NATURAL RESOURCES INVENTORY REPORT
840 SOUTH FRANKLIN STREET
FORT BRAGG, CALIFORNIA

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BIOLOGICAL RESOURCES REPORT
840 SOUTH FRANKLIN STREET
(APN 018-210-34)
FORT BRAGG, CALIFORNIA

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Executive Summary

On July 10, 2022, William Maslach conducted a biological resource survey on the 0.3-acre parcel (APN 018-210-34) at 840 South Franklin Street located in a general commercial zoning district within the California coastal zone in Fort Bragg City, Mendocino County, California. The purpose of the study was to determine the boundaries of sensitive coastal resources (wetlands, natural communities, special-status plants and animals) that could be considered Environmentally Sensitive Habitat Area's under the City's Coastal Zoning Code. An area 100 feet beyond the study area was examined from aerial photographs, and to the extent possible, from the sidewalks on the street.

One survey was conducted on July 10 to determine if any ESHA occurred or could potentially occur on the project site. Those special-status species that were identifiable in the field during the time of the survey were evaluated and those that were not, were evaluated for potentially occurring based on the presence of suitable habitat.

As anticipated, an empty lot that in the general commercial zoning that has been continually mowed for many years and was absent of wet areas and vegetated with non-native perennial grasses did not lend itself to habitat many native plants, let alone sensitive biological resources.

No biological resources that can be considered ESHA were documented from the study area. No further ESHA studies are recommended.

1 Introduction and Background

1.1 Purpose

The purpose of this report is to provide a summary of the biological resources within and proximal to the parcel located at 840 South Franklin Street in Fort Bragg, California (study area) and identify any areas that can be considered environmentally sensitive habitat areas (ESHA). When ESHA elements are documented near the proposed project, avoidance and mitigation measures are developed to lessen any potential impacts.

This report will provide an inventory of the biological resources within and adjacent to the proposed project area and provide information necessary for the City of Fort Bragg Community Development Department to evaluate the potential for impacts to biological resources and hydrology/water quality resources from the proposed project under the California Environmental Quality Act (CEQA) and to evaluate the potential for impacts to ESHA in the project area.

1.2 Scope of Work

At the request of the owner of the subject property, a biological resources inventory was conducted to determine the type, condition, and location of biological elements. Any sensitive coastal resources, such as wetlands or rare plants or animals and their habitats that can be considered ESHA under the city of Fort Bragg's certified local coastal program (LCP) (Fort Bragg Municipal Code (FBMC) §17.50.050) are identified and mapped. When ESHA are identified within 100 ft of any proposed development, the potential effects of the impact of the development on the ESHA are evaluated, and avoidance and mitigation measures are developed.

With this information, the project is analyzed according to the development criteria outlined in the Fort Bragg Municipal Code Section 17.50.050 (H) and mitigation measures are developed to offset the project's potential impacts to the ESHA or its buffer.

1.3 Location & Environmental Setting

The project site is an undeveloped approximately 0.28-acre parcel located at 840 South Fir Street in Fort Bragg City, Mendocino County, California (APN 018-210-34), (Figure 1). The study area extends in all directions 100 ft beyond the perimeter of the project site. The project site is in a residential neighborhood and is typical of other residences nearby.

The site is vegetated primarily with non-native perennial grasses (Figure 2).

