, cismontane woodland. <i>L. latisectus</i> has a serpentine affinity of 2.0 (weak indicator). Elevation ranges from 558 to 4922 feet (170 to 1500 meters). An annual herb, the blooming period is from Apr-Jun.</p>	<p>Moderate Potential. Cismontane woodland and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).</p>
<p>redwood lily</p> <p><i>Lilium rubescens</i></p> <p>Rank 4.2</p>	<p>Chaparral, lower montane coniferous forest, broadleaved upland forest, upper montane coniferous forest, north coast coniferous forest, sometimes on serpentine. <i>L. rubescens</i> has a serpentine affinity of 2 (weak indicator). Elevation ranges from 99 to 6267 feet (30 to 1910 meters). A perennial herb (bulb), the blooming period is from Apr-Aug.</p>	<p>Moderate Potential. Broadleaved upland forest is present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Aug).</p>
<p>green monardella</p> <p><i>Monardella viridis</i></p> <p>Rank 4.3</p>	<p>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.</p>	<p>Moderate Potential. Cismontane woodland and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).</p>
<p>white-flowered rein orchid</p> <p><i>Piperia candida</i></p> <p>Rank 1B.2</p>	<p>North Coast coniferous forest, lower montane coniferous forest, broadleaved upland forest, sometimes on serpentine. Often found in forest duff, mossy banks, ultramafic (serpentine) rock outcrops and muskeg. <i>P. candida</i> has a serpentine affinity of 1.2 (weak indicator/indifferent). Elevation ranges from 66 to 5299 feet (20 to 1615 meters). A perennial herb, the blooming period is from May-Sep.</p>	<p>Moderate Potential. Cismontane woodland and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Sep).</p>



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
<p>Mayacamas popcornflower <i>Plagiobothrys lithocaryus</i> Rank 1A</p>	<p>Chaparral, cismontane woodland, valley and foothill grassland, moist sites. Elevation ranges from 985 to 1477 feet (300 to 450 meters). An annual herb, the blooming period is from Apr-May.</p>	<p>Moderate Potential. Cismontane woodland and grassland habitat are present within the Study Area and may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-May).</p>
<p>beaked tracyina <i>Tracyina rostrata</i> Rank 1B.2 USFS: S</p>	<p>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.</p>	<p>Moderate Potential. Cismontane woodland and grassland habitat are present within the Study Area and may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Jun).</p>
<p>showy Indian clover <i>Trifolium amoenum</i> FE Rank 1B.1</p>	<p>Valley and foothill grassland, coastal bluff scrub, sometimes on serpentine soils (ultramafic), open sunny sites, swales, along roadsides and eroding cliff faces. <i>T. amoenum</i> has an ultramafic affinity (1.3, weak indicator, indifferent). Elevation ranges from 17 to 1017 feet (5 to 310 meters). An annual herb, the blooming period is from Apr-Jun.</p>	<p>Moderate Potential. Grassland habitat is present within the Study Area and this species is sometimes found in serpentine soil, but not always. The Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).</p>
<p>Methuselah’s beard lichen <i>Usnea longissima</i> Rank 4.2</p>	<p>North coast coniferous forest, broadleaved upland forest. Often grows in the “redwood zone” on tree branches of a variety of trees, including bigleaf maple (<i>Acer macrophyllum</i>), various oaks (<i>Quercus spp.</i>), ash (<i>Fraxinus spp.</i>), Douglas-fir (<i>Pseudotsuga menziesii</i>) and California bay (<i>Umbellularia californica</i>). Elevation ranges from 148 to 4807 feet (45 to 1465 meters).</p>	<p>Moderate Potential. Broadleaved upland forest is present within the Study Area; therefore, the Study Area may provide suitable habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment. Trees are not proposed for removal; therefore, there are no recommendations for this species.</p>



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
oval-leaved viburnum <i>Viburnum ellipticum</i> Rank 2B.3	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 is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Jun).

No special-status plant species were observed within the Study Area during the Biological Assessment. A complete list of all plant and wildlife species observed within the Study Area was compiled during the site visit on February 5, 2021. A botanical survey was conducted on March 30, 2021. Further botanical surveys will be conducted in May and July of 2021 and results will be amended to this report.

5.2.2 Special-status Animal Species

A total of forty-four (44) 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 which occur within the vicinity of the Study Area and discussion of the potential for each species to occur within the Study Area. Special-status species documented within five miles of the Study Area are depicted in the CNDDDB Vicinity map (Appendix D: Map 3, CNDDDB Vicinity Map).

Of the forty-four (44) special-status wildlife species within the vicinity of the Study Area, thirteen (13) special-status wildlife species recorded have a moderate to high potential to occur within the Study Area. The remaining thirty-one (31) special-status wildlife species documented within the vicinity of the Study Area are unlikely to occur or 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 thirteen (13) special-status wildlife species with moderate or high potential to occur within the Study Area are described in the table below.

SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Amphibians			
red-bellied newt <i>Taricha rivularis</i> CDFW: SSC IUCN: LC	<i>T. rivularis</i> inhabits coastal forests, typically in redwood (<i>Sequoia sempervirens</i>) forest habitat although also found in other forest types (hardwood etc.). Adults are terrestrial and fossorial. Transformed juveniles leave aquatic environments and go into hiding in underground shelters, often until ready to reproduce. Breeding occurs in streams often with relatively strong flows.	High Potential. Habitat within the Study Area is ranked High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. Aquatic habitat is not present within the Study Area; however, the Study Area may be used for migration and refugia. There is a known occurrence of this species approximately 0.7 miles northwest from the Study Area along Gibson Creek according to CNDDB.	Not Observed. This species was not observed during the biological assessment. It is recommended to survey for this species prior to ground disturbance.
Avifauna			
northern goshawk <i>Accipiter gentilis</i> BLM: S CDF: S CDFW: SSC IUCN: LC USFS: S	<i>A. gentilis</i> are often found in dense, mature and old growth stands of conifer and deciduous habitats. Younger seral stands that include larger residual or defective trees are also used. Nest often on cooler (northerly or easterly) moderate slopes in dense vegetation or within riparian zones, but close to openings. Nest sites are often located next to water, which may provide a break in canopy for easy access to the nest stand or may influence microclimate or prey distribution.	High Potential. Habitat within the Study Area is ranked Medium (0.44) and High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
<p>golden eagle</p> <p><i>Aquila chrysaetos</i></p> <p>BLM: S</p> <p>CDF: S</p> <p>CDFW: FP, WL</p> <p>IUCN: LC</p> <p>USFWS: BCC</p>	<p><i>A. chrysaetos</i> is an uncommon permanent resident in northern California. This species ranges from sea level up to 11,500 feet inhabiting rolling foothills, mountain areas, sage-juniper flats and desert. This species frequently nests in secluded cliffs of all heights with overhanging ledges and in large trees in open areas.</p>	<p>High Potential. Habitat within the Study Area is ranked Moderate (0.44) and High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.</p>	<p>Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.</p>
<p>osprey</p> <p><i>Pandion haliaetus</i></p> <p>CDF: S</p> <p>CDFW: WL</p> <p>IUCN: LC</p>	<p><i>P. haliaetus</i> are strictly associated with large, fish-bearing waters, primarily in ponderosa pine and mixed conifer stands. Foraging habitat consists of open, clear waters, rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Diet consists almost exclusively live fish. Large trees, snags, and blown-out treetops are used for cover and nesting. Nests are located on or near the tops of trees, snags, cliffs, or human-made structures.</p>	<p>High Potential. Habitat within the Study Area is ranked Moderate (0.44) and High (0.77) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.</p>	<p>Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.</p>
<p>yellow warbler</p> <p><i>Setophaga petechia</i></p> <p>CDFW: SSC</p> <p>USFWS: BCC</p>	<p><i>S. petechia</i> often inhabits riparian deciduous habitats in summer: willows, alders, cottonwoods, and other small trees and shrubs typical of low, open canopy riparian woodland. This species will also breed in montane shrubbery in open conifer forest. <i>S. petechia</i> migrates through woodland, forest and shrub habitats. Nests above ground in a deciduous dappling or shrub.</p>	<p>Moderate Potential. Habitat within the Study Area is ranked Low (0.22) to Moderate (0.44) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area contains does contain montane shrubs in open conifer and deciduous forest that may be potential habitat for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment. It is recommended that nesting bird surveys be conducted prior to vegetation removal.</p>



SPECIES	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	<p><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 <i>A. pomio</i> nests).</p>	<p>Moderate Potential. The Study Area is approximately 4.3 miles southeast from the closest NSO Activity Center and 4.5 miles northeast from the nearest critical habitat as identified by the USFWS. The Study Area is located within suitable habitat according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain large conifers for nesting but may provide suitable foraging habitat for this species.</p>	<p>Not Observed. This species or evidence of this species was not observed during the biological assessment. Trees are not proposed for removal; therefore, there are no recommendations for this species.</p>
Insects			
obscure bumble bee <i>Bombus caliginosus</i> CDFW: SSC IUCN: VU	<p><i>B. caliginosus</i> are often found in coastal areas from Santa Barbara county north to Washington state. Food plant genera includes <i>Baccharis</i>, <i>Cirisum</i>, <i>Lupinus</i>, <i>Lotus</i>, <i>Grindelia</i>, and <i>Phacelia</i>.</p>	<p>Moderate Potential. The Study Area contains suitable habitat and food plant genera for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment. Brush and grassland are proposed for removal; however, there is adequate potential habitat surrounding the Study Area. There are no recommendations for this species.</p>
western bumble bee <i>Bombus occidentalis</i> State: CE USFS: S Xerces: IM	<p><i>B. occidentalis</i> are formerly common throughout much of western North America; however, populations from southern British Columbia to central California have nearly disappeared. They occur in a variety of habitat types and are generalist pollinators. <i>B. occidentalis</i> are commonly encountered along stream banks, meadows, disturbed areas, or on flowers by roadsides.</p>	<p>Moderate Potential. The Study Area contains suitable habitat and food plant genera for this species.</p>	<p>Not Observed. This species was not observed during the biological assessment. Brush and grassland are proposed for removal; however, there is adequate potential habitat surrounding the Study Area. There are no recommendations for this species.</p>



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mammals			
<p>Sonoma tree vole</p> <p><i>Arborimus pomo</i></p> <p>CDFW: SSC</p> <p>IUCN: NT</p>	<p><i>A. pomo</i> lives in humid coastal forests consisting of Douglas-fir, grand fir, western hemlock, and/or Sitka spruce. This species requires Douglas-fir and grand fir needles as a food source and nesting materials. 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. This species is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt.</p>	<p>Moderate Potential. Habitat within the Study Area is not suitable in some areas, ranks Low (0.33) within Montane Hardwood-Conifer habitat and High (1) within Conifer Forest habitat according to the CWHR Predicted Habitat Suitability Map. The Study Area does contain Douglas-fir trees and map provide suitable habitat for this species.</p>	<p>Not Observed. This species or evidence of this species was not observed during the biological assessment. Trees are not proposed for removal, but if trees were to be removed, it is recommended to survey those trees for this species.</p>
<p>North American porcupine</p> <p><i>Erethizon dorsatum</i></p> <p>IUCN: LC</p>	<p><i>E. dorsatum</i> are commonly found in coniferous and mixed forested areas, and can also inhabit shrublands, tundra and deserts, albeit less frequently as this species tends to spend much of its time in trees. 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.</p>	<p>Moderate Potential. Habitat within the Study Area is ranked Low (0.33) within the Montane Hardwood habitat to Moderate (0.55) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.</p>	<p>Not Observed. This species or evidence of this species was not observed during the biological assessment. It is recommended to survey for this survey prior to ground disturbance.</p>
<p>western red bat</p> <p><i>Lasiurus blossevillii</i></p> <p>CDFW: SSC</p> <p>IUCN: LC</p> <p>WBWG: H</p>	<p><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.</p>	<p>Moderate Potential. Habitat within the Study Area is ranked Moderate (0.66) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.</p>	<p>Not Observed. This species or evidence of this species was not observed during the biological assessment. There are no further recommendations for this species.</p>



SPECIES	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
hoary bat <i>Lasiurus cinereus</i> CDFW: SSC IUCN: LC WBWG: M	<i>L. cinereus</i> are yearlong residents of Mendocino County. This bat is one of the few bats known to both migrate south for winter and to hibernate locally. Hoary bat daytime roosts are typically dense foliage of medium to large sized trees. This bat occupies a variety of habitats including dense forest, forest edges, coniferous forests, deserts, and broadleaf forests.	Moderate Potential. Habitat within the Study Area is ranked Moderate (0.55) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. It is recommended to survey for this species prior to ground disturbance.
fisher [West Coast DPS] <i>Pekania pennanti</i> ST CDFW: SSC USFS: S	<i>P. pennanti</i> are primarily solitary, except during breeding season (February – April) and they 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. Den site and prey availability are often associated with these characteristics. <i>P. pennanti</i> use cavities, snags, logs and rocky areas for cover and denning and require large areas of mature, dense forest.	Moderate Potential. Habitat within the Study Area is ranked from no suitable habitat (0) to High (1) in suitability according to the CWHR Predicted Habitat Suitability Map and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Trees present within the Study Area do not exhibit late successional characteristics and none are not proposed for removal for this project. There are no further recommendations for this species.

No special status animal species were observed within the Study Area during the biological site assessment. A complete list of all plant and wildlife species observed within the Study Area was compiled during the site visit on February 5, 2021 or March 30, 2021.

Section 6.0: Assessment Summary and Recommendations

6.1 Biological Communities

The Study Area is comprised predominantly of three (3) non-sensitive biological communities, two (2) sensitive biological communities, as well as several watercourses as determined during on-site biological assessments on February 5, 2021 and March 30, 2021 (Appendix D: Map 5, MCV2 Alliance Classifications).

Non-Sensitive Communities:

Under the MCV2 alliance classification system, site visits on February 5, 2021 and March 30, 2021 determined that non-sensitive communities within the Study Area are best classified as *Pseudotsuga menziesii* Forest & Woodland Alliance: Douglas-fir forest and woodland, *Quercus kelloggii* Forest and Woodland Alliance: California black oak forest and woodland and *Pinus attenuata* Forest & Woodland Alliance: Knobcone pine forest and woodland. Detailed descriptions of these biological communities are discussed in section 5.1. There are no recommendations for non-sensitive communities.



Sensitive Communities:

Sensitive biological 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 2020). Two (2) sensitive communities, as classified under the MCV2 alliance classification system, exist within the Study Area and were observed on-site. More detailed descriptions of these sensitive communities are discussed in Section 5.1.2.

Quercus garryana Forest & Woodland Alliance (Oregon white oak forest and woodland):

This community has a Global Rarity Rank of G4 (Apparently Secure) and a State Rarity Rank of S3 (Vulnerable). It is recommended that any proposed work within or in the vicinity of this community avoid the removal of *Quercus garryana*. This community may also provide habitat for nesting birds protected by the Migratory Bird Treaty Act (MBTA) and it is recommended that nesting bird surveys be conducted for any activities that require vegetation removal between March 1st and August 31st of any year. Other management considerations for the preservation of this community include thinning or removal of conifer species within the stand in accordance with local laws, regulations, and ordinances. Such thinning could limit the possibility of vegetation type conversion to closed-canopy woodlands and conifer forest and inhibit the development of fuel ladders that increase the potential for stand-replacing fires. Any removal of *Quercus garryana* cannot be done without consultation with CDFW, and all work within this community shall adhere to CDFW recommendations. It is the understanding of Jacobszoon & Associates, Inc. that no tree removal is proposed.

Umbellularia californica Forest & Woodland Alliance: California bay forest and woodland:

This community has a Global Rarity Rank of G4 (Apparently Secure) and a State Rarity Rank of S3 (Vulnerable). It is recommended that any proposed work within or in the vicinity of this community avoid the removal of *Umbellularia californica*. This community may also provide habitat for nesting birds protected by the Migratory Bird Treaty Act (MBTA) and it is recommended that nesting bird surveys be conducted for any activities that require vegetation removal between March 1st and August 31st of any year. Other management considerations for the preservation of this community include thinning or removal of conifer species within the stand in accordance with local laws, regulations, and ordinances. Such thinning could limit the possibility of vegetation type conversion to closed-canopy woodlands and conifer forest and inhibit the development of fuel ladders that increase the potential for stand-replacing fires. Any removal of *Umbellularia californica* cannot be done without consultation with CDFW, and all work within this community shall adhere to CDFW recommendations. It is the understanding of Jacobszoon & Associates, Inc. that no tree removal is proposed.

Aquatic resources, communities, and habitats (e.g. watercourses, ponds, wetlands, vernal pools, etc.) are considered sensitive biological communities and are afforded special protections under CEQA and other Federal, State, and local laws, regulations, and ordinances. Aquatic habitats present within the Study Area could provide suitable aquatic or riparian habitats for sensitive flora and fauna.



Two (2) Class II watercourses and several Class III watercourses within the Study Area. Recommendations for aquatic resources are listed below:

- It is recommended that all earthwork adjacent to any watercourse or other body of water adhere to standard methods of erosion and sediment control and, if possible, to complete all work while the channel is dry to reduce sediment load downstream.
- It is recommended that a qualified biologist be on site for any dewatering event to address the potential for the presence of sensitive aquatic species such as foothill yellow-legged frog (*Rana boylei*).
- It is recommended that any work within a watercourse or water body with the potential to impact aquatic resources be conducted in compliance with s CDFW's Lake and Streambed Alteration Agreement.
- It is recommended that future expansions or development associated with this project be located outside of the NFHL 100-year flood zone as well as SWRCB setbacks.