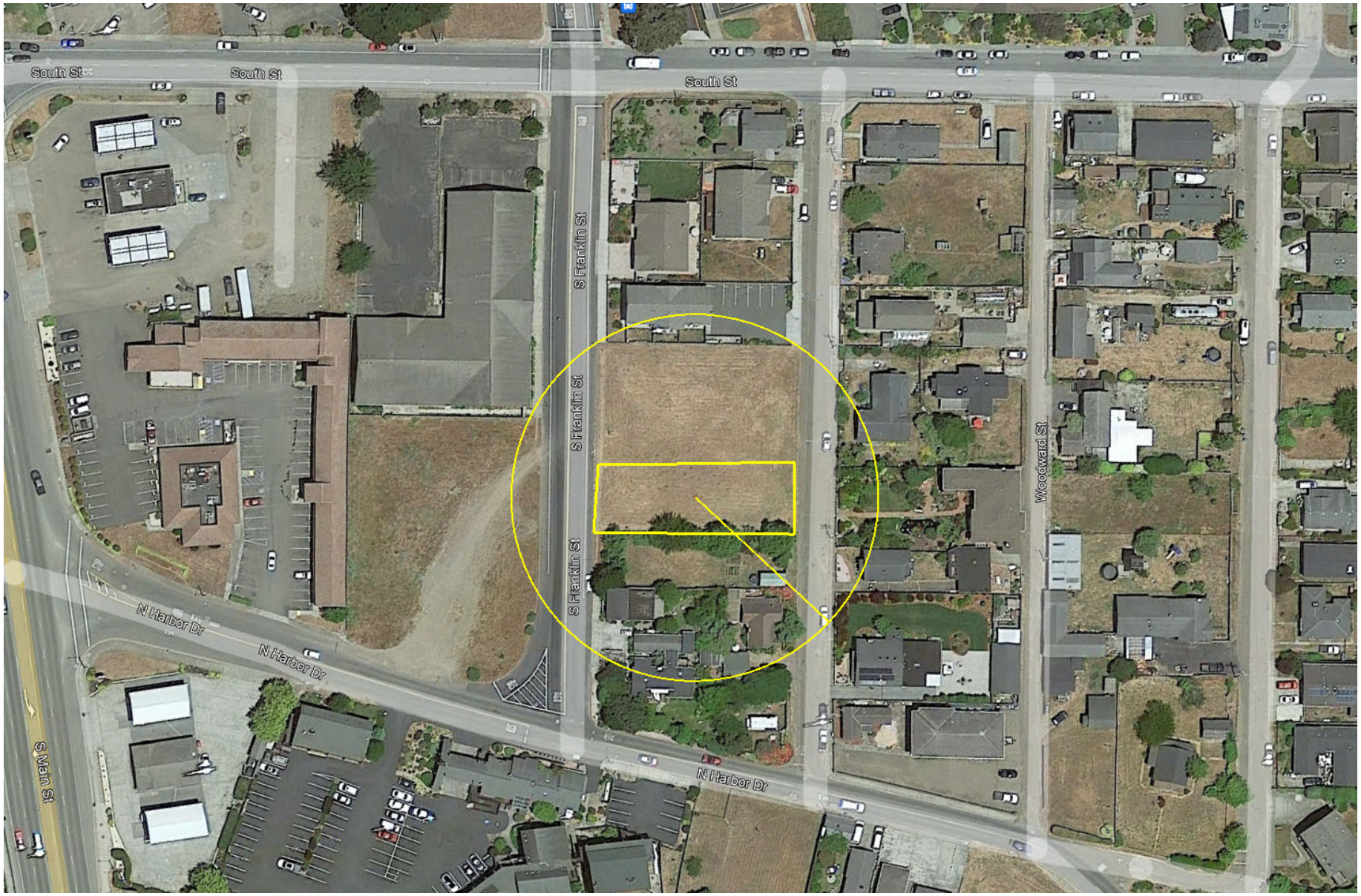

Figure 1. Project Site and Study Area, 840 South Franklin St, Fort Bragg. An aerial photograph shows the project site (property boundary rectangle) and the approximate study area (yellow circle).

Figure 2. Project Site Vegetation. The site is an undeveloped lot vegetated with mowed perennial non-native grasses.

2 Types of ESHA's

The City of Fort Bragg's Coastal Zoning Code Section 20.496.010 defines coastal resources that constitute ESHA's:

> • Any habitat area that is rare or especially valuable because of their special nature or role in an ecosystem and is easily degraded or disturbed by human activities or developments.
> • Any habitat area of plant or animal species designated as rare, threatened, or endangered under State or Federal law.
> • Any habitat area of species designated as Fully Protected or Species of Special Concern under State law or regulations.
> • Any habitat area of plant species for which there is compelling evidence of rarity, for example, those designated 1b (Rare or endangered in California and elsewhere) or 2 (rare, threatened or endangered in California but more common elsewhere) by the California Native Plant Society.