A Class II watercourse located approximately 225 feet north of the Study Area is mapped on the USFWS National Wetland Inventory (Appendix D: Map 7, NWI mapped wetlands) as a riverine habitat classified as R4SBC. R4SBC is a riverine intermittent system with a streambed and is seasonally flooded. Riverine systems are considered watercourses for the purposes of this assessment. The proposed project will not impact this watercourse.

6.2 Special-status Species

Seventeen (17) special-status plant species and thirteen (13) special-status wildlife species have a moderate or high potential to occur within the Study Area based on habitat present. No special status plant or wildlife species were observed within the Study Area during the biological site assessment.

6.2.1 Special-status Plant Species

Seventeen (17) special status plant species have a moderate or high potential to occur within the Study Area: mountain lady's-slipper (*Cypripedium montanum*), Koch's cord moss (*Entosthodon kochii*), stinkbells (*Fritillaria agrestis*), Roderick's fritillary (*Fritillaria roderickii*), Mendocino tarplant (*Hemizonia congesta ssp. calyculata*), congested-headed hayfield tarplant (*Hemizonia congesta ssp. congesta*), Contra Costa goldfields (*Lasthenia conjugens*), bristly leptosiphon (*Leptosiphon acicularis*), broad-lobed leptosiphon (*Leptosiphon latisectus*), redwood lily (*Lilium rubescens*), green monardella (*Monardella viridis*), white-flowered rein orchid (*Piperia candida*), Mayacamas popcornflower (*Plagiobothrys lithocaryus*), beaked tracyina (*Tracyina rostrata*) showy Indian clover (*Trifolium amoenum*), Methuselah's beard lichen (*Usnea longissimi*) and oval-leaved viburnum (*Viburnum ellipticum*).

Recommendations for special-status plant species are listed below:

- It is recommended that a seasonally appropriate botanical survey be conducted for the above listed species prior to any groundbreaking¹ activities.

¹ The term "groundbreaking" encompasses vegetation removal, grading, or excavation.



No special-status plant species were observed during the biological site assessment. The biological site visit does not constitute a full season protocol-level botanical survey and is not intended to determine the actual presence or absence of a species. A botanical survey shall be conducted between March and July of 2021 and the results will be amended into this report.

6.2.2 *Special-status Wildlife Species*

Thirteen (13) special-status wildlife species have a moderate or high potential to occur within the Study Area. These species include red-bellied newt (*Taricha rivularis*), northern goshawk (*Accipiter gentilis*), golden eagle (*Aquila chrysaetos*), osprey (*Pandion haliaetus*), yellow warbler (*Setophaga petechia*), northern spotted owl (*Strix occidentalis caurina*), obscure bumble bee (*Bombus caliginosus*), western bumble bee (*Bombus occidentalis*), pallid bat (*Antrozous pallidus*), Sonoma tree vole (*Arborimus pomo*), North American porcupine (*Erethizon dorsatum*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), and fisher [West Coast DPS] (*Pekania pennanti*).

Amphibians

One (1) special-status amphibian has a moderate or high potential to occur within the Study Area; red-bellied newt (*Taricha rivularis*).

Recommendations for this species are listed below:

- It is recommended that a qualified biologist survey the area prior to any groundbreaking activities to determine the presence of special-status amphibian species.

No special-status amphibian species were observed within the Study Area during the biological site assessment.

Avifauna

Five (5) special-status avian species have moderate or high potential to occur within the Study Area. These species include northern goshawk (*Accipiter gentilis*), golden eagle (*Aquila chrysaetos*), osprey (*Pandion haliaetus*), yellow warbler (*Setophaga petechia*), and northern spotted owl (*Strix occidentalis caurina*). 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, specifically vegetation removal, 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 all active bird nests 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 prior to the commencement of any groundbreaking activities which occur between March 1st and August 31st of any year.

No avian special-status species were observed within the Study Area during the biological assessment.



Fish

The Study Area does not contain any special-status fish species or fish bearing watercourses or waterbodies. The nearest fish-bearing watercourse is a Class II watercourse, located approximately 225 feet north of the Study Area. It is recommended that all earthwork within or adjacent to any watercourse or waterbody adhere to standard methods of erosion and sediment control. Future development within the Study Area does not have the potential to impact special-status fish species. No special-status fish were observed during the biological site assessment.

Insects

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

Recommendations for special-status insect species are listed below:

- If a special-status insect nests are observed, it is recommended that active nests not be removed, relocated, or otherwise disturbed until the nest becomes inactive.

No special-status insects or nests were observed within the Study Area during the biological site assessment.

Mammals

Five (5) special-status mammal species have moderate or high potential to occur within the Study Area. These species include the Sonoma tree vole (*Arborimus pomo*), North American porcupine (*Erethizon dorsatum*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), and fisher [West Coast DPS] (*Pekania pennanti*).

Recommendations for special-status mammal species are listed below:

- If evidence of bat roosts are observed (i.e. bat guano, ammonia odor, grease stained cavities) around trees or structures, it is recommended that pre-construction bat surveys be conducted by a qualified biologist for activities that may affect bat roosting habitat.
- If evidence of special-status mammal borrows or denning activity is observed, it is recommended that pre-construction surveys be conducted by a qualified biologist for activities that may affect den sites.

No special-status mammals were observed during the biological site assessment. No evidence of special-status mammal species was observed during the biological site visit.

6.3 Wildlife Corridors

No change to foraging or wintering habitat for migratory birds is expected as a result of the proposed project. Additionally, no significant impacts to migratory corridors for amphibian, aquatic, avian, mammalian, or reptilian species is expected as a result of the 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: Table of Potential for Special-Status Plants and Wildlife within the
Study Area

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Amphibians				
California giant salamander <i>Dicamptodon ensatus</i>	CDFW: SSC IUCN: NT	California giant salamanders are year-round residents of California and were split into two species – California giant salamander (<i>Dicamptodon ensatus</i>) occurring south of the Mendocino County line and the coastal giant salamander (<i>Dicamptodon tenebrosus</i>) occurring in the north. <i>D. ensatus</i> are found in meadows and seeps, north coast coniferous forest and riparian forested habitats. <i>D. ensatus</i> occur in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages. Adults leave terrestrial habitats to reproduce and both the reproduction and larval stages are aquatic with breeding occurring mostly in the spring.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
northern red-legged frog <i>Rana aurora</i>	CDFW: SSC IUCN: LC USFS: S	<i>R. aurora</i> are often observed within humid forests, woodlands, wetlands, grasslands and stream-sides in northwestern California, usually near dense riparian cover. This species is generally found near permanent water but can be found far from water in damp woods and meadows during the non-breeding season. Typical habitat types include Klamath/North coast flowing waters, riparian forest and woodland.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
foothill yellow-legged frog <i>Rana boylei</i>	BLM: S CDFW: SSC IUCN: NT USFS: S	<p><i>R. boylei</i> occupy a diverse range of ephemeral and permanent streams, rivers, and adjacent moist terrestrial habitats. Occupied streams are often partly shaded, low gradient, and dominated by coarse, unconsolidated rocky substrates. Adults breed and tadpoles develop in slow water velocity habitats. Dispersing juvenile and adult frogs will seek refugia in Class II streams pre-and-post breeding, opposite of salmonids.</p>	<p>Unlikely. Habitat within the Study Area is ranked Low (0.33) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area itself does not contain suitable habitat for this species, although potential suitable breeding habitat may be in Doolin Creek a Class I watercourse located approximately 2,230 feet south of the Study Area. A Class II watercourse located approximately 225 feet north of the Study Area may be suitable winter refugia habitat as well.</p>	<p>Not Observed. This species was not observed during the biological assessment. There are no recommendations for this species.</p>
red-bellied newt <i>Taricha rivularis</i>	CDFW: SSC IUCN: LC	<p><i>T. rivularis</i> inhabits coastal forests, typically in redwood (<i>Sequoia sempervirens</i>) forest habitat although also found in other forest types (hardwood etc.). Adults are terrestrial and fossorial. Transformed juveniles leave aquatic environments and go into hiding in underground shelters, often until ready to reproduce. Breeding occurs in streams often with relatively strong flows.</p>	<p>High Potential. Habitat within the Study Area is ranked High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. Aquatic habitat is not present within the Study Area; however, the Study Area may be used for migration and refugia. There is a known occurrence of this species approximately 0.7 miles northwest from the Study Area along Gibson Creek according to CNDDDB.</p>	<p>Not Observed. This species was not observed during the biological assessment. It is recommended to survey for this species prior to ground disturbance.</p>



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Avifauna				
northern goshawk <i>Accipiter gentilis</i>	BLM: S CDF: S CDFW: SSC IUCN: LC USFS: S	<i>A. gentilis</i> are often found in dense, mature and old growth stands of conifer and deciduous habitats. Younger seral stands that include larger residual or defective trees are also used. Nest often on cooler (northerly or easterly) moderate slopes in dense vegetation or within riparian zones, but close to openings. Nest sites are often located next to water, which may provide a break in canopy for easy access to the nest stand or may influence microclimate or prey distribution.	High Potential. Habitat within the Study Area is ranked Medium (0.44) and High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.
tricolored blackbird <i>Agelaius tricolor</i>	SCE BLM: S CDFW: SSC IUCN: EN NABCI: RWL USFWS: BCC	<i>A. tricolor</i> breed and forage in a variety of habitats including salt marshes, moist grasslands, freshwater marshes, bay-shore habitats, riparian forests and oak savannahs. <i>A. tricolor</i> use dense riparian vegetation such as Himalayan blackberry (<i>Rubus armeniacus</i>) for nesting and forage in cultivated fields, wetlands, and feedlots associated with dairy farms.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map. Riparian forests with dense vegetation are not present within the Study Area.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
grasshopper sparrow <i>Ammodramus savannarum</i>	CDFW: SSC IUCN: LC	<i>A. savannarum</i> are an uncommon and local, summer resident in foothills and lowlands west of the Cascade- Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. <i>A. savannarum</i> nests on the ground in grasslands, prairie, cultivated fields, and grassy clearings in forests; particularly in areas with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests are typically found at the base of a small clump of overhanging grass or other vegetation.	No Potential. The Study Area does not have suitable habitat present according to the CWHR Predicted Habitat Suitability Map. Small patches of suitable habitat are present within the surrounding area.	Not Present. There are no recommendations for this species.
golden eagle <i>Aquila chrysaetos</i>	BLM: S CDF: S CDFW: FP, WL IUCN: LC USFWS: BCC	<i>A. chrysaetos</i> is an uncommon permanent resident in northern California. This species ranges from sea level up to 11,500 feet inhabiting rolling foothills, mountain areas, sage-juniper flats and desert. This species frequently nests in secluded cliffs of all heights with overhanging ledges and in large trees in open areas.	High Potential. Habitat within the Study Area is ranked Moderate (0.44) and High (1.00) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.
great blue heron <i>Ardea herodias</i>	CDF: S IUCN: LC	<i>A. herodias</i> are commonly found in shallow estuaries and fresh and saline emergent wetlands. Foraging areas include river and creek banks, ponds, lakes, and watercourses in mountainous areas. This species often nests in colonies within a rookery tree.	Unlikely. Habitat within the Study Area is ranked not suitable (0) to Low (0.22) to Moderate (0.44) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area itself contains no nesting or foraging habitat suited for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
oak titmouse <i>Baeolophus inornatus</i>	IUCN: LC NABCI: YWL USFWS: BCC	<i>B. inornatus</i> are cavity-nesters found within oak or oak-pine woodlands, and many will use scrub oaks or other brush with woodlands nearby. This species occurs within montane hardwood-conifer, montane hardwood, oak woodlands (<i>Quercus agrifolia</i> , <i>Q. douglasii</i> , <i>Q. lobata</i>). <i>B. inornatus</i> typically eats seeds, various plant materials, insects and other invertebrates, foraging from the ground floor up to approximately 30 ft off the ground.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT CDFW: SSC NABCI: RWL USFWS: BCC	<i>C. alexandrinus nivosus</i> inhabit barren to sparsely vegetated sandy beaches, salt pond levees, Great Basin standing waters, wetlands and shores of large alkali lakes. Nesting habitat consists of sandy, gravelly or friable soils usually within a natural or scraped depression on dry ground. Diet consists of terrestrial and aquatic invertebrates.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
northern harrier <i>Circus hudsonius</i>	CDFW: SSC IUCN: LC	<i>C. hudsonius</i> are year-long residents of Mendocino and Lake County. They frequent meadows, alpine meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands and are seldom found in wooded areas. Usually hunts by flying low over fields, scanning the ground for small prey including mammals (voles, rats, other rodents), bird species ranging from songbirds to small ducks and large insects. Breeding occurs on meadows and marshland, both salt and freshwater. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No Potential. The Study Area does not have suitable habitat present according to the CWHR Predicted Habitat Suitability Map. Small patches of Low (0.22) suitable habitat are present within the surrounding area.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
yellow-billed cuckoo <i>Coccyzus americanus</i>	FT SE BLM: S NABCI: RWL USFS: S USFWS: BCC	<i>C. americanus</i> use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. This species makes their nests along horizontal branches or the fork of a tree or large shrub, often between 3 to 90 feet (1 to 28 meters). Trees are often oak (<i>Quercus</i> sp.), beech, hawthorn (<i>Crataegus</i> sp.) and ash, often with lower story of blackberry, nettles or wild grapes.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
white-tailed kite <i>Elanus leucurus</i>	BLM: S CDFW: FP IUCN: LC	Often found in coastal, valley lowlands and agricultural areas, <i>E. leucurus</i> inhabit herbaceous and open stages of most habitats especially in cismontane California. This species' primary diet consists of small mammals (voles and other rodents), found in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands (Waian et. al. 1970). Nests are often found in isolated, dense-topped trees.	No Potential. The Study Area does not have suitable habitat present according to the CWHR Predicted Habitat Suitability Map. Small patches of Low (0.32) suitable habitat are present within the surrounding area.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.
yellow-breasted chat <i>Icteria virens</i>	CDFW: SSC IUCN: LC	<i>I. virens</i> inhabit riparian thickets of willow and other brushy tangles near watercourses. Required habitat for this species is riparian forest, woodland, or scrub. Nests in low, dense riparian habitat often consisting of willow, blackberry, and wild grape within 10ft. of the ground.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Lewis' woodpecker <i>Melanerpes lewis</i>	CDFW: SSC IUCN: LC NABCI: YWL USFWS: BCC	<i>M. lewis</i> often inhabit oak savannahs, broken deciduous, and coniferous habitats. Nests are made at the forest edge (especially ponderosa pine) or in groves or scattered trees and requires snags for nest cavities. <i>M. lewis</i> ' primary diet consists of insects, nuts, and fruits.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
osprey <i>Pandion haliaetus</i>	CDF: S CDFW: WL IUCN: LC	<i>P. haliaetus</i> are strictly associated with large, fish-bearing waters, primarily in ponderosa pine and mixed conifer stands. Foraging habitat consists of open, clear waters, rivers, lakes, reservoirs, estuaries, lagoons, swamps, marshes, and bays. Diet consists almost exclusively live fish. Large trees, snags, and blown-out treetops are used for cover and nesting. Nests are located on or near the tops of trees, snags, cliffs, or human-made structures.	High Potential. Habitat within the Study Area is ranked Moderate (0.44) and High (0.77) in suitability according to the CWHR Predicted Habitat Suitability Map. There are no stands of dense, mature and old growth conifer or deciduous forest in the immediate vicinity of the Study Area; however, areas within the Study Area does contain conifer and deciduous forest stands.	Not Observed. This species or nests were not observed during the biological assessment. No trees are proposed for removal; however, it is recommended to survey for this species within 500 feet of ground disturbance activities.
yellow warbler <i>Setophaga petechia</i>	CDFW: SSC USFWS: BCC	<i>S. petechia</i> often inhabits riparian deciduous habitats in summer: willows, alders, cottonwoods, and other small trees and shrubs typical of low, open canopy riparian woodland. This species will also breed in montane shrubbery in open conifer forest. <i>S. petechia</i> migrates through woodland, forest and shrub habitats. Nests above ground in a deciduous dappling or shrub.	Moderate Potential. Habitat within the Study Area is ranked Low (0.22) to Moderate (0.44) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area contains does contain montane shrubs in open conifer and deciduous forest that may be potential habitat for this species.	Not Observed. This species was not observed during the biological assessment. It is recommended that nesting bird surveys be conducted prior to vegetation removal.



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	<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 <i>A. pomio</i> nests).	Moderate Potential. The Study Area is approximately 4.3 miles southeast from the closest NSO Activity Center and 4.5 miles northeast from the nearest critical habitat as identified by the USFWS. The Study Area is located within suitable habitat according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain large conifers for nesting but may provide suitable foraging habitat for this species.	Not Observed. This species or evidence of this species was not observed during the biological assessment. Trees are not proposed for removal; therefore, there are no recommendations for this species.
Fish				
Pacific lamprey <i>Entosphenus tridentatus</i>	AFS: VU BLM: S CDFW: SSC USFS: S	<i>E. tridentatus</i> are 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 freshwater before returning to the ocean.	No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Clear Lake tule perch <i>Hysteroecarpus traskii lagunae</i>	CDFW: SSC	<i>H. traskii lagunae</i> are endemic to three (3) highly altered lakes (Clear Lake, Lower Blue Lake, 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. 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. The Study Area is outside of the Clear Lake watershed and the current known distribution for this species according to the FSSC Range Map.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Russian River tulle perch <i>Hysteroecarpus traskii pomu</i>	AFS: VU CDFW: SSC	<p><i>H. traskii pomu</i> inhabits clear, flowing streams and rivers, and occupy deep pools that have complex cover in the form of aquatic and overhanging vegetation. This species is endemic to the Russian River and the lower parts of its tributaries. They feed on invertebrates, plants, and zooplankton. Mating occurs in July-Sept.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species.</p>	<p>Not Present. There are no recommendations for this species.</p>
Navarro roach <i>Lavinia symmetricus navarroensis</i>	CDFW: SSC	<p><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.</p>	<p>No Potential. The Study Area is outside of the Navarro River watershed and current known distribution for this species according to the FSSC Range Map.</p>	<p>Not Present. There are no recommendations for this species.</p>
Clear Lake – Russian River roach <i>Lavinia symmetricus ssp. 4</i>	CDFW: SSC	<p><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.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species.</p>	<p>Not Present. There are no recommendations for this species.</p>



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
coho salmon – southern Oregon / northern California ESU <i>Oncorhynchus kisutch</i> pop. 2	FT ST AFS: TH	<p><i>O. kisutch</i> are anadromous, migrating and spawning in streams that flow directly into the ocean or tributaries of larger rivers. Migration peaks between mid-May and mid-June. Coho lay egg masses (redds), often located between a pool and a riffle. This evolutionarily significant unit, or ESU, includes naturally spawned coho salmon originating from coastal streams and rivers between Cape Blanco, Oregon, and Punta Gorda, California.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species. According to the CWHR Predicted Habitat Suitability Map, Doolin Creek (approximately 2,230 feet south) and an unnamed watercourse (approximately 225 north) do not have Intrinsic Potential to contain this species.</p>	<p>Not Present. There are no recommendations for this species.</p>
coho salmon – central California coast ESU <i>Oncorhynchus kisutch</i> pop. 4	FE SE AFS EN	<p>Coho are anadromous, migrating and spawning in streams that flow directly into the ocean or tributaries of larger rivers. Migration peaks mid-May till mid-June. The fish will spend two to three years at sea before migrating back to their natal stream to spawn. Coho lay egg masses (redds), often located between a pool and a riffle. This evolutionarily significant unit, or ESU, includes naturally spawned coho salmon originating from rivers south of Punta Gorda, California, to and including Aptos Creek, as well as such coho salmon originating from tributaries to San Francisco Bay.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species. According to the CWHR Predicted Habitat Suitability Map, Doolin Creek (approximately 2,230 feet south) and an unnamed watercourse (approximately 225 north) have Intrinsic Potential to contain this species.</p>	<p>Not Present. There are no recommendations for this species.</p>



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
steelhead – northern California DPS <i>Oncorhynchus mykiss irideus pop. 16</i>	FT AFS: TH	<p><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 distinct population segment, or DPS, includes naturally spawned anadromous steelhead (<i>Oncorhynchus mykiss</i>) originating below natural and manmade impassable barriers in California coastal river basins from Redwood Creek to and including the Gualala River.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species. According to the CWHR Predicted Habitat Suitability Map, Doolin Creek (approximately 2,230 feet south) and an unnamed watercourse (approximately 225 north) do not have Intrinsic Potential to contain this species.</p>	<p>Not Present. There are no recommendations for this species.</p>
steelhead - central California coast DPS <i>Oncorhynchus mykiss irideus pop. 8</i>	FT AFS: TH	<p><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. The central California coast DPS are found from the Russian River south to Soquel Creek and to, but not including Pajaro River. Also San Francisco and San Pablo Bay basins. This DPS does not include summer-run steelhead.</p>	<p>No Potential. The Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species. According to the CWHR Predicted Habitat Suitability Map, Doolin Creek (approximately 2,230 feet south) and an unnamed watercourse (approximately 225 north) have Intrinsic Potential to contain this species.</p>	<p>Not Present. There are no recommendations for this species.</p>