The sections below describe the types of ESHA's listed above.

2.1 Wetlands and Aquatic Features

2.1.1 Wetlands

Depending on the type of wetland, wetlands can be regulated by the US Army Corps of Engineers, the State Water Resources Control Board, the California Department of Fish and Wildlife, the California Coastal Commission, or the City of Fort Bragg. The definition of wetland upon which the Coastal Commission relies is found in the Coastal Act:

> Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. (PRC § 30121.)

While these definitions may evoke images of cattail-rimmed ponds replete with waterfowl, the diversity of the California landscape lends itself to an extensive range of wetland habitats—from seeps, vernal pools, and seasonally wet meadows below the ground surface to muddy banks of estuarine inlets. For this reason, wetlands may not be readily apparent to the casual observer. The presence of hydrophytes (plants adapted for aquatic environments) and/or the presence of hydric soils (soils developed under saturated conditions long enough to form anaerobic conditions) are additional parameters used to identify wetlands under the Coastal Act.
The Coastal Commission's regulations for determining jurisdictional boundaries establish a "one parameter definition" requiring the presence of only one of three parameters: wetland hydrology, plants, or soils, to establish wetland conditions:

> 1. Wetland means lands which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. Wetlands are usually lands where the water table is at, near or above the land surface long enough to do either of the following: a) promote the formation of (hydric) soils that are saturated with water at or near the surface and are deficient of oxygen long enough during the growing season to result in soil properties that reflect dominate wetness characteristics near the soils surface (within 10"); or b) support the growth of hydrophytic plants which grow in water or in wet habitats, and include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some

time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. The upland limit of a wetland shall be defined as:

A. the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;

B. the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or

C. in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not.

2. The term "wetland" shall not include wetland habitat created by the presence of and associated with agricultural ponds and reservoirs where:

A. the pond or reservoir was in fact constructed by a farmer or rancher for agricultural purposes; and

B. there is no evidence (e.g., aerial photographs, historical survey, etc.) showing that wetland habitat pre-dated the existence of the pond or reservoir. Areas with drained hydric soils that are no longer capable of supporting hydrophytes shall not be considered wetlands. (FBMC § 17.100.020, see also 14 CCR § 13577 (b).)

The US Army Corps of Engineers, on the other hand, in most circumstances requires the presence of all three parameters to satisfy the definition of "wetland" under the Clean Water Act.

The California Department of Fish and Wildlife, under CEQA, acts as a trustee agency responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. By commenting on projects through the CEQA process, CDFW can impose conditions or mitigations even when the applicant does not directly acquire a permit through the agency. Therefore, the agency's definition of a wetland is used when delineating wetlands. After implementing the *California Wetlands Conservation Policy* (Executive Order W-59-93), commonly referred to as the no-net-loss of wetlands policy, CDFW further defined "wetlands" by adopting the U.S. Fish and Wildlife Service (USFWS) nonregulatory, technical definition:

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin, 1979).

This definition includes, swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools, periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water, or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature.

While hydrology is the underlying feature that creates wetlands, the Coastal Commission's "Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas" (1981) recognizes that there may be situations where the mere presence of just one parameter may not be representative of wetland conditions. They state, "… the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria." The wetland delineator must determine if the soils and plants indicative of hydrology actually arose from hydrologic condition or by some other means.

2.1.2 **Watercourses (Streams and Rivers)**

As CDFW exercises jurisdiction or agency review for wetlands, by way of the CEQA process they can similarly administer permits for activities that affect water watercourses and other bodies of water or impose conditions on a project that affects these resources. The regulatory authority (Fish & Game Code § 1602.) requiring applicants to notify CDFW of potential impacts to watercourses applies to any river, lake, or stream, including those that are perennial, ephemeral, or intermittent and defines "stream," which includes creeks and rivers, as:

> […] a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." (4 CCR § 1.72.)

The Coastal Commission (1981) states: A "stream or a "river" is a natural watercourse as designated by a solid line or dash and three dots symbol shown on the United States Geological Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris."