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
chinook salmon – California coastal ESU <i>Oncorhynchus tshawytscha pop. 17</i>	FT AFS: TH	The California coastal ESU includes all naturally spawned populations of Chinook salmon from the Klamath River (exclusive) to the Russian River (inclusive). 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 Study Area does not contain fish bearing water bodies suitable for this species and does provide suitable habitat for this species. According to the CWHR Predicted Habitat Suitability Map, an unnamed watercourse (approximately 225 north) and Doolin Creek (approximately 2,230 feet south) do not have Intrinsic Potential to contain this species.	Not Present. There are no recommendations for this species.
Insects				
obscure bumble bee <i>Bombus caliginosus</i>	IUCN: VU	<i>B. caliginosus</i> are often found in coastal areas from Santa Barbara county north to Washington state. Food plant genera includes <i>Baccharis</i> , <i>Cirium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> , and <i>Phacelia</i> .	Moderate Potential. The Study Area contains suitable habitat and food plant genera for this species.	Not Observed. This species was not observed during the biological assessment. Brush and grassland are proposed for removal; however, there is adequate potential habitat surrounding the Study Area. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
western bumble bee <i>Bombus occidentalis</i>	SCE USFS: S Xerces: IM	<i>B. occidentalis</i> are formerly common throughout much of western North America; however, populations from southern British Columbia to central California have nearly disappeared. They occur in a variety of habitat types and are generalist pollinators. <i>B. occidentalis</i> are commonly encountered along stream banks, meadows, disturbed areas, or on flowers by roadsides.	Moderate Potential. The Study Area contains suitable habitat and food plant genera for this species.	Not Observed. This species was not observed during the biological assessment. Brush and grassland are proposed for removal; however, there is adequate potential habitat surrounding the Study Area. There are no recommendations for this species.
Mollusks				
western ridged mussel <i>Gonidea angulata</i>		<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. The Study Area does not contain fish bearing water bodies suitable for this species. The Russian River within roughly 500 feet of the Study Area does provide aquatic habitat for this species, but the Study Area contains no tributary watercourses.	Not Present. There are no recommendations for this species.
Mammals				
pallid bat <i>Antrozous pallidus</i>	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H	<i>A. pallidus</i> are found in deserts, grasslands, shrublands, woodlands, and forests. Most commonly forages along open river channels. Roosting sites include crevices in rocky outcrops and cliffs, caves, mines, basal hollows in large conifers and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Unlikely. Habitat within the Study Area ranks Low (0.11) in suitability according to the CWHR Predicted Habitat Suitability Map. Suitable foraging is present within grassland habitat throughout the Study Area; however, roosting habitat is limited.	Not Observed. This species or evidence of this species was not observed during the biological assessment. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Sonoma tree vole <i>Arborimus pomo</i>	CDFW: SSC IUCN: NT	<i>A. pomo</i> lives in humid coastal forests consisting of Douglas-fir, grand fir, western hemlock, and/or Sitka spruce. This species requires Douglas-fir and grand fir needles as a food source and nesting materials. 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. This species is distributed along the North Coast from Sonoma County north to the Oregon border, being practically restricted to the fog belt.	Moderate Potential. Habitat within the Study Area is not suitable in some areas, ranks Low (0.33) within Montane Hardwood-Conifer habitat and High (1) within Conifer Forest habitat according to the CWHR Predicted Habitat Suitability Map. The Study Area does contain Douglas-fir trees and map provide suitable habitat for this species.	Not Observed. This species or evidence of this species was not observed during the biological assessment. Trees are not proposed for removal, but if trees were to be removed, it is recommended to survey those trees for this species.
Townsend’s big-eared bat <i>Corynorhinus townsendii</i>	BLM: S CDFW: SSC IUCN: LC USFS: S WBWG: H	<i>C. townsendii</i> is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest, basal hollows in large conifers. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	Unlikely. Habitat within the Study Area ranks Low (0.11) in suitability according to the CWHR Predicted Habitat Suitability Map. Suitable foraging is present within grassland habitat throughout the Study Area; however, roosting habitat is limited.	Not Observed. This species or evidence of this species was not observed during the biological assessment. There are no further recommendations for this species.
North American porcupine <i>Erethizon dorsatum</i>	IUCN: LC	<i>E. dorsatum</i> are commonly found in coniferous and mixed forested areas, and can also inhabit shrublands, tundra and deserts, albeit less frequently as this species tends to spend much of its time in trees. 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.	Moderate Potential. Habitat within the Study Area is ranked Low (0.33) within the Montane Hardwood habitat to Moderate (0.55) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.	Not Observed. This species or evidence of this species was not observed during the biological assessment. It is recommended to survey for this survey prior to ground disturbance.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
western mastiff bat <i>Eumops perotis californicus</i>	CDFW: SSC BLM:S WBWG:H	Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey Co. southward through southern California, from the coast eastward to the Colorado Desert. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	No Potential. The Study Area is outside the known distribution range for this species according to the CWHR Predicted Habitat Suitability Map.	Not Present. There are no recommendations for this species.
western red bat <i>Lasiurus blossevillii</i>	CDFW: SSC IUCN: LC WBWG: H	<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. Habitat within the Study Area is ranked Moderate (0.66) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.	Not Observed. This species or evidence of this species was not observed during the biological assessment. There are no further recommendations for this species.
hoary bat <i>Lasiurus cinereus</i>	CDFW: SSC IUCN: LC WBWG: M	<i>L. cinereus</i> are yearlong residents of Mendocino County. This bat is one of the few bats known to both migrate south for winter and to hibernate locally. Hoary bat daytime roosts are typically dense foliage of medium to large sized trees. This bat occupies a variety of habitats including dense forest, forest edges, coniferous forests, deserts, and broadleaf forests.	Moderate Potential. Habitat within the Study Area is ranked Moderate (0.55) within the Hardwood-Montane Conifer habitat in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area may contain suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. It is recommended to survey for this survey prior to ground disturbance.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
little brown bat <i>Myotis lucifugus</i>	CDFW: SSC IUCN: LC WBWG: M	<i>M. lucifugus</i> is found in most of the United States and Canada, except for the south central and southeastern United States and northern Alaska and Canada. <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. Human-made structures are often selected, however both day and night roosts may be found in trees, under rocks, and in piles of wood. Day roosts 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.	Unlikely. Habitat within the Study Area is ranked Low (0.11) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain structures, mines or caves that this species could use for breeding sites. This species may forage over the Study Area.	Not Observed. This species was not observed during the biological assessment. There are no further recommendations for this species.
Yuma myotis <i>Myotis yumanensis</i>	CDFW: SSC BLM: S IUCN: LC WBWG: LM	<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. This species will use a variety of lowland habitats from scrub to coniferous forest, always near slow-moving or standing water habitats. Foraging occurs almost exclusively over water, with distribution being closely tied to bodies of 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.	Unlikely. Habitat within the Study Area is ranked Low (0.22) in suitability according to the CWHR Predicted Habitat Suitability Map. The Study Area does not contain structures, mines or caves that this species could use for breeding sites. The Study Area does not contain bodies of water for foraging habitat.	Not Observed. This species was not observed during the biological assessment. There are no further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
fisher [West Coast DPS] <i>Pekania pennanti</i>	ST CDFW: SSC USFS: S	<i>P. pennanti</i> are primarily solitary, except during breeding season (February – April) and they 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. Den site and prey availability are often associated with these characteristics. <i>P. pennanti</i> use cavities, snags, logs and rocky areas for cover and denning and require large areas of mature, dense forest.	Moderate Potential. Habitat within the Study Area is ranked from no suitable habitat (0) to High (1) in suitability according to the CWHR Predicted Habitat Suitability Map and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Trees present within the Study Area do not exhibit late successional characteristics and none are not proposed for removal for this project. There are no further recommendations for this species.
American badger <i>Taxidea taxus</i>	CDFW: SSC IUCN: LC	<i>T. taxus</i> are most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils (Zeiner et al. 1990b). <i>T. taxus</i> dig burrows in the friable soils and frequently reuse old burrows. They prey on burrowing rodents, especially ground squirrels and pocket gophers, also on birds, insects, reptiles and carrion. Their diet shifts seasonally depending on the availability of prey. <i>T. taxus</i> are non-migratory and are found throughout most of California, except the northern North Coast area.	No Potential. The Study Area does not have suitable habitat present according to the CWHR Predicted Habitat Suitability Map. Small patches of suitable habitat are present within the surrounding area.	Not Present. There are no recommendations for this species.
Reptiles				
western pond turtle <i>Emys marmorata</i>	BLM: S CDFW: SSC IUCN: VU USFS: S	<i>E. marmorata</i> are associated with permanent ponds, lakes, streams, stock ponds, marshes, seasonal wetlands, artificial areas including reservoirs or irrigation ditches, or permanent pools along intermittent streams in a wide variety of habitats. This species requires basking sites in the aquatic environment or upland, grassy openings with loose soil for nesting and overwintering. Nest sites can be found from 100-500 meters from aquatic habitat.	Unlikely. Habitat within the Study Area is ranked Low (0.33) according to the CWHR Predicted Habitat Suitability Map. There are no watercourses or ponds located within the Study Area. 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 further recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Plants				
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Rank 1B.1	Chaparral, lower montane coniferous forest (openings), rocky, serpentine sites, often on slopes and ridges. <i>A. stanfordiana</i> ssp. <i>raichei</i> has a serpentine affinity of 2.6 (strong indicator). Elevation ranges from 1591 to 3511 feet (485 to 1070 meters). A perennial evergreen shrub, the blooming period is from Feb-Apr.	No Potential. The required habitat or soil (serpentine) for this species is not present within Study Area. The Study Area does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Brewer's milk-vetch <i>Astragalus breweri</i>	Rank 4.2	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 serpentine affinity of 3.2 (strong indicator). Elevation ranges from 296 to 2395 feet (90 to 730 meters). An annual herb, the blooming period is from Apr-Jun.	Unlikely. The Study Area does contain open grassland and cismontane woodland; however, the area does not contain serpentine or volcanic soils and is unlikely to provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Sonoma sunshine <i>Blennosperma bakeri</i>	Rank 1B.1	Vernal pools, swales (mesic areas), valley and foothill grasslands (wetlands, riparian). Elevation ranges from 33 to 952 feet (10 to 290 meters). An annual herb, the blooming period is from Mar-May.	No Potential. The Study Area does not contain the required habitat (wet areas) for this species and is unlikely to provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
watershield <i>Brasenia schreberi</i>	Rank 2B.3	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.	No Potential. The Study Area does not contain the required habitat (wet areas) for this species and is unlikely to provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
bristly sedge <i>Carex comosa</i>	Rank 2B.1	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.	Unlikely. The Study Area does contain grassland habitat; however, wet areas or wetlands are not present for this species and is unlikely to provide suitable habitat for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, known from volcanic or serpentine soils, dry shrubby slopes. <i>C. confusus</i> has a serpentine affinity of 1.3 (weak indicator/indifferent). Elevation ranges from 492 to 4200 feet (150 to 1280 meters). A shrub, the blooming period is from Feb-Jun.	Unlikely. The Study Area does contain cismontane woodland; however, does not have volcanic or serpentine soils and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Jepson’s dodder <i>Cuscuta jepsonii</i>	Rank 1B.2	Upper montane coniferous forest, lower montane coniferous forest, broadleaved upland forest, on primary host species (<i>Ceanothus diversifolius</i> and <i>Ceanothus prostratus</i>). Elevation ranges from 3937 to 9006 feet (1200 to 2745 meters). An annual herb or vine, the blooming period is from Jul-Sep.	Unlikely. <i>Ceanothus</i> sp. is present within the Study Area; however, the Study Area is located outside of the elevation range of this species.	Not Present. There are no recommendations for this species.
California lady’s-slipper <i>Cypripedium californicum</i>	Rank 4.2	Lower montane coniferous forest, bogs and fens, wetlands, often found in perennial seepages on serpentine substrate and in gravel along creek margins (ultramafic). This species has a serpentine affinity of 4.5 (broad endemic). Elevation ranges from 99 to 9023 feet (30 to 2750 meters). A perennial herb (rhizomatous), the blooming period is from Apr-Aug.	No Potential. The Study Area does not contain serpentine soil or wet areas and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
mountain lady’s-slipper <i>Cypripedium montanum</i>	Rank 4.2	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. Cismontane woodland and broadleaved upland forest are present within Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period for this species. It is recommended that a botanical survey is conducted for this species during the appropriate blooming period (Mar-Aug).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Koch's cord moss <i>Entosthodon kochii</i>	Rank 1B.3	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.	Moderate Potential. Cismontane woodland is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment and there are no recommendations for this species.
bare monkeyflower <i>Erythranthe nudata</i>	Rank 4.3	Chaparral, cismontane woodland, moist areas, often along drainages and roadsides in serpentine seeps. This species has a serpentine affinity of 5.6 (strict endemic). Elevation ranges from 820 to 2297 feet (250 to 700 meters). An annual herb, the blooming period is from May-Jun.	Unlikely. Cismontane woodland is present within the Study Area; however, serpentine soil is not present. The Study Area does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
minute pocket moss <i>Fissidens pauperculus</i>	Rank 1B.2	North coast coniferous forest, redwoods, moss growing on damp soil along the coast, sometimes in dry streambeds and along stream banks. Elevation ranges from 99 to 3363 feet (30 to 1025 meters). A moss, there is no distinct blooming period.	Unlikely. Small patches of redwood trees are present within the Study Area; however, the Study Area is not located within North coast coniferous forest required for this species.	Not Present. There are no recommendations for this species.
stinkbells <i>Fritillaria agrestis</i>	Rank 4.2	Cismontane woodland, chaparral, valley and foothill grassland, pinyon and juniper woodland, sometimes on serpentine soil, mostly found in non-native grassland or in grassy openings in clay soil. This species has a serpentine affinity of 2.7 (strong indicator). Elevation ranges from 33 to 5102 feet (10 to 1555 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	Moderate Potential. Cismontane woodland is present within the Study Area. This species is sometime found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Mar-Jun).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Purdy's fritillary <i>Fritillaria purdyi</i>	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest, usually on serpentine soil. <i>F. fritillaria</i> has a serpentine affinity of 4.5 (broad endemic). Elevation ranges from 574 to 7399 feet (175 to 2255 meters). A perennial bulbiferous herb, the blooming period is from Mar-Jun.	Unlikely. Cismontane woodland is present within the Study Area; however, this species has a strong affinity to serpentine soil. The Study Area does not contain serpentine soil and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Roderick's fritillary <i>Fritillaria roderickii</i>	Rank 1B.1	Coastal bluff scrub, coastal prairie, valley and foothill grassland, often on grassy slopes, mesas. Elevation ranges from 66 to 2002 feet (20 to 610 meters). A perennial herb (bulb), the blooming period is from Mar-May.	Moderate Potential. Grassland habitat is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Mar-May).
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	Rank 1B.2	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.	No Potential. The Study Area does not contain the required habitat (aquatic or vernal pools) suitable for this species.	Not Present. There are no recommendations for this species.
Toren's grimmia <i>Grimmia torenii</i>	Rank 1B.3	Cismontane woodland, lower montane coniferous forest, chaparral, often found in openings, rocky, boulder and rock walls, carbonate, volcanic. Elevation ranges from 1067 to 3806 feet (325 to 1160 meters). A moss, no distinct blooming period.	Unlikely. Cismontane woodland is present within the Study Area; however, does not contain carbonate or volcanic soil and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Mendocino tarplant <i>Hemizonia congesta</i> <i>ssp. calyculata</i>	Rank 4.3	Cismontane woodland, valley and foothill grassland, open woods and forests, sometimes on serpentine. <i>H. congesta ssp. calyculata</i> has a serpentine affinity of 1.5 (weak indicator). Elevation ranges from 738 to 4593 feet (225 to 1400 meters). An annual herb, the blooming period is from Jul-Nov.	Moderate Potential. Cismontane woodland and grassland habitat are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Jul-Nov).
congested-headed hayfield tarplant <i>Hemizonia congesta</i> <i>ssp. congesta</i>	Rank 1B.2	Valley and foothill grassland, often in fallow fields, sometimes along roadsides. <i>H. congesta ssp. congesta</i> has a serpentine affinity (1.3, weak indicator/indifferent). Elevation ranges from 17 to 1706 feet (5 to 520 meters). An annual herb, the blooming period is from Apr-Nov.	Moderate Potential. Grassland habitat is present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Nov).
Tracy's tarplant <i>Hemizonia congesta</i> <i>ssp. tracyi</i>	Rank 4.3	Coastal prairie, north coast coniferous forest, lower montane coniferous forest, often found in openings and sometimes on serpentine (ultramafic). <i>H. congesta ssp. tracyi</i> has a serpentine affinity of 1.8 (weak indicator). Elevation ranges from 394 to 3937 feet (120 to 1200 meters). An annual herb, the blooming period is from May-Oct.	No Potential. The Study Area does not contain the required habitat (coastal prairie, North coast coniferous forest or lower montane coniferous forest) suitable for this species.	Not Present. There are no recommendations for this species.
glandular western flax <i>Hesperolinon</i> <i>adenophyllum</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, serpentine soils, generally found in serpentine chaparral. <i>H. adenophyllum</i> has a serpentine affinity of 5.7 (strict endemic). Elevation ranges from 1395 to 4413 feet (425 to 1345 meters). An annual herb, the blooming period is from May-Aug.	Unlikely. Cismontane woodland and grassland habitat is present within the Study Area; however, does not contain serpentine soil. The Study Area does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Bolander’s horkelia <i>Horkelia bolanderi</i>	Rank 1B.2	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.	Unlikely. Grassland habitat is present within the Study Area; however, does not contain vernal pools and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
small groundcone <i>Kopsiopsis hookeri</i>	Rank 2B.3	North coast coniferous forest, open woods, shrubby places, generally on <i>Gaultheria shallon</i> . Elevation ranges from 394 to 4708 feet (120 to 1435 meters). A perennial herb, the blooming period is from Apr-Aug.	No Potential. The Study Area does not contain the required habitat (North coast coniferous forest along the coast) suitable for this species.	Not Present. There are no recommendations for this species.
Burke’s goldfields <i>Lasthenia burkei</i>	FE Rank 1B.1	Found in 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.	No Potential. The Study Area does not contain the required habitat (vernal pools or wet areas) for this species.	Not Present. There are no recommendations for this species.
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE Rank 1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodlands, often found in swales and low depressions in open grassy areas. Elevation ranges from 4 to 1477 feet (1 to 450 meters). An annual herb, the blooming period is from Mar-Jun.	Moderate Potential. The Study Area contains the required habitat (cismontane woodland and grassland habitat) and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period for this species. It is recommended that a botanical survey during the appropriate blooming period for this species is conducted (Mar-Jun).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Colusa layia <i>Layia septentrionalis</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland, scattered colonies in fields and grassy slopes in sandy or serpentine soil. This species has a serpentine affinity of 3.2 (strong indicator). Elevation ranges from 49 to 3609 feet (15 to 1100 meters). An annual herb, the blooming period is from Apr-May.	Unlikely. Cismontane woodland is present within the Study Area; however, the area does not contain serpentine soil. The Study Area is unlikely to provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 181 to 4922 feet (55 to 1500 meters). An annual herb, the blooming period is from Apr-Jul.	Moderate Potential. The Study Area contains the required habitat (cismontane woodland) and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period for this species. It is recommended that a botanical survey during the appropriate blooming period for this species is conducted (Apr-Jul).
broad-lobed leptosiphon <i>Leptosiphon latisectus</i>	Rank 4.3	Broadleaved upland forest, cismontane woodland. <i>L. latisectus</i> has a serpentine affinity of 2.0 (weak indicator). 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 and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
woolly-headed lessingia <i>Lessingia hololeuca</i>	Rank 3	Coastal scrub, lower montane coniferous forest, valley and foothill grassland, broadleaved upland forests, often on clay or serpentine along fields and roadsides. <i>L. hololeuca</i> has a serpentine affinity of 2.5 (strong indicator). Elevation ranges from 49 to 1001 feet (15 to 305 meters). An annual herb, the blooming period is from Jun-Oct.	Unlikely. Grassland habitat is present within the Study Area; however, does not contain serpentine soil and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
redwood lily <i>Lilium rubescens</i>	Rank 4.2	Chaparral, lower montane coniferous forest, broadleaved upland forest, upper montane coniferous forest, north coast coniferous forest, sometimes on serpentine. <i>L. rubescens</i> has a serpentine affinity of 2 (weak indicator). Elevation ranges from 99 to 6267 feet (30 to 1910 meters). A perennial herb (bulb), the blooming period is from Apr-Aug.	Moderate Potential. Broadleaved upland forest is present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Aug).
Baker's meadowfoam <i>Limnanthes bakeri</i>	Rank 1B.1	Marshes and swamps, valley and foothill grassland, meadows and seeps, vernal pools, seasonally moist or saturated sites within grassland, also in swales, roadside ditches and margins of freshwater marshy areas. Elevation ranges from 574 to 3002 feet (175 to 915 meters). An annual herb, the blooming period is from Apr-May.	Unlikely. Grassland habitat is present within the Study Area; however, does not contain wet/marshy areas and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Mendocino bush-mallow <i>Malacothamnus mendocinensis</i>	Rank 1A	Chaparral, open roadside banks. Elevation ranges from 1395 to 1887 feet (425 to 575 meters). A shrub, the blooming period is from May-Jun.	No Potential. The Study Area does not contain the required habitat (Chaparral) for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
green monardella <i>Monardella viridis</i>	Rank 4.3	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. Cismontane woodland and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).
Baker’s navarretia <i>Navarretia leucocephala ssp. bakeri</i>	Rank 1B.1	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.	Unlikely. Cismontane woodland and grassland habitat are present within the Study Area; however, does not contain adobe or alkaline soils and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
California Gairdner’s yampah <i>Perideridia gairdneri ssp. gairdneri</i>	Rank 4.2	Broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Often found on adobe flats or grasslands, wet meadows and vernal pools, under <i>Pinus radiata</i> along the coast, mesic sites. Elevation ranges from 0 to 2002 feet (0 to 610 meters). A perennial herb, the blooming period is from Jun-Oct.	Unlikely. Grassland habitat and broadleaved upland forest are present within the Study Area; however, is not located along the coast and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
white-flowered rein orchid <i>Piperia candida</i>	Rank 1B.2	North Coast coniferous forest, lower montane coniferous forest, broadleaved upland forest, sometimes on serpentine. Often found in forest duff, mossy banks, ultramafic (serpentine) rock outcrops and muskeg. <i>P. candida</i> has a serpentine affinity of 1.2 (weak indicator/indifferent). Elevation ranges from 66 to 5299 feet (20 to 1615 meters). A perennial herb, the blooming period is from May-Sep.	Moderate Potential. Cismontane woodland and broadleaved upland forest are present within the Study Area. This species is sometimes found in serpentine soil, but not always; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Sep).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
<p>Mayacamas popcornflower</p> <p><i>Plagiobothrys lithocaryus</i></p>	Rank 1A	Chaparral, cismontane woodland, valley and foothill grassland, moist sites. Elevation ranges from 985 to 1477 feet (300 to 450 meters). An annual herb, the blooming period is from Apr-May.	Moderate Potential. Cismontane woodland and grassland habitat are present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-May).
<p>North Coast semaphore grass</p> <p><i>Pleuropogon hooverianus</i></p>	Rank 1B.1	Broadleaved upland forest, meadows and seeps, north coast coniferous forest, often found in wet, grassy, shady areas, sometimes freshwater marsh. Often associated with forest environments (wetland-riparian areas). Elevation ranges from 148 to 3806 feet (45 to 1160 meters). A perennial rhizomatous herb, the blooming period is from Apr-Jun.	Unlikely. Broadleaved upland forest and grassland habitat are present within the Study Area; however, does not contain wet areas and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
<p>Lobb’s aquatic buttercup</p> <p><i>Ranunculus lobbii</i></p>	Rank 4.2	Cismontane woodland, valley and foothill grassland, vernal pools, north coast coniferous forest (mesic sites). Elevation ranges from 50 to 1542 feet (15 to 470 meters). An annual herb (aquatic), the blooming period is from Feb-May.	Unlikely. Cismontane woodland and grassland habitat are present within the Study Area; however, does not contain wet areas and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
<p>great burnet</p> <p><i>Sanguisorba officinalis</i></p>	Rank 2B.2	Bogs and fens, meadows and seeps, broadleaved upland forest, marshes and swamps, north coast coniferous forest, riparian forest, rocky serpentine seepage areas and along streams. Elevation ranges from 17 to 4593 feet (5 to 1400 meters). A perennial rhizomatous herb, the blooming period is from Jul-Oct.	Unlikely. Cismontane woodland and broadleaved upland forest are present within the Study Area; however, does not contain wet areas or streams and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Hoffman’s bristly jewelflower <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Rank 1B.3	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.	Unlikely. Cismontane woodland is present within the Study Area and this species is sometimes found in serpentine soil, but not always. However, moist rocky banks are not present within the Study Area and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
beaked tracyina <i>Tracyina rostrata</i>	Rank 1B.2 USFS: S	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 and grassland habitat are present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Jun).
showy Indian clover <i>Trifolium amoenum</i>	FE Rank 1B.1	Valley and foothill grassland, coastal bluff scrub, sometimes on serpentine soils (ultramafic), open sunny sites, swales, along roadsides and eroding cliff faces. <i>T. amoenum</i> has an ultramafic affinity (1.3, weak indicator, indifferent). Elevation ranges from 17 to 1017 feet (5 to 310 meters). An annual herb, the blooming period is from Apr-Jun.	Moderate Potential. Grassland habitat is present within the Study Area and this species is sometimes found in serpentine soil, but not always. The Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (Apr-Jun).



SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RECOMMENDATIONS
Santa Cruz clover <i>Trifolium buckwestiorum</i>	Rank 1B.1	Coastal prairie, broadleaved upland forest, cismontane woodland, often found in moist grasslands along gravelly margins. Elevation ranges from 99 to 2641 feet (30 to 805 meters). An annual herb, the blooming period is from Apr-Oct.	Unlikely. Cismontane woodland, grassland habitat and broadleaved upland forest are present within the Study Area; however, does not contain wet areas and does not provide suitable habitat for this species.	Not Present. There are no recommendations for this species.
Methuselah’s beard lichen <i>Usnea longissima</i>	Rank 4.2	North coast coniferous forest, broadleaved upland forest. Often grows in the “redwood zone” on tree branches of a variety of trees, including bigleaf maple (<i>Acer macrophyllum</i>), various oaks (<i>Quercus spp.</i>), ash (<i>Fraxinus spp.</i>), Douglas-fir (<i>Pseudotsuga menziesii</i>) and California bay (<i>Umbellularia californica</i>). Elevation ranges from 148 to 4807 feet (45 to 1465 meters).	Moderate Potential. Broadleaved upland forest is present within the Study Area; therefore, the Study Area may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment. Trees are not proposed for removal; therefore, there are no recommendations for this species.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3	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 is present within the Study Area and may provide suitable habitat for this species.	Not Observed. This species was not observed during the biological assessment; however, the biological assessment was not conducted during the blooming period. It is recommended to survey for this species during the appropriate blooming period (May-Jun).



TERRESTRIAL OR AQUATIC COMMUNITY	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA AND RECOMMENDATIONS
<p>Northern Interior Cypress Forest – Terrestrial (Holland 1986)</p>	<p>Description: An open, fire-maintained scrubby “forest” similar to Knobcone Pine Forest but dominated by one of several Cupressus species. These stands may be as much as 15m tall, but usually are lower.</p> <p>Site Factors: On dry, rocky, sterile, often ultramafic soils, frequently associated with Serpentine Chaparral. Intergrades on less severe sites with Upper Sonoran Mixed Chaparral, Montane Chaparral, or Knobcone Pine Forest; and on more mesic site with Mixed Evergreen Forest or Montane Coniferous Forest.</p> <p>Characteristic Species: <i>Cupressus abramsiana</i> (Santa Cruz Mountains, on sandstone), <i>C. bakeri</i> (Cascade and northern Sierra Nevada, on serpentine or aerated basic sites), <i>C. macnabiana</i> (North Coast Ranges and northern Sierra Nevada, on serpentine), <i>C. sargentii</i> (North and South Coast ranges, on serpentine), <i>Pinus attenuata</i>, <i>Quercus durata</i></p> <p>Distribution: Scattered through the Siskiyou Mountains, North and South Coast Ranges, Cascades and northern Sierra Nevada. Combining the four species into a single element is open to question but does reflect a common pattern of occurring on serpentine or other sterile substrate and moisture status intermediate between mesic Coastal Closed Cone Conifer Forests and xeric Southern Interior Cypress Forests.</p>	<p>Unlikely. The Study Area is located predominantly within cismontane woodland and valley and foothill grassland and does contain Knobcone pine; however, serpentine soil or chaparral habitat is not present. It is unlikely for this terrestrial community to be present within the Study Area.</p> <p>This community was not observed during the biological assessment. There are no further recommendations for this community.</p>
<p>Serpentine Bunchgrass (Holland 1986)</p>	<p>Description: An open grassland dominated by perennial bunchgrasses. Total cover typically is low but is markedly dominated by native species (usually much more so than in Valley Needlegrass Grassland or Non-native Grasslands).</p> <p>Site Factors: Restricted to serpentine sites.</p> <p>Characteristic Species: <i>Bromus hordeaceus</i>, <i>Calamagrostis ophiditis</i>, <i>Eschscholtzia californica</i>, <i>Pestuca grayii</i>, <i>Hemizonia luzulaefolia</i>, <i>Lotus subpinnatus</i>, <i>Melica californica</i>, <i>Poa scabrella</i>, <i>Stipa cernua</i>, <i>S. lepida</i>, <i>S. pulchra</i>, <i>Vulpia microstachys</i></p> <p>Distribution: Scattered widely through the Coast Ranges, less common in the Sierra Nevada and southern California mountains.</p>	<p>No Potential. The Study Area is located within cismontane woodland, broadleaved upland forest and valley and foothill grassland; however, serpentine soil is not present. It is unlikely for this terrestrial community to be present within the Study Area.</p> <p>This community was not observed during the biological assessment. There are no further recommendations for this community.</p>



Abbreviation	Organization
FC	Federal Candidate
FE	Federal Endangered
FT	Federal Threatened
FPE	Federally Proposed for listing as Endangered
FPT	Federally Proposed for listing as Threatened
FPD	Federally Proposed for delisting
SC	State Candidate
SE	State Endangered
ST	State Threatened
SCE	State Candidate for listing as Endangered
SCT	State Candidate for listing as Threatened
SCD	State Candidate for delisting
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)
Rank 4	CRPR Rank 4: Plants of limited distribution – a watch list

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).

Unlikely. 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.



Abbreviation	Organization
AFS_EN	American Fisheries Society - Endangered
AFS_TH	American Fisheries Society - Threatened
AFS_VU	American Fisheries Society – Vulnerable
BLM_S	Bureau of Land Management – Sensitive
BCC	USFWS Birds of Conservation Concern
CDF_S	Calif. Dept. of Forestry & Fire Protection – Sensitive
CDFW_SSC	Calif. Dept. of Fish & Wildlife – Species of Special Concern
CDFW_FP	Calif. Dept. of Fish & Wildlife – Fully Protected
CDFW_WL	Calif. Dept. of Fish & Wildlife – Watch List
IUCN_CR	IUCN – Critically Endangered
IUCN_EN	IUCN – Endangered
IUCN_NT	IUCN – Near Threatened
IUCN_VU	IUCN – Vulnerable
IUCN_LC	IUCN – Least Concern
IUCN_DD	IUCN – Data Deficient
IUCN_CD	IUCN – Conservation Dependent
NABCI_RWL	North American Bird Conservation Initiative – Red Watch List
NABCI_YWL	North American Bird Conservation Initiative – Yellow Watch List
NMFS_SC	National Marine Fisheries Service – Species of Concern
USFS_S	U. S. Forest Service - Sensitive
USFWS_BCC	U. S. Fish & Wildlife Service Birds of Conservation Concern
WBWG_H	Western Bat Working Group – High Priority
WBWG_MH	Western Bat Working Group – Medium-High Priority
WBWG_M	Western Bat Working Group – Medium Priority
WBWG_LM	Western Bat Working Group – Low-Medium Priority
Xerces: CI	Xerces Society – Critically Imperiled
Xerces: IM	Xerces Society – Imperiled
Xerces: VU	Xerces Society – Vulnerable
Xerces: DD	Xerces Society – Data Deficient



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



Appendix B: List of Species Observed



SCIENTIFIC NAME	COMMON NAME
Plants	
<i>Acer macrophyllum</i>	bigleaf maple
<i>Achillea millefolium</i>	common yarrow
<i>Acmispon brachycarpus</i>	short-podded lotus
<i>Adenostoma fasciculatum</i>	chamise
<i>Adiantum jordanii</i>	maiden hair fern
<i>Anaphalis margaritacea</i>	pearly everlasting
<i>Arbutus menziesii</i>	Pacific madrone
<i>Arctostaphylos canescens ssp. canescens</i>	hoary manzanita
<i>Arctostaphylos glandulosa ssp. glandulosa</i>	Eastwood manzanita
<i>Arctostaphylos manzanita spp. manzanita</i>	common manzanita
<i>Avena barbata</i>	slender wild oat
<i>Baccharis pilularis</i>	coyote bush
<i>Cardamine californica</i>	milk maids
<i>Cardamine hirsuta</i>	hairy bittercress
<i>Cardamine oligosperma</i>	Idaho bittercress
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Ceanothus cuneatus var. cuneatus</i>	buckbrush
<i>Ceanothus foliosus var. foliosus</i>	wavyleaf ceanothus
<i>Cerastium glomeratum</i>	mouseear chickweed
<i>Cercocarpus betuloides</i>	mountain mahogany
<i>Chlorogalum pomeridianum var. pomeridianum</i>	wavyleaf soap plant
<i>Claytonia perfoliata</i>	miners lettuce
<i>Cynoglossum grande</i>	Pacific houndstongue
<i>Cynosurus echinatus</i>	bristly dogtail grass
<i>Delphinium nudicaule</i>	red larkspur
<i>Dichelostemma capitatum</i>	blue dicks
<i>Diplacus aurantiacus</i>	sticky mnkey flower
<i>Dryopteris arguta</i>	California wood fern
<i>Elymus glaucus</i>	blue wild rye
<i>Eriophyllum lanatum</i>	common woolly sunflower
<i>Erodium moschatum</i>	storks bill
<i>Erodium spp.</i>	geranium
<i>Erythronium californicum</i>	California fawn lily
<i>Festuca microstachys</i>	small fescue
<i>Festuca perennis</i>	Italian rye
<i>Fritillaria affinis</i>	checker lily
<i>Galium aparine</i>	cleavers
<i>Galium bolanderi</i>	Bolander's bedstraw
<i>Gastridium phleoides</i>	nit grass



SCIENTIFIC NAME	COMMON NAME
<i>Genista monspessulana</i>	french broom
<i>Geranium molle</i>	woodland geranium
<i>Heteromeles arbutifolia</i>	toyon
<i>Hieracium spp.</i>	hawkweed
<i>Holodiscus discolor</i>	oceanspray
<i>Hordeum brachyantherum</i>	common barley
<i>Hypericum concinnum</i>	goldwire
<i>Hypochaeris glabra</i>	smooth cats ear
<i>Iris macrosiphon</i>	ground iris
<i>Lomatium dasycarpum</i>	hog fennel
<i>Lonicera spp.</i>	honeysuckle
<i>Lotus corniculatus</i>	birdsfoot trefoil
<i>Lithophragma affine</i>	common woodland star
<i>Luzula comosa</i>	hairy wood rush
<i>Lysimachia latifolia</i>	Pacific star flower
<i>Medicago polymorpha</i>	bur clover
<i>Micranthes californica</i>	Greene's saxifrage
<i>Microcarpus californicus</i>	q-tips
<i>Mimulus aurantiacus</i>	sticky monkey flower
<i>Nemophila heterophylla</i>	small baby blue eyes
<i>Notholithocarpus densiflorus</i>	tanoak
<i>Pedicularis densiflora</i>	warrior's plume
<i>Pentagramma triangularis</i>	goldenback fern
<i>Phoradendron leucarpum ssp. tomentosum</i>	mistletoe
<i>Pinus attenuata</i>	knobcone pine
<i>Plagiobothrys tenellus</i>	slender popcorn flower
<i>Plantago lanceolata</i>	English plantain
<i>Polypodium californicum</i>	California polypody
<i>Polypodium glycyrrhiza</i>	licorice fern
<i>Primula hendersonii</i>	Henderson's shooting star
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Pteridium aquilinum var. pubescens</i>	bracken fern
<i>Quercus berberidifolia</i>	scrub oak
<i>Quercus garryana</i>	Oregon white oak



SCIENTIFIC NAME	COMMON NAME
<i>Quercus kelloggii</i>	California black oak
<i>Quercus parvula var. shrevei</i>	Shreve oak
<i>Quercus wislizeni var. wislizeni</i>	interior live oak
<i>Ranunculus occidentalis</i>	western buttercup
<i>Rosa gymnocarpa</i>	wood rose
<i>Rumex acetosa</i>	sorrel
<i>Sanicula crassicaulis</i>	Pacific sanicle
<i>Scutellaria tuberosa</i>	skullcap
<i>Sequoia sempervirens</i>	coast redwood
<i>Stachys spp.</i>	hedgenettle
<i>Stellaria media</i>	chickweed
<i>Symphoricarpos albus</i>	snowberry
<i>Torreya californica</i>	California nutmeg
<i>Toxicodendron diversilobum</i>	poison oak
<i>Trientalis latifolia</i>	western star flower
<i>Trifolium microcephalum</i>	small headed clover
<i>Umbellularia californica</i>	California bay laurel
<i>Vicia americana</i>	American vetch
<i>Whipplea modesta</i>	modesty
<i>Wyethia glabra</i>	smooth mule ears
Wildlife	
Amphibians	
N/A	-
Avifauna	
<i>Aphelocoma californica</i>	western scrub jay
<i>Buteo jamaicensis</i>	red tailed hawk
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Cathartes aura</i>	turkey vulture
<i>Colaptes auratus</i>	northern flicker
<i>Corvus corax</i>	common raven
<i>Junco hyemalis</i>	dark-eyed junco
<i>Melanerpes formicivorus</i>	acorn woodpecker



SCIENTIFIC NAME	COMMON NAME
Fish	
<i>N/A</i>	-
Insects	
<i>N/A</i>	-
Mammals	
<i>Odocoileus hemionus</i>	mule deer
Mollusks	
<i>N/A</i>	-
Reptiles	
<i>N/A</i>	-



Appendix C: Photographs





Photo 1: Overview of Study Area.

Photo facing North.

Date: February 5, 2021





Photo 2: Overview of Study Area.

Photo facing East.

Date: February 5, 2021





Photo 3:
Overview of
Study Area.

Photo facing
West.

Date: February 5,
2021





Photo 4:
Overview of
Study Area.

Photo facing
Northwest.

Date: February 5,
2021



Photo 5:
Overview of
Study Area.

Photo facing
Southwest.

Date: February 5,
2021





Photo 6: Cleared area within Study Area.

Photo facing Northwest.

Date: February 5, 2021





Photo 7:
Overview of
Study Area.

Photo facing
Northeast.

Date: February
5, 2021





Photo 8:
Overview of
Study Area.

Photo facing
North.

Date: February
5, 2021





Photo 9:
Overview of
Study Area.

Photo facing East.

Date: February 5,
2021





Photo 10:
Overview of
Study Area.

Photo facing
Southeast.

Date: February 5,
2021





Photo 11:
Overview of
Study Area.

Photo facing
West.

Date: February 5,
2021





Photo 12:
Overview of
Study Area.

Photo facing
West.

Date: February 5,
2021





Photo 13:
Overview of
Study Area.

Photo facing
West.

Date: February 5,
2021





Photo 14:
Overview of
Study Area.

Photo facing
South.

Date: February 5,
2021





Photo 15:
Overview of
Study Area.

Photo facing
Southwest.

Date: February 5,
2021





Photo 15:
Clearing within
Study Area.

Photo facing
North.

Date: February 5,
2021





Photo 17:
Overview of
Study Area (at
edge looking
towards Ukiah).

Photo facing East.

Date: February 5,
2021





Photo 18: Within a clearing in Study Area (and looking past).

Photo facing Northeast.

Date: February 5, 2021





Photo 19:
Overview of
Study Area.

Photo facing
North.

Date: February 5,
2021





Photo 20:
Overview of
Study Area
(showing road).

Photo facing
West.

Date: February 5,
2021





Photo 21:
Overview of
Study Area
(showing cleared
area).

Photo facing
West.

Date: February 5,
2021





Photo 22:
Overview of
Study Area
(showing road).

Photo facing
West.

Date: February 5,
2021





Photo 23:
Overview of
Study Area.

Photo facing East.

Date: February 5,
2021





Photo 24:
Overview of
Study Area.

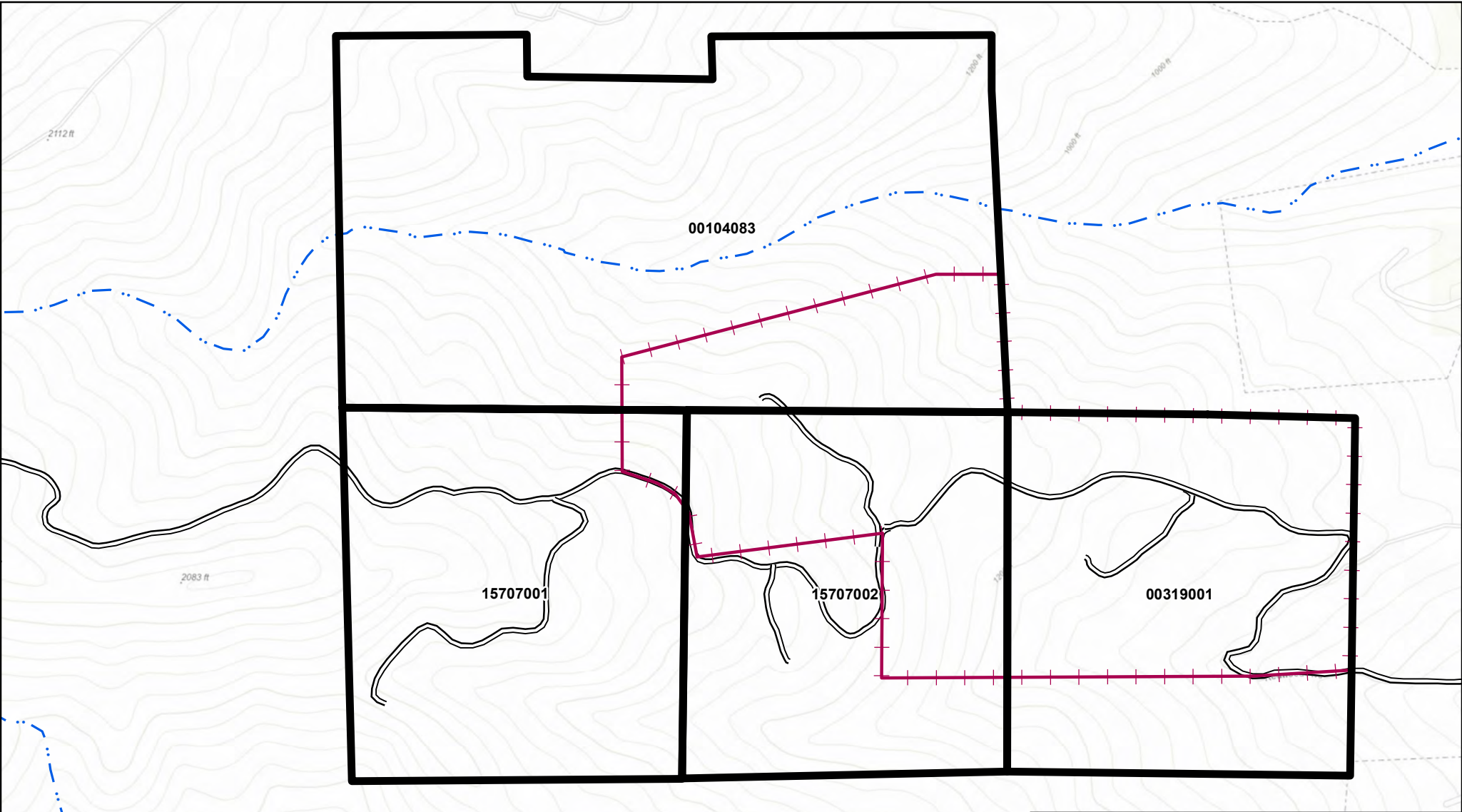
Photo facing
West.