The Forest Practice Rules use a similar definition for watercourses except it includes man-made watercourses. The lowest order of natural watercourse (Class III) is defined as one with "No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions […]. (14 CCR § 916.5 [936.5, 956.5], Table 1.)

In the Coastal Zone, streams are described further when the Coastal Commission's jurisdictional boundaries are defined:

> Measure 100 feet landward from the top of the bank of any stream mapped by USGS on the 7.5 minute quadrangle series, or identified in a local coastal program. The bank of a stream shall be defined as the watershed and relatively permanent elevation or acclivity at the outer line of the stream channel which separates the bed from the adjacent upland, whether valley or hill, and serves to confine the water within the bed and to preserve the course of the stream. In areas where a stream has no discernable bank, the boundary shall be measured from the line closest to the stream where riparian vegetation is permanently established. For purposes of this section, channelized streams not having significant habitat value should not be considered. (14 CCR § 13577 (a).)

The City of Fort Bragg echoes the definition "stream" in the Coastal Act, with the last sentence omitted (FBCLUDC § 17.100.020.) They provide a definition of "riparian corridor" associated with watercourses:

> A general term for lands running parallel to and along a creek or stream, which lands constitute the ecosystem and potentially environmentally sensitive habitat for animal and plant life of said creek or stream. (FBCLUDC § 17.100.020.)

The City also describes non-wetland, or "waters of the United States:"

> Waters of the United States. Surface watercourses and water bodies as defined at 40 CFR § 122.2. including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry storm water at and during all times and seasons. (FBCLUDC § 17.100.020.)

2.1.3 **Estuaries**

Estuaries are transition zones between rivers and oceans and therefore have at least one watercourse flowing into them and have a connection to the open ocean. The City of Fort Bragg, and the Coastal Commission (1981) in part, defines estuaries as such:

> A coastal water body, usually semi-enclosed by land, having open, partially obstructed, or intermittent exchange with the open ocean, and in which ocean water is at least occasionally diluted by freshwater from the land. The salinity level my be periodically increased to above that of the open ocean due to evaporation. The mean high tide line shall be defined as the statistical mean of all the high tides over the cyclical period of 18.6 years, and shall be determined by reference to the records and elevations of tidal benchmarks established by the National Ocean Survey. In areas where observations covering a period of 18.6 years are not available, a determination may be made based on observations covering a shorter period, provided they are corrected to a mean value by comparison with observations made at some suitably located control tide station. (FBCLUDC § 17.100.020.)

The Commission (1981) further distinguishes between wetlands and estuaries by using the USFWS's definition of "shallow water" to define estuaries, and "open coastal waters," as anything deeper than the extreme low water of spring tide for tidal areas and 2 meters for non-tidal areas. Any waters above would be considered wetlands.

2.1.4 **Lakes**

Although the difference between a lake and pond is arbitrary, it is generally accepted that a lake is the larger of the two. The Coastal Commission (1981) defines "lakes" as such:

> "A "lake" is a confined, perennial water body mapped by the United States Geologic Survey on the most current 7.5 minute quadrangle series. (p. 34.) […] or identified in a local coastal program." (p. 88.)

2.1.5 **Open Coastal Waters and Coastal Waters**

The term "open coastal waters" refers to what would generally be called "ocean" with a distinction made between "estuary" and "ocean." The Coastal Commission (1981) states:

> The terms "open coastal waters" or "coastal waters" refer to the open ocean overlying the continental shelf and its associated coastline. Salinities exceed 30 parts per thousand with little or no dilution except opposite mouths of estuaries.
>
> Some portions of open coastal waters, generally areas without especially significant plant or animal life, may not be considered environmentally sensitive habitat areas. Environmentally sensitive habitat areas within open coastal waters may include "Areas of Special Biological Significance", as identified by the State water Resources Control Board, habitats of rare or endangered plant and animal species, nearshore reefs, rocky intertidal areas (such as tidepools), and kelp beds.

2.2 **Vegetation Communities**

2.2.1 **Natural Communities**

The standard for vegetation classification in California is *A Manual of California Vegetation, 2nd Edition* (MCV) Sawyer, Keeler-Wolf, & Evens 2009), which is maintained by CDFW's Vegetation Classification and Mapping Program (VegCAMP) and is based on the National Vegetation Classification System (NVCS). This system is

comprised of two levels of hierarchy: vegetation alliances, which are vegetation patterns defined by dominant species at a landscape or statewide level, and vegetation associations, which are patterns or combinations or plant species viewed at a more local level, such as ecological regions, mountain ranges, or preserves.

CDFW maintains the List of Vegetation Alliances and Associations (Natural Communities List) (CDFW 2022) in the CNDDB and has assigned global and state rankings to many vegetation alliances. Those alliances and all associations under them with a state ranking of S1-S3 are considered to be highly imperiled and can be considered ESHA under most circumstances.

2.2.2 **Riparian Habitat**

Riparian habitat is associated with a hydric feature such as a stream, pond, or sometimes tidewater; however, it is not necessarily a wetland feature as defined in the Coastal Act. While the US Fish and Wildlife Service's Cowardin classification system of wetlands and deepwater habitats includes riparian areas as a kind of wetland, the Coastal Commission (1981) has made a distinction between "wetland" and "riparian habitat," with the latter referring to riparian vegetation and the animals that live in or use these plants. Mendocino County has made the same distinction (General Plan, Coastal Element Appendix 8).

In the same document the Coastal Commission makes the following definition: "A 'riparian habitat' is an area of riparian vegetation. This vegetation is an association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of fresh water." These plant species that make up the riparian vegetation either require or tolerate high levels of soils moisture, and are therefore considered hydrophytic. The extent of riparian vegetation is determined by the extent of vegetation where riparian hydrophytes are predominant, and it is measured from the source of water to the upland limit of vegetation where riparian hydrophytes are no longer predominant.

The City of Fort Bragg defines "riparian corridor" as, "A general term for lands running parallel to and along a creek or stream, which lands constitute the ecosystem and potentially environmentally sensitive habitat for animal and plant life of said creek or stream." (FBMC § 17.100.020.)

2.3 **Special-Status Species**

"Special-status species" is a general term for plant and animal species that warrant special consideration and/or protection due to their rarity. They can include species listed as endangered or threatened under the Federal or California Endangered Species Acts, species listed as rare under the California Native Plant Protection Act, or species not formally listed but considered rare or uncommon by government agencies or non-government organizations, such as species on the periphery of their range or those with unique or highly specific habitat requirements. (See Leppig & White 2006.)

2.3.1 **Special-Status Plants**

CDFW maintains a list of plants, including some bryophytes and lichen, inventoried by the California Natural Diversity Database (CNDDB) (CDFW 2022a). For the purposes of this document, special status plants include all plant species that meet one or more of the following criteria outlined in this list, entitled "Special Vascular Plants, Bryophytes, and Lichens List":

- Taxa listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR § 17.12).
- Taxa listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code § 2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease,

or other factors (Fish and Game Code § 2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code § 2067).

- Taxa listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code § 1901).
- Listed as a Sensitive Species by the Bureau of Land Management, U.S. Fish and Wildlife Service, or U.S. Forest Service Sensitive;
- Listed in the California Native Plant Society's Inventory of Rare and Endangered Plants of California;
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g. wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.).
- Taxa that meet the definition of rare or endangered under CEQA § 15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by the California Department of Fish and Wildlife to be "rare, threatened or endangered in California" (California Rare Plant Rank 1A, 1B, 2A, and 2B);
  - Species that may warrant consideration on the basis of local significance or recent biological information;
  - Some species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List (CDFW 2022);
  - Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA § 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.
- Plants of regional or specific interest not on any list above.

2.3.2 **Special-Status Animals**

2.3.2.1 California Natural Diversity Database

The California Department of Fish and Wildlife maintains a list of animals through the CNDDB and assigns rarity ranks to those taxa on the list. These species, often called "special-status species" are those taxa used for developing a scoping list of potential occurrence in a particular study area, and are those taxa that may be considered for creating ESHA. The "Special Animals List" (CDFW 2022b) outlines the criteria for inclusion on the list:

> The Special Animals list includes species, subspecies, or Evolutionarily Significant Units (ESU) where at least one of the following conditions applies:
>
> - Officially listed or proposed for listing under the State and/or Federal Endangered Species Acts;
> - Taxa considered by the Department to be a Species of Special Concern (SSC);
> - Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines.
> - Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
> - Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California;

- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g. wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.);
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or a non-governmental organization (NGO) and determined by the CNDDB to be rare, restricted, declining, or threatened across their range in California.

2.3.2.2 Migratory Bird Regulations

The Migratory Bird Treaty Act of 1918 (MBTA) was enacted in part to stop the commercial trade of birds and their feathers. It protects almost all native nesting birds, with or without special status, by making it illegal to hunt, capture, kill, posses, or sell, among other restrictions, any migratory bird, part, nest, egg, or product. Therefore, projects that propose to modify nesting habitat, such as brush removal, tree trimming, and building demolition, should do so during the non-breeding season or have a biologist survey for birds during the breeding season, February 1-August 31. Some non-native or domesticated birds are not covered by the MBTA such as feral (rock) pigeon, European starling, house sparrow, Eurasian collared-dove, and domestic waterfowl, including domesticated mallards.

3 Methods

3.1 Wetlands

A wetland inventory was conducted on July 10, 2022 to determine the presence or absence of wetlands and other waters in or adjacent to the study area. This type of scoping survey provides basic information about the site's wetland and hydrological characteristics and is used to determine if a wetland delineation (routine or comprehensive) was needed. Published information and data recorded during a site survey were used to complete the wetland inventory. Background information of wetlands mapped by the National Wetland Inventory (NWI) (USFS 2022a) and soils mapped by the Natural Resource Conservation Service (NRCS 2022) was gathered to determine if wetlands have previously been mapped in the area and if the soil is mapped as hydric or partially hydric. Hydrologic indicators, if any, were visually observed and documented and all vegetation communities were mapped, noting if there were areas with a dominance of hydrophytic vegetation.

The USFWS produces wetland maps and geospatial wetland data for the United States and makes these data available to the public (USFWS 2022a, 2022b). Wetlands are primarily mapped by identifying them from aerial imagery and then classified using the Cowardin system (FGDC 2009). These maps are a supplemental tool for onsite wetland inventories and are used with caution as all wetlands have not been mapped and the maps can be limited by scale. Nonetheless, they can provide good background information about the presence of wetlands before the field visit. Geospatial data was used to overlay any NWI wetlands in the study area or vicinity prior to the field visit.

The presence of one of the three wetland indicators (plants, soils, or hydrology) usually warrants the need for a wetland delineation. In such case, and particularly when there are potential impacts to wetlands, each of the three wetland parameters (hydrophytic vegetation, hydric soils, and hydrology) are investigated further in a wetland delineation according to federal standards (Environmental Laboratory 1987, USACE 2010).

3.1.1 Hydrophytic Vegetation

The wetland indicator status assigned to a species designates the probability of that species occurring in a wetland. A species with an indicator of OBL, FACW, or FAC is considered to be typically adapted for life in a wetland (hydrophytic vegetation). A species indicator of FACU and UPL signifies an upland species (Table 1). For species reviewed but given no regional indicator (NI) or species with no known occurrence in the region at the time the list was compiled (NO), the indicator status assigned to the species in the nearest adjacent region is

applied. If the species is listed but no adjacent regional indicator is assigned, the species is not used to calculate hydrophytic vegetation indicators. In general, species that are not listed on the wetland plant list are assumed to be upland (UPL) species. If however, it is believed that FAC, NI, NO, or unlisted plant species are functioning as hydrophytes on a particular site, certain procedures outlined in the Regional Supplement (USACE 2010) can be used.

Table 1. Wetland Indicator Status Groups

Wetland Indicator Status	Definition
Obligate Wetland (OBL)	Almost always occur in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands, but may occur in non-wetlands
Facultative (FAC)	Occur in wetlands or non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland (UPL)	Almost never occur in wetlands
No Indicator (NI)	Reviewed but given no regional indicator
Not Occurrence (NO)	No known occurrence in the region at the time the list was complied

To the greatest extent possible, vegetation is classified using the vegetation classification of alliances in Manual of California Vegetation (2009). The wetland indicator status of each species comprising the vegetation alliance was determined by reference to the current list of hydrophytic plants (USACE 2020), and if there was a concentration of hydrophytic plants in any area, this was noted, and further study was recommended. Hydric vegetation is the predominant indicator that warrants further study for a wetland delineation.

3.1.2 Hydric Soils

The Natural Resource Conservation Service defines a hydric soil as: "… a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part." (Federal Register 1994.) Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that meet the definition of hydric soils. NRCS maintains published soil surveys for counties across the United States that provide information on the origin of soils, their composition and texture, and their use for agriculture. Additionally, NRCS maintains national, state, and local lists of hydric soils that updated annual at the begging of the year. The local lists are the preferred lists for use in making preliminary wetland determinations and identifying soils.

The most current list of hydric soils (NRCS 2022) was reviewed prior to the field visit and a soil map and report of the study area were produced using NRCS's online Web Soil Survey (NRCS 2022a). These reports are useful in determining the composition of the soil map units, which are rarely comprised of entirely the same soil. For example, many soils that are listed as "hydric" are comprised of other non-hydric soils. For complex project sites, the soil map units are overlaid on the project site using GIS data from the Soil Survey Geographic (SSURGO) Data Base (NRCS 2021b), the same data as the Web Soil Survey. Essentially, this data is the digitized version of the original county soil survey. Both of these sources are excellent off-site ancillary tools to aid on-site field investigations of wetland determinations.

If the study area contains hydric or partially soils listed previously mapped by the Natural resource Conservation Service, further may be recommended. Generally, mapped or unmapped areas that truly have hydric soils will have at least some areas with hydrophytic vegetation. Rarely is further study recommended when hydric soils are mapped by the NRCS but there is no predominance of hydrophytes.

3.1.3 Wetland Hydrology

Wetland hydrology is a term which encompasses hydrologic characteristics of areas that are periodically inundated or saturated within 12 inches of the surface at some time during the growing season. Recorded data can be used when available to determine wetland hydrology. Recorded data showing inundation or saturation within 12 inches of the surface for a minimum of five percent of the growing season (approximately 14 days) is

considered evidence of wetland hydrology. When studies are conducted at a time of year when surface water, ground water, or saturated soils cannot be observed, evidence of wetland hydrology is based on observation of the hydrologic indicators described in the Regional Supplement (USACE 2010). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, and drift lines, or indirect indicators (secondary indicators), such as oxidized root channels, algal mats, or geomorphic position. If indirect or secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology.

The study area examined was examined for primary and secondary hydrologic indicators during the field visits.

3.2 Watercourses

Before the field survey, USGS topographic quads were reviewed to check for any blue line intermittent or perennial streams. If present, they were confirmed in the field and the presence of any watercourses not on the quads was noted and mapped, including the associated riparian vegetation.

Natural channels and excavated ditches that are potentially watercourses as defined in the Regulatory Background above are examined for their ability of being capable to transport sediment to larger watercourses downstream under normal high water flow.

Some general measurements of the watercourse bed, bank, and channel are described, such as streambed width and bankfull width. For well-defined streams these measurements may be useful in determining the flood plain zone, or flood prone width, to determine any potential interaction with proposed activities if streamflow is greater than bankfull.

3.3 Natural Communities

A scoping list of vegetation alliances occurring in coastal Mendocino County with a global and state ranking in CNDDB was derived from the California Department of Fish and Wildlife's "California Natural Community List" (2022) (Appendix B). Vegetation communities, when present, were mapped during field visits by ground-truthing aerial photography and then described using the naming convention in *The Manual of California Vegetation, 2nd Edition* (MCV2), (Sawyer et al. 2009) whenever the vegetation conformed to standards for inclusion. Any vegetation communities with a global or state ranking were noted. When discrete stands of vegetation could not be adequately described using MCV2, the Holland (1986) vegetation type was used. Stands falling outside of either category are described by the dominant species or land cover type.

3.4 Botanical Resources

One field survey was conducted on July 10, 2022 to document all plant species occurring in the study area. The botanical survey was floristic in nature and was based on the methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (DFW 2009). Approximately 1 person-hour was spent on the survey. The project site is small enough that a survey route map was not made. All plants encountered during the survey were included in Appendix C and follow the nomenclature of *The Jepson Manual: Vascular Plants of California, 2nd Edition* (Baldwin 2012) and sometimes with reference to Jepson eFlora (2022) for substantive revisions of scientific content for some taxa. Those plants in the scoping list having blooming periods after March would have had distinctive vegetative parts allowing for identification of the plants.

After review of the scoping list of plant species (Appendix A), there were no plant species a moderate or high potential for occurrence within the study area based on the species' habitat preferences. While no target list of sensitive plants potentially occurring on site was developed from the larger scoping list of sensitive plants, their presence would have the same potential for documentation as any other species occurring on the site.

Sometimes rare plants are known from the immediate area—sometimes as close as a quarter mile or less—but they are not included in the target list based on the absence of a specific habitat such as wetlands or coastal bluffs. This is especially true on smaller sites of several acres where survey coverage of all habitat areas is nearly 100% or when the target list for a smaller site is further reduced after the first early-season visit. While the target list is meant to focus attention on a smaller suite of species, all species from the scoping list, even those not on the scoping list, are considered because all plants are identified to the level of species (except in the case of ornamental landscaping). In general, larger study areas have larger target lists.

3.5 Wildlife Resources

One field survey for special status animals was conducted on the same dates as the botanical survey: July 10, 2022. A target list was developed from a scoping list of special-status animals from the California Department of Fish and Wildlife (2021b) with potential for occurrence in coastal Mendocino County (Table 2) (Appendix A). The target list was developed in the same manner as the target list of plants mentioned above.

Table 2. Target List of Special Status Animals Potentially Occurring in the Study Area.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Potential for Occurrence within Project Area
INVERTEBRATES					
Snails, Slugs, and Abalone (*GASTROPODA*)					
Noyo intersessa Ten Mile shoulderband	None	None	G2	S2	Potential occurrence – known from Glass Beach.
Ants, Bees, & Wasps (*INSECTA, Hymenoptera*)					
Bombus occidentalis Western bumble bee	None	None	G2G3	S1	Potential habitat based on limited information.

4 Results

4.1 Wetlands and Aquatic Features

The wetland inventory conducted on March 13, 2021 used background information of wetlands mapped by the National Wetland Inventory (USFWS 2021a) and soils mapped by the NRCS (2021a), in combination with onsite vegetation mapping and inspection of hydrological indicators to determine if a routine wetland delineation was needed (Figures 4 &5). No areas were documented as wetlands and waters of the US.

4.1.1 Hydrophytic Vegetation

Within the study area the dominant plant communities did not show a predominance of wetland vegetation. The two land cover types study area were ornamental horticultural landscaping vegetation and developed areas.

4.1.2 Hydric Soils

The soil map unit name for the entire study area is a partially hydric "Urban land," which is comprised of 75% urban land and 8 other minor soil components, each of 3% and totally approximately 24%. Of these 8 minor soil units, 3 are listed as hydric, and they total 9% (See Appendix B).

With ~9% of the soils listed as hydric and no predominance of hydrophytic vegetation, there were no areas that warranted further wetland study.

4.2 Natural Communities

Generally, the vegetation in the study area is characterized as common velvet grass – sweet vernal grass meadows (*Holcus lanatus – Anthoxanthum odoratum*) in a residential urban setting.

Common velvet grass–sweet vernal grass meadows (*Holcus lanatus – Anthoxanthum odoratum*) (No Rarity Rank)

Perennial non-native grasses, velvet grass (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*) were the dominant species on the parcel. Grasses had been mowed but plants persisted after mowing (presumably the mowing deck was not set very low for a large field). Few other species occurred. Two native plants were California poppy and California blackberry but occurred