Date: February 5,
2021



Appendix D: Maps





Biological Resource Assessment

APNs: 001-040-83, 157-01,
157-070-02 & 003-190-01

Sections 19 & 30, T15N, R12W, MDBM
Ukiah USGS 7.5 Minute Quadrangle

N









0 250 500 feet

1 inch = 500 feet AIR 03/05/2021



JACOBSZOOM & ASSOCIATES, INC.
natural resource planning & management

Study Area Topographic Map

-  Parcels
-  Proposed subdivision area
-  Existing Roads
-  Class III watercourse
-  Class II watercourse
-  Class I watercourse

Sources: Esri, HERE, Garmin, Intermap, inc, GeoBase, IGN, Kadaster NL, Ordnance Survey, OpenStreetMap contributors, and the GIS User Community



Biological Resource Assessment

APNs: 001-040-83, 157-01,
157-070-02 & 003-190-01

Sections 19 & 30, T15N, R12W, MDBM
Ukiah USGS 7.5 Minute Quadrangle

N



0 150 300 feet

1 inch = 300 feet AIR 03/05/2021



JACOBSZOON & ASSOCIATES, INC.
natural resource planning & management

Study Area Aerial Map

Proposed subdivision area

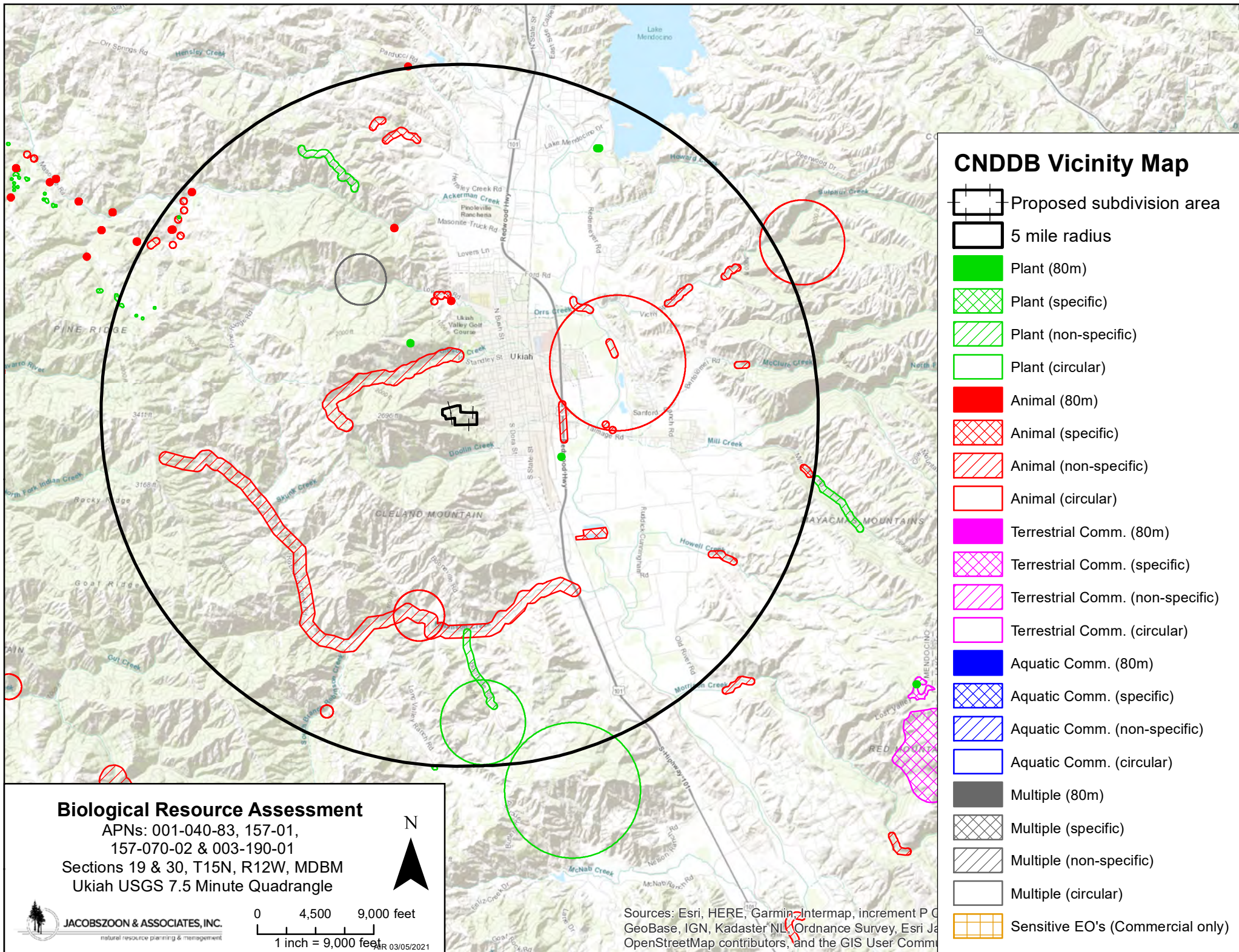
Existing Roads

Class III watercourse
























Class II watercourse

Class I watercourse

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographi
IGN, and the GIS User Community

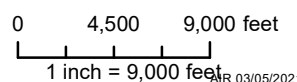


CNDDDB Vicinity Map

-  Proposed subdivision area
-  5 mile radius
-  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)

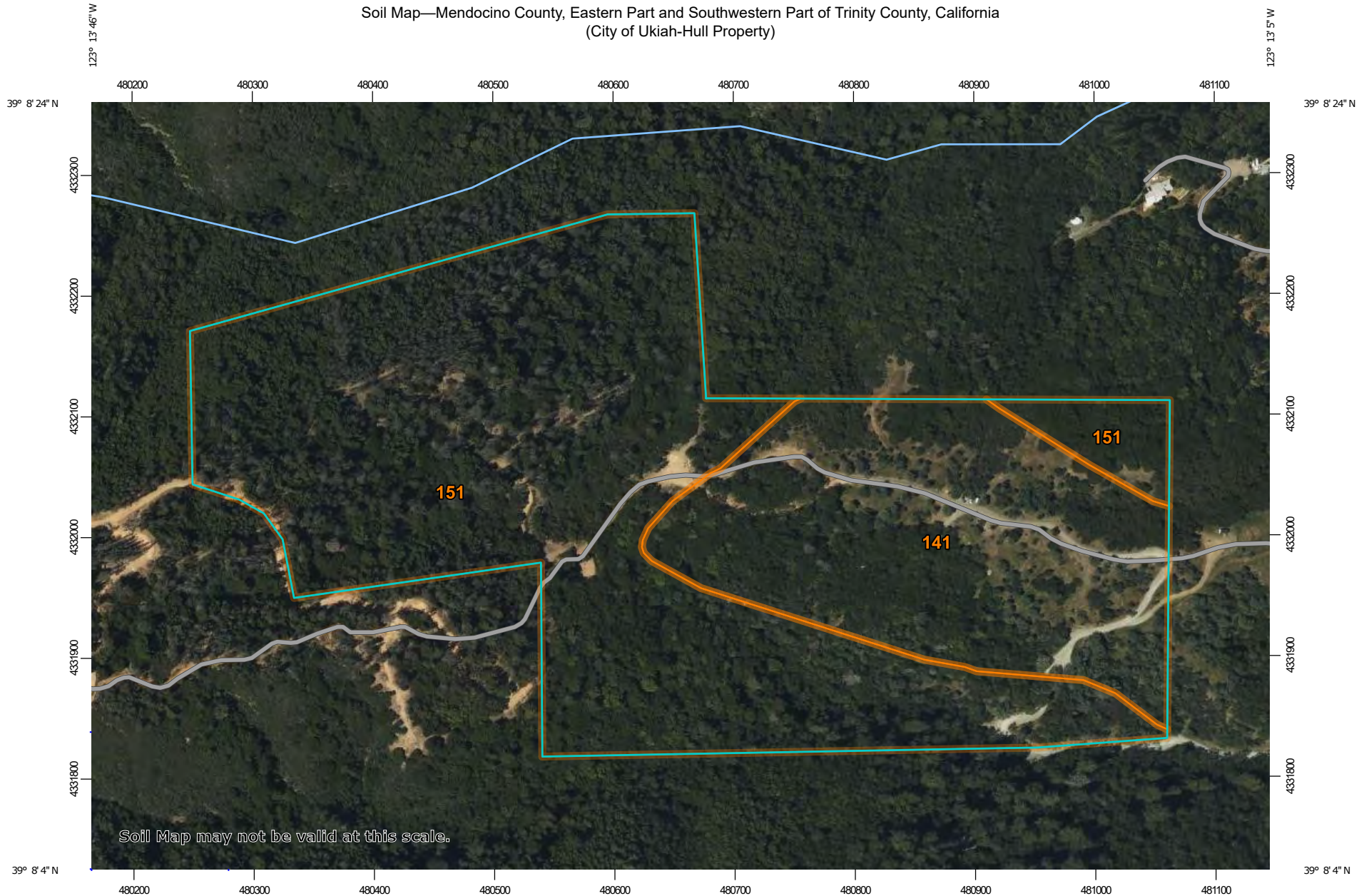
Biological Resource Assessment

APNs: 001-040-83, 157-01,
 157-070-02 & 003-190-01
 Sections 19 & 30, T15N, R12W, MDBM
 Ukiah USGS 7.5 Minute Quadrangle



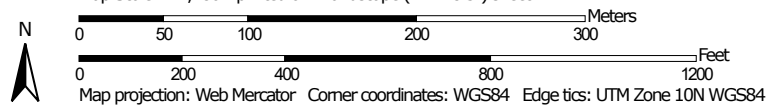
Sources: Esri, HERE, Garmin, Intermap, increment P.C., GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, OpenStreetMap contributors, and the GIS User Community

Soil Map—Mendocino County, Eastern Part and Southwestern Part of Trinity County, California
(City of Ukiah-Hull Property)



Soil Map may not be valid at this scale.

Map Scale: 1:4,480 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Mendocino County, Eastern Part and Southwestern Part of Trinity County, California
Survey Area Data: Version 15, Jun 1, 2020

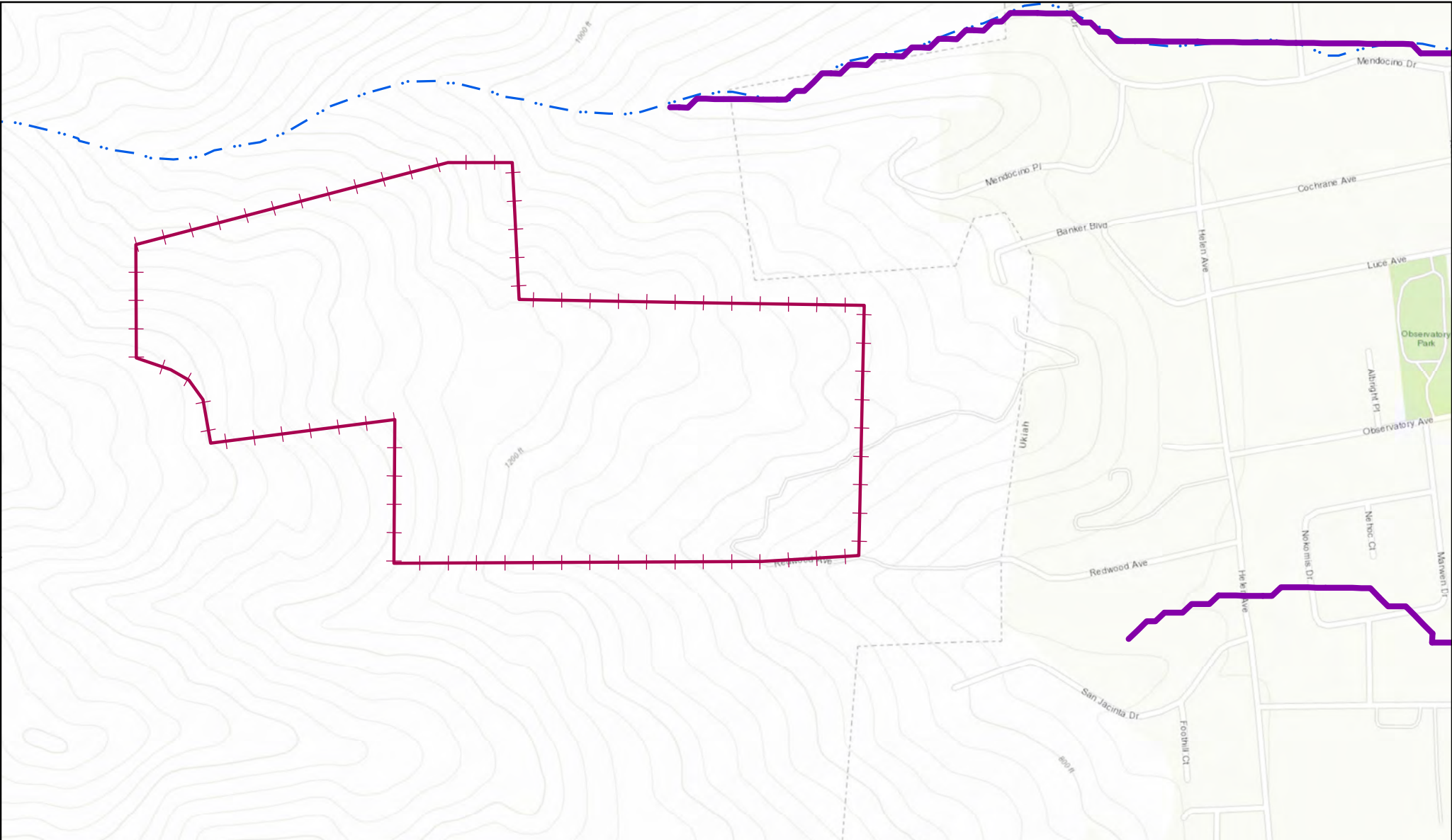
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2019—Jun 3, 2019

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.

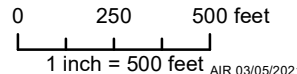
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
141	Hopland loam, 30 to 50 percent slopes, high ffd	18.6	31.4%
151	Hopland-Wohly loams, 50 to 75 percent slopes	40.6	68.6%
Totals for Area of Interest		59.2	100.0%








Biological Resource Assessment

APNs: 001-040-83, 157-01,
 157-070-02 & 003-190-01
 Sections 19 & 30, T15N, R12W, MDBM
 Ukiah USGS 7.5 Minute Quadrangle

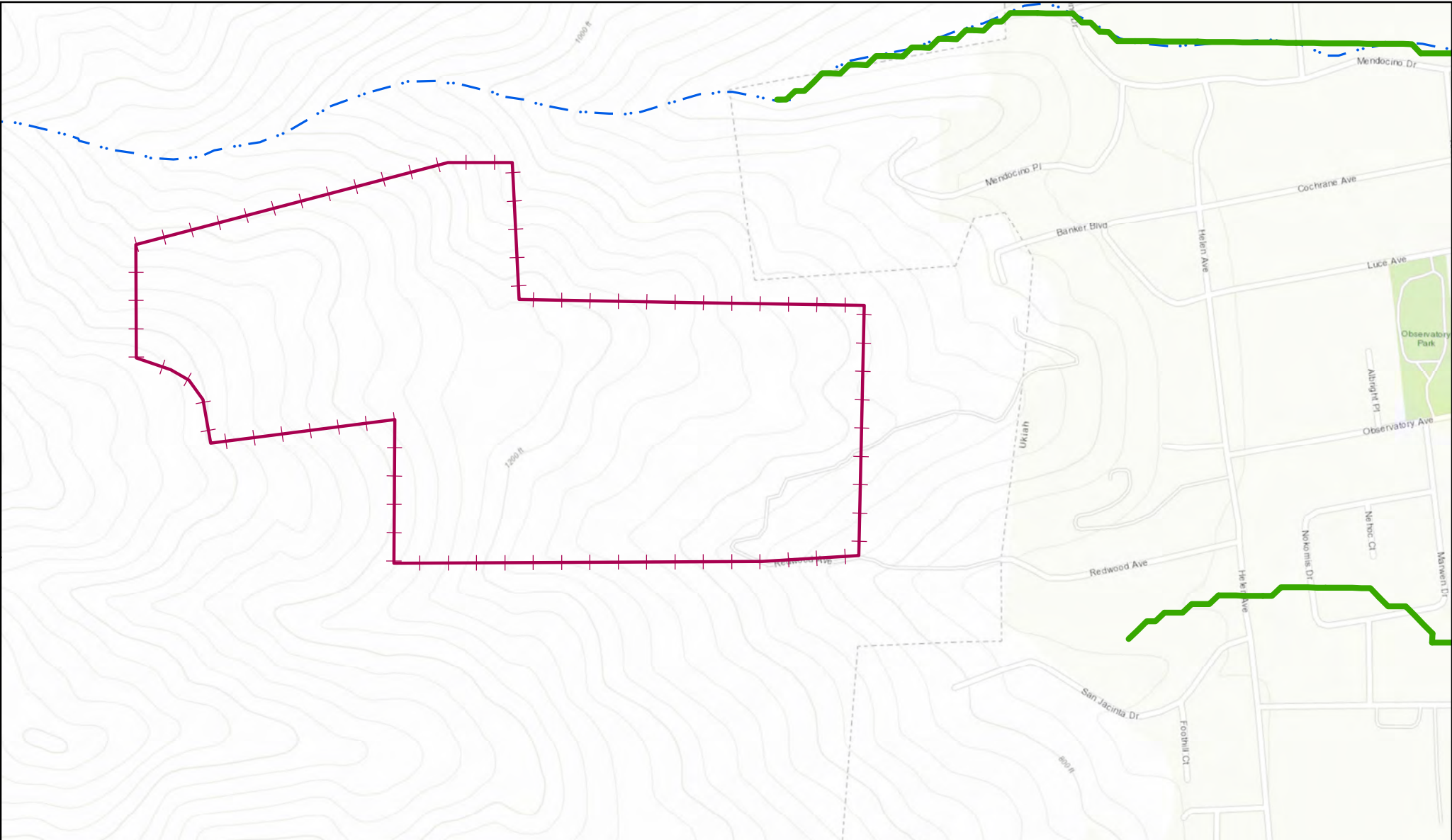


AIR 03/05/2021

Intrinsic Potential Map

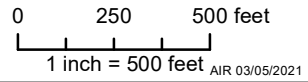
-  Proposed subdivision area
-  Central Coast Steelhead Intrinsic Potential
-  Class III watercourse
-  Class II watercourse
-  Class I watercourse

Sources: Esri, HERE, Garmin, Inter
 GeoBase, IGN, Kadaster NL, Ordnance
 Survey, Esri, DeLorme, NAVTEQ, Swisstopo, IGN, Esri, Mapbox, OpenStreetMap contributors, and the
 USGS National Hydrography Dataset








Biological Resource Assessment

APNs: 001-040-83, 157-01,
 157-070-02 & 003-190-01
 Sections 19 & 30, T15N, R12W, MDBM
 Ukiah USGS 7.5 Minute Quadrangle

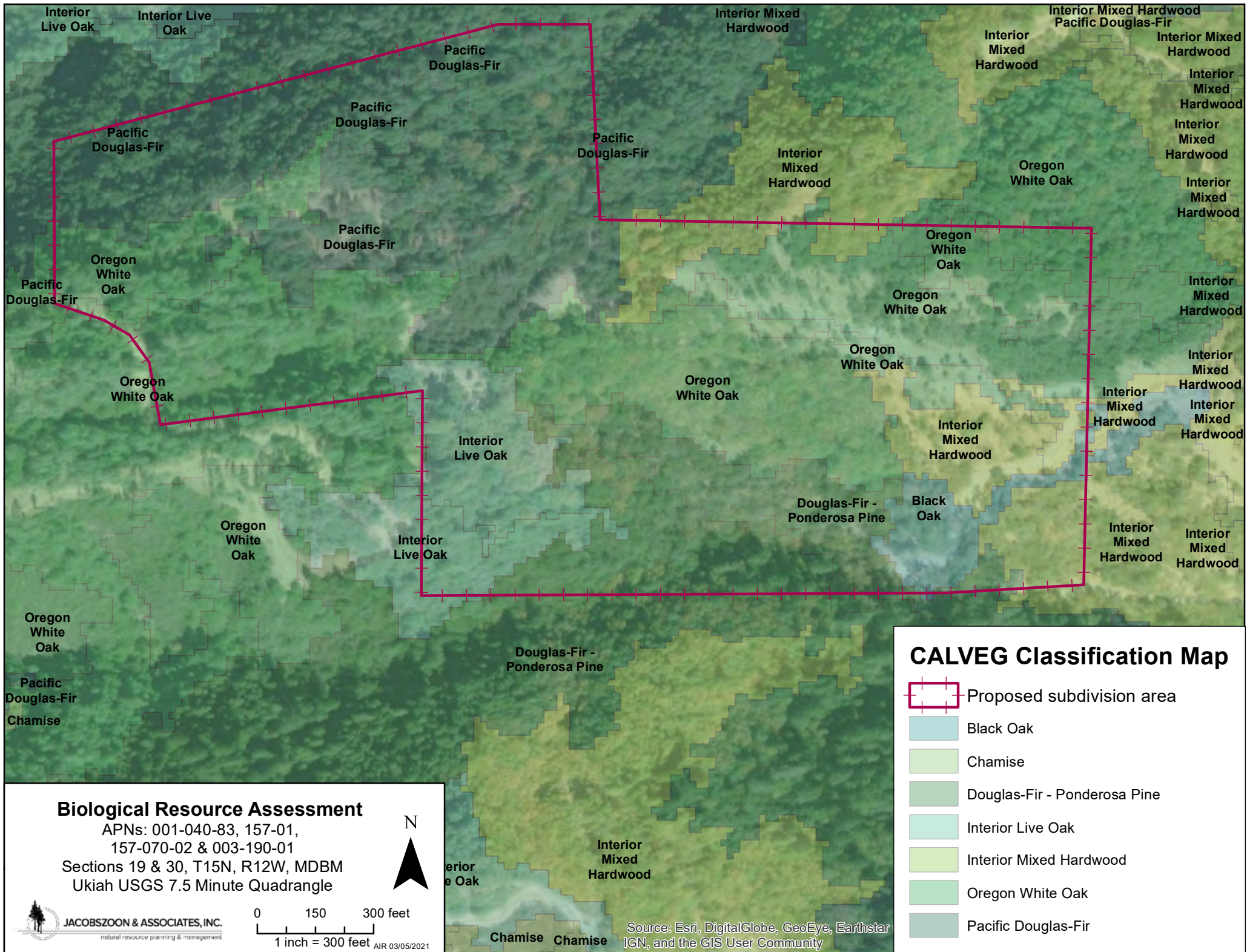


AIR 03/05/2021

Intrinsic Potential Map





-  Proposed subdivision area
-  Coho Intrinsic Potential
-  Class III watercourse
-  Class II watercourse
-  Class I watercourse

Sources: Esri, HERE, Garmin, Intermap, increment P Co
 GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Jap
 OpenStreetMap contributors, and the GIS User Commu





MCV2 Classification Map

-  Proposed subdivision area
-  Class II watercourse
-  Class III watercourse
-  Existing Roads

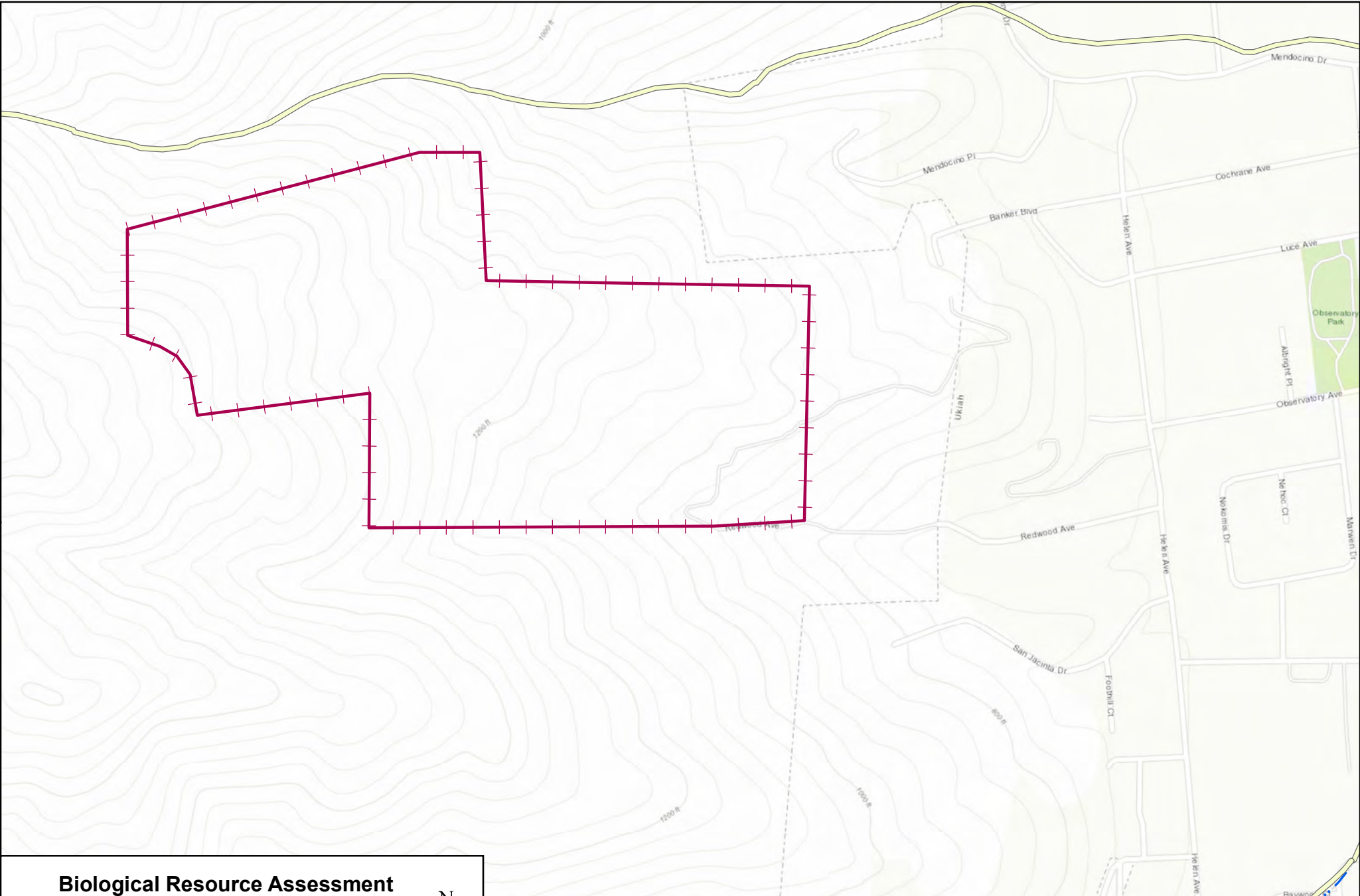
MCV2

-  Black Oak Woodland
-  California Bay Woodland
-  Douglas-fir Forest
-  Knobcone Pine Forest
-  White Oak Woodland

Biological Resource Assessment

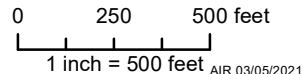
APNs: 001-040-83, 157-070-01,
 157-070-02 & 003-190-01
 Sections 19 & 30, T15N, R12W, MDBM
 Ukiah USGS 7.5 Minute Quadrangle







Biological Resource Assessment

APNs: 001-040-83, 157-01,
 157-070-02 & 003-190-01
 Sections 19 & 30, T15N, R12W, MDBM
 Ukiah USGS 7.5 Minute Quadrangle

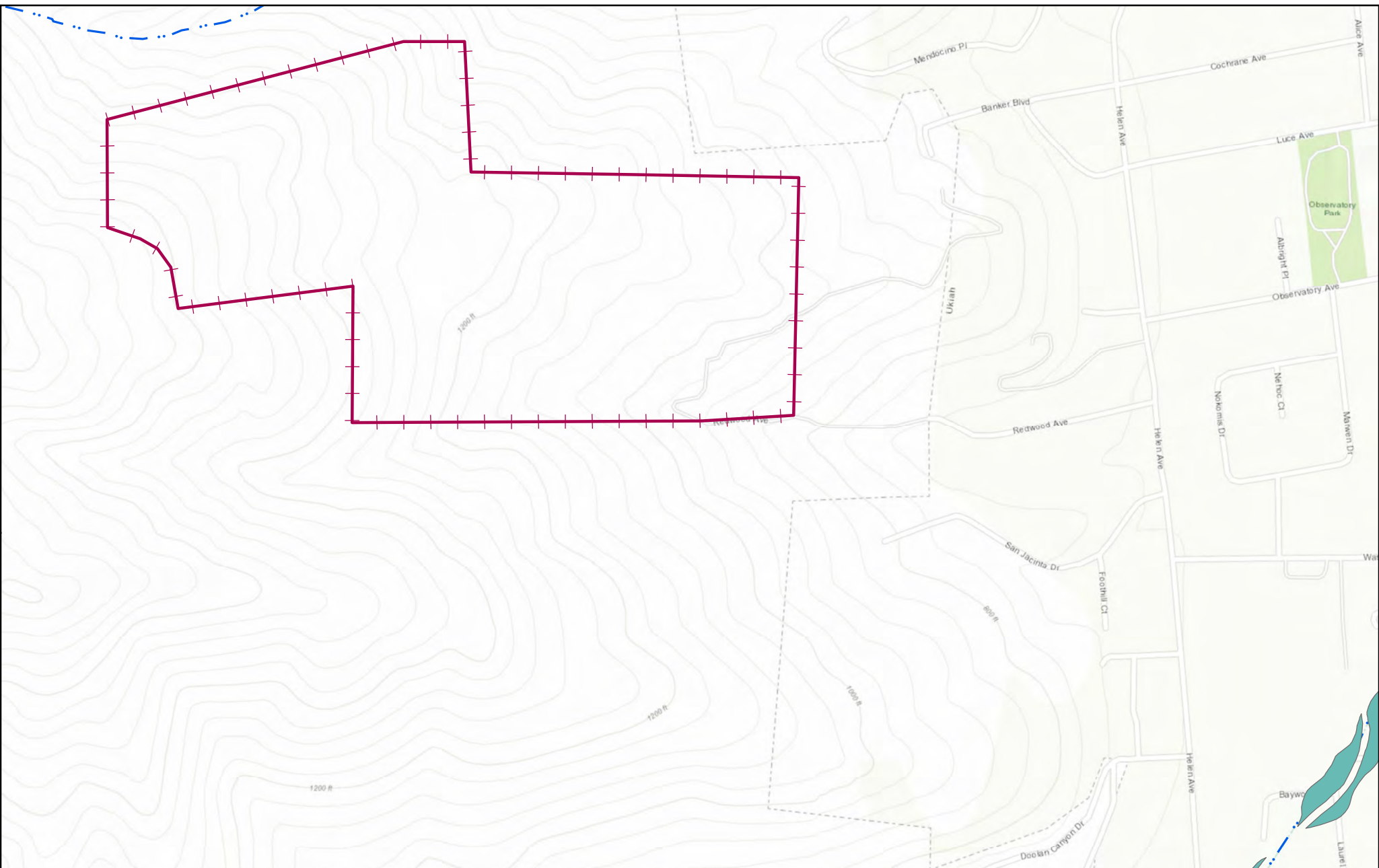


AIR 03/05/2021

NWIC Wetlands Map

-  Proposed subdivision area
-  NWIC Wetlands

Sources: Esri, HERE, Garmin, Intermap, increment P Co
 GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Jap
 OpenStreetMap contributors, and the GIS User Commu



Biological Resource Assessment

APNs: 001-040-83, 157-01,
157-070-02 & 003-190-01

Sections 19 & 30, T15N, R12W, MDBM
Ukiah USGS 7.5 Minute Quadrangle

N





0 250 500 feet

1 inch = 500 feet AIR 03/05/2021



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FEMA National Flood Hazard Layer Map

-  Proposed subdivision area
-  100 YEAR FLOOD ZONE

Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, ster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © contributors, and the GIS User Community

Appendix E: Supporting Documents





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
Consultation Code: 08EACT00-2021-SLI-0169
Event Code: 08EACT00-2021-E-00382
Project Name: City of Ukiah

February 23, 2021

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>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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 Tracking Number 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:

Arcata Fish And Wildlife Office

1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

This project's location is within the jurisdiction of offices which do not participate in IPaC's automated species list delivery. Please contact the following offices directly for more information:

Red Bluff Fish And Wildlife Office

10950 Tyler Road
Red Bluff, CA 96080-7762
(530) 527-3043

Project Summary

Consultation Code: 08EACT00-2021-SLI-0169

Event Code: 08EACT00-2021-E-00382

Project Name: City of Ukiah

Project Type: LAND - ACQUISITION

Project Description: Parcel line adjustment to create 7 lots within approximately 55 acres

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.13734495,-123.22381603736494,14z>



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 7 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.

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. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

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
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered

Critical habitats

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

CNDDDB 9-Quad Species List 185 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	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Amphibians - Dicamptodontidae - Dicamptodon ensatus
Animals - Amphibians	Rana aurora	northern red-legged frog	AAABH01021	None	None	SSC	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Amphibians - Ranidae - Rana aurora
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912333	LAUGHLIN RANGE	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912332	REDWOOD VALLEY	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912323	ORRS SPRINGS	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912322	UKIAH	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912321	COW MOUNTAIN	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912313	BOONVILLE	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912312	ELLEDEGE PEAK	Mapped and Unprocessed	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Rana boylei	foothill yellow-legged frog	AAABH01050	None	Endangered	SSC	-	3912311	PURDYS GARDENS	Mapped	Animals - Amphibians - Ranidae - Rana boylei
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912313	BOONVILLE	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912312	ELLEDEGE PEAK	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912321	COW MOUNTAIN	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912322	UKIAH	Mapped and Unprocessed	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912323	ORRS SPRINGS	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Amphibians	Taricha rivularis	red-bellied newt	AAAAF02020	None	None	SSC	-	3912333	LAUGHLIN RANGE	Mapped	Animals - Amphibians - Salamandridae - Taricha rivularis
Animals - Birds	Accipiter gentilis	northern goshawk	ABNKC12060	None	None	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Accipitridae - Accipiter gentilis

Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3912321	COW MOUNTAIN	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP , WL	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Circus hudsonius	northern harrier	ABNKC11011	None	None	SSC	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Birds - Accipitridae - Circus hudsonius
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3912322	UKIAH	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912322	UKIAH	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912321	COW MOUNTAIN	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3912312	ELLEDGE PEAK	Unprocessed	Animals - Birds - Icteridae - Icteria virens
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912311	PURDYS GARDENS	Mapped	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912322	UKIAH	Mapped	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Pandionidae - Pandion haliaetus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3912322	UKIAH	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3912312	ELLEDGE PEAK	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3912312	ELLEDGE PEAK	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3912311	PURDYS GARDENS	Mapped	Animals - Birds - Passerellidae - Ammodramus savannarum

Animals - Birds	Melanerpes lewis	Lewis' woodpecker	ABNYF04010	None	None	-	-	3912312	ELLEDEGE PEAK	Unprocessed	Animals - Birds - Picidae - Melanerpes lewis
Animals - Birds	Melanerpes lewis	Lewis' woodpecker	ABNYF04010	None	None	-	-	3912322	UKIAH	Unprocessed	Animals - Birds - Picidae - Melanerpes lewis
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912313	BOONVILLE	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912323	ORRS SPRINGS	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912331	POTTER VALLEY	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912332	REDWOOD VALLEY	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Birds	Strix occidentalis caurina	Northern Spotted Owl	ABNSB12011	Threatened	Threatened	-	-	3912333	LAUGHLIN RANGE	Mapped	Animals - Birds - Strigidae - Strix occidentalis caurina
Animals - Fish	Lavinia symmetricus navarroensis	Navarro roach	AFCJB19023	None	None	SSC	-	3912323	ORRS SPRINGS	Unprocessed	Animals - Fish - Cyprinidae - Lavinia symmetricus navarroensis
Animals - Fish	Lavinia symmetricus ssp. 4	Clear Lake - Russian River roach	AFCJB19029	None	None	SSC	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Cyprinidae - Lavinia symmetricus ssp. 4
Animals - Fish	Hysteroecarpus traskii lagunae	Clear Lake tule perch	AFCQK02013	None	None	SSC	-	3912321	COW MOUNTAIN	Mapped	Animals - Fish - Embiotocidae - Hysteroecarpus traskii lagunae
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912321	COW MOUNTAIN	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912312	ELLEDEGE PEAK	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912322	UKIAH	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912323	ORRS SPRINGS	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo
Animals - Fish	Hysteroecarpus traskii pomo	Russian River tule perch	AFCQK02011	None	None	SSC	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Fish - Embiotocidae - Hysteroecarpus traskii pomo

Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3912323	ORRS SPRINGS	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU	AFCHA02032	Threatened	Threatened	-	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 2
Animals - Fish	Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-	-	3912322	UKIAH	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 4
Animals - Fish	Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	-	-	3912313	BOONVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus kisutch pop. 4
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912313	BOONVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912323	ORRS SPRINGS	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 16	steelhead - northern California DPS	AFCHA0209Q	Threatened	None	-	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 16
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912323	ORRS 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	-	-	3912321	COW MOUNTAIN	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912313	BOONVILLE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8

Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912322	UKIAH	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912312	ELLEDGE PEAK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 8
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3912312	ELLEDGE PEAK	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3912322	UKIAH	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Fish	Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU	AFCHA0205S	Threatened	None	-	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop. 17
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	3912311	PURDYS GARDENS	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	Candidate Endangered	-	-	3912321	COW MOUNTAIN	Mapped and Unprocessed	Animals - Insects - Apidae - Bombus occidentalis
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3912313	BOONVILLE	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3912333	LAUGHLIN RANGE	Mapped and Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Arborimus pomo	Sonoma tree vole	AMAFF23030	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Cricetidae - Arborimus pomo
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3912313	BOONVILLE	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3912312	ELLEDGE PEAK	Mapped	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3912322	UKIAH	Mapped and Unprocessed	Animals - Mammals - Erethizontidae - Erethizon dorsatum

Animals - Mammals	Erethizon dorsatum	North American porcupine	AMAFJ01010	None	None	-	-	3912311	PURDYS GARDENS	Mapped	Animals - Mammals - Erethizontidae - Erethizon dorsatum
Animals - Mammals	Eumops perotis californicus	western mastiff bat	AMACD02011	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Mammals - Molossidae - Eumops perotis californicus
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912332	REDWOOD VALLEY	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Pekania pennanti	Fisher	AMAJF01020	None	None	SSC	-	3912311	PURDYS GARDENS	Mapped	Animals - Mammals - Mustelidae - Pekania pennanti
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912321	COW MOUNTAIN	Mapped	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Antrozous pallidus	pallid bat	AMACC10010	None	None	SSC	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Mammals - Vespertilionidae - Antrozous pallidus
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912311	PURDYS GARDENS	Mapped	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912332	REDWOOD VALLEY	Mapped and Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Corynorhinus townsendii	Townsend's big-eared bat	AMACC08010	None	None	SSC	-	3912333	LAUGHLIN RANGE	Unprocessed	Animals - Mammals - Vespertilionidae - Corynorhinus townsendii
Animals - Mammals	Lasiurus blossevillei	western red bat	AMACC05060	None	None	SSC	-	3912332	REDWOOD VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillei
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	-	3912331	POTTER VALLEY	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus

Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	-	3912311	PURDYS GARDENS	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	3912321	COW MOUNTAIN	Mapped	Animals - Mollusks - Unionidae - Gonidea angulata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912321	COW MOUNTAIN	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912313	BOONVILLE	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912312	ELLEDGE PEAK	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912322	UKIAH	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912331	POTTER VALLEY	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912323	ORRS SPRINGS	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912332	REDWOOD VALLEY	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912333	LAUGHLIN RANGE	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3912311	PURDYS GARDENS	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Community - Terrestrial	Northern Interior Cypress Forest	Northern Interior Cypress Forest	CTT83220CA	None	None	-	-	3912311	PURDYS GARDENS	Mapped	Community - Terrestrial - Northern Interior Cypress Forest
Community - Terrestrial	Serpentine Bunchgrass	Serpentine Bunchgrass	CTT42130CA	None	None	-	-	3912311	PURDYS GARDENS	Mapped	Community - Terrestrial - Serpentine Bunchgrass
Plants - Bryophytes	Entosthodon kochii	Koch's cord moss	NBMUS2P050	None	None	-	1B.3	3912311	PURDYS GARDENS	Mapped	Plants - Bryophytes - Funariaceae - Entosthodon kochii
Plants - Bryophytes	Grimmia torenii	Toren's grimmia	NBMUS32330	None	None	-	1B.3	3912312	ELLEDGE PEAK	Mapped	Plants - Bryophytes - Grimmiaceae - Grimmia torenii
Plants - Bryophytes	Grimmia torenii	Toren's grimmia	NBMUS32330	None	None	-	1B.3	3912321	COW MOUNTAIN	Mapped	Plants - Bryophytes - Grimmiaceae - Grimmia torenii
Plants - Lichens	Usnea longissima	Methuselah's beard lichen	NLLEC5P420	None	None	-	4.2	3912323	ORRS SPRINGS	Mapped	Plants - Lichens - Parmeliaceae - Usnea longissima

Plants - Vascular	<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	California Gairdner's yampah	PDAP11N062	None	None	-	4.2	3912311	PURDYS GARDENS	Unprocessed	Plants - Vascular - Apiaceae - <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>
Plants - Vascular	<i>Blennosperma bakeri</i>	Sonoma sunshine	PDAST1A010	Endangered	Endangered	-	1B.1	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Asteraceae - <i>Blennosperma bakeri</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3912333	LAUGHLIN RANGE	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>calyculata</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3912323	ORRS SPRINGS	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>calyculata</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3912321	COW MOUNTAIN	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>calyculata</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	PDAST4R063	None	None	-	4.3	3912322	UKIAH	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>calyculata</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	PDAST4R067	None	None	-	4.3	3912313	BOONVILLE	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>tracyi</i>
Plants - Vascular	<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	PDAST4R067	None	None	-	4.3	3912333	LAUGHLIN RANGE	Unprocessed	Plants - Vascular - Asteraceae - <i>Hemizonia congesta</i> ssp. <i>tracyi</i>
Plants - Vascular	<i>Lasthenia burkei</i>	Burke's goldfields	PDAST5L010	Endangered	Endangered	-	1B.1	3912322	UKIAH	Mapped	Plants - Vascular - Asteraceae - <i>Lasthenia burkei</i>
Plants - Vascular	<i>Layia septentrionalis</i>	Colusa layia	PDAST5N0F0	None	None	-	1B.2	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Asteraceae - <i>Layia septentrionalis</i>
Plants - Vascular	<i>Lessingia hololeuca</i>	woolly-headed lessingia	PDAST5S030	None	None	-	3	3912313	BOONVILLE	Unprocessed	Plants - Vascular - Asteraceae - <i>Lessingia hololeuca</i>
Plants - Vascular	<i>Tracyina rostrata</i>	beaked tracyina	PDAST9D010	None	None	-	1B.2	3912332	REDWOOD VALLEY	Unprocessed	Plants - Vascular - Asteraceae - <i>Tracyina rostrata</i>
Plants - Vascular	<i>Tracyina rostrata</i>	beaked tracyina	PDAST9D010	None	None	-	1B.2	3912311	PURDYS GARDENS	Mapped and Unprocessed	Plants - Vascular - Asteraceae - <i>Tracyina rostrata</i>
Plants - Vascular	<i>Plagiobothrys lithocaryus</i>	Mayacamas popcornflower	PDBOR0V0P0	None	None	-	1A	3912332	REDWOOD VALLEY	Mapped	Plants - Vascular - Boraginaceae - <i>Plagiobothrys lithocaryus</i>
Plants - Vascular	<i>Plagiobothrys lithocaryus</i>	Mayacamas popcornflower	PDBOR0V0P0	None	None	-	1A	3912331	POTTER VALLEY	Mapped	Plants - Vascular - Boraginaceae - <i>Plagiobothrys lithocaryus</i>
Plants - Vascular	<i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Hoffman's bristly jewelflower	PDBRA2G0J4	None	None	-	1B.3	3912321	COW MOUNTAIN	Mapped	Plants - Vascular - Brassicaceae - <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>

Plants - Vascular	<i>Brasenia schreberi</i>	watershield	PDCAB01010	None	None	-	2B.3	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Cabombaceae - <i>Brasenia schreberi</i>
Plants - Vascular	<i>Viburnum ellipticum</i>	oval-leaved viburnum	PDCPR07080	None	None	-	2B.3	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Caprifoliaceae - <i>Viburnum ellipticum</i>
Plants - Vascular	<i>Carex comosa</i>	bristly sedge	PMCYP032Y0	None	None	-	2B.1	3912321	COW MOUNTAIN	Mapped	Plants - Vascular - Cyperaceae - <i>Carex comosa</i>
Plants - Vascular	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3912321	COW MOUNTAIN	Mapped	Plants - Vascular - Ericaceae - <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>
Plants - Vascular	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3912312	ELLEDGE PEAK	Mapped	Plants - Vascular - Ericaceae - <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>
Plants - Vascular	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3912322	UKIAH	Mapped	Plants - Vascular - Ericaceae - <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>
Plants - Vascular	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3912323	ORRS SPRINGS	Mapped	Plants - Vascular - Ericaceae - <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>
Plants - Vascular	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	PDERI041G2	None	None	-	1B.1	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Ericaceae - <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>
Plants - Vascular	<i>Astragalus breweri</i>	Brewer's milk-vetch	PDFAB0F1J0	None	None	-	4.2	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Fabaceae - <i>Astragalus breweri</i>
Plants - Vascular	<i>Trifolium buckwestiorum</i>	Santa Cruz clover	PDFAB402W0	None	None	-	1B.1	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Fabaceae - <i>Trifolium buckwestiorum</i>
Plants - Vascular	<i>Monardella viridis</i>	green monardella	PDLAM180Q2	None	None	-	4.3	3912311	PURDYS GARDENS	Unprocessed	Plants - Vascular - Lamiaceae - <i>Monardella viridis</i>
Plants - Vascular	<i>Fritillaria agrestis</i>	stinkbells	PMLIL0V010	None	None	-	4.2	3912322	UKIAH	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria agrestis</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912322	UKIAH	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria purdyi</i>	Purdy's fritillary	PMLIL0V0H0	None	None	-	4.3	3912332	REDWOOD VALLEY	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria purdyi</i>
Plants - Vascular	<i>Fritillaria roderickii</i>	Roderick's fritillary	PMLIL0V0M0	None	Endangered	-	1B.1	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Liliaceae - <i>Fritillaria roderickii</i>
Plants - Vascular	<i>Lilium rubescens</i>	redwood lily	PMLIL1A0N0	None	None	-	4.2	3912311	PURDYS GARDENS	Unprocessed	Plants - Vascular - Liliaceae - <i>Lilium rubescens</i>
Plants - Vascular	<i>Limnanthes bakeri</i>	Baker's meadowfoam	PDLIM02020	None	Rare	-	1B.1	3912322	UKIAH	Mapped	Plants - Vascular - Limnanthaceae - <i>Limnanthes bakeri</i>

Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912321	COW MOUNTAIN	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912331	POTTER VALLEY	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Hesperolinon adenophyllum	glandular western flax	PDLIN01010	None	None	-	1B.2	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Linaceae - Hesperolinon adenophyllum
Plants - Vascular	Malacothamnus mendocinensis	Mendocino bush-mallow	PDMAL0Q0D0	None	None	-	1A	3912312	ELLEDEGE PEAK	Mapped	Plants - Vascular - Malvaceae - Malacothamnus mendocinensis
Plants - Vascular	Cypripedium californicum	California lady's-slipper	PMORC0Q040	None	None	-	4.2	3912312	ELLEDEGE PEAK	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium californicum
Plants - Vascular	Cypripedium californicum	California lady's-slipper	PMORC0Q040	None	None	-	4.2	3912322	UKIAH	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium californicum
Plants - Vascular	Cypripedium montanum	mountain lady's-slipper	PMORC0Q080	None	None	-	4.2	3912322	UKIAH	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium montanum
Plants - Vascular	Cypripedium montanum	mountain lady's-slipper	PMORC0Q080	None	None	-	4.2	3912323	ORRS SPRINGS	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium montanum
Plants - Vascular	Cypripedium montanum	mountain lady's-slipper	PMORC0Q080	None	None	-	4.2	3912312	ELLEDEGE PEAK	Unprocessed	Plants - Vascular - Orchidaceae - Cypripedium montanum
Plants - Vascular	Piperia candida	white-flowered rein orchid	PMORC1X050	None	None	-	1B.2	3912323	ORRS SPRINGS	Mapped	Plants - Vascular - Orchidaceae - Piperia candida
Plants - Vascular	Kopsiopsis hookeri	small groundcone	PDORO01010	None	None	-	2B.3	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Orobanchaceae - Kopsiopsis hookeri
Plants - Vascular	Erythranthe nudata	bare monkeyflower	PDSCR1B200	None	None	-	4.3	3912333	LAUGHLIN RANGE	Unprocessed	Plants - Vascular - Phrymaceae - Erythranthe nudata
Plants - Vascular	Gratiola heterosepala	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Plantaginaceae - Gratiola heterosepala
Plants - Vascular	Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-	1B.1	3912323	ORRS SPRINGS	Mapped and Unprocessed	Plants - Vascular - Poaceae - Pleuropogon hooverianus
Plants - Vascular	Pleuropogon hooverianus	North Coast semaphore grass	PMPOA4Y070	None	Threatened	-	1B.1	3912312	ELLEDEGE PEAK	Mapped	Plants - Vascular - Poaceae - Pleuropogon hooverianus
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912312	ELLEDEGE PEAK	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912322	UKIAH	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis

Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912323	ORRS SPRINGS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912333	LAUGHLIN RANGE	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912332	REDWOOD VALLEY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon acicularis	bristly leptosiphon	PDPLM09010	None	None	-	4.2	3912311	PURDYS GARDENS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon acicularis
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912333	LAUGHLIN RANGE	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912323	ORRS SPRINGS	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912331	POTTER VALLEY	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Leptosiphon latisectus	broad-lobed leptosiphon	PDPLM09150	None	None	-	4.3	3912322	UKIAH	Unprocessed	Plants - Vascular - Polemoniaceae - Leptosiphon latisectus
Plants - Vascular	Navarretia leucocephala ssp. bakeri	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	3912322	UKIAH	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. bakeri
Plants - Vascular	Navarretia leucocephala ssp. bakeri	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	3912333	LAUGHLIN RANGE	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. bakeri
Plants - Vascular	Navarretia leucocephala ssp. bakeri	Baker's navarretia	PDPLM0C0E1	None	None	-	1B.1	3912332	REDWOOD VALLEY	Mapped	Plants - Vascular - Polemoniaceae - Navarretia leucocephala ssp. bakeri
Plants - Vascular	Ranunculus lobbii	Lobb's aquatic buttercup	PDRAN0L1J0	None	None	-	4.2	3912322	UKIAH	Unprocessed	Plants - Vascular - Ranunculaceae - Ranunculus lobbii
Plants - Vascular	Ranunculus lobbii	Lobb's aquatic buttercup	PDRAN0L1J0	None	None	-	4.2	3912311	PURDYS GARDENS	Unprocessed	Plants - Vascular - Ranunculaceae - Ranunculus lobbii
Plants - Vascular	Ceanothus confusus	Rincon Ridge ceanothus	PDRHA04220	None	None	-	1B.1	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Rhamnaceae - Ceanothus confusus
Plants - Vascular	Horkelia bolanderi	Bolander's horkelia	PDROS0W011	None	None	-	1B.2	3912311	PURDYS GARDENS	Mapped	Plants - Vascular - Rosaceae - Horkelia bolanderi

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Plant List

36 matches found. [Click on scientific name for details](#)

Search Criteria

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	1B.1	S2	G3T2
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	4.2	S3	G3
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
Cuscuta jepsonii	Jepson's dodder	Convolvulaceae	annual vine (parasitic)	(Jun)Jul-Sep	1B.2	S1	G1
Cypripedium californicum	California lady's-slipper	Orchidaceae	perennial rhizomatous herb	Apr-Aug(Sep)	4.2	S4	G4
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Entosthodon kochii	Koch's cord moss	Funariaceae	moss		1B.3	S1	G1
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
Fritillaria roderickii	Roderick's fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.1	S1	G1Q
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2

Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	May-Aug	1B.2	S2S3	G2G3
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	(May)Jun-Aug	1B.2	S1	G1
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?
Lasthenia burkei	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	1B.1	S1	G1
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
Limnanthes bakeri	Baker's meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	G1
Malacothamnus mendocinensis	Mendocino bush-mallow	Malvaceae	perennial deciduous shrub	May-Jun	1A	SX	GXQ
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Perideridia gairdneri ssp. gairdneri	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	4.2	S3S4	G5T3T4
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3
Plagiobothrys lithocaryus	Mayacamas popcornflower	Boraginaceae	annual herb	Apr-May	1A	SH	GH
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	1B.1	S2	G2
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Sanguisorba officinalis	great burnet	Rosaceae	perennial rhizomatous herb	Jul-Oct	2B.2	S2	G5?
Streptanthus glandulosus ssp. hoffmanii	Hoffman's bristly jewelflower	Brassicaceae	annual herb	Mar-Jul	1B.3	S2	G4T2
Tracyina rostrata	beaked tracyina	Asteraceae	annual herb	May-Jun	1B.2	S2	G2
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

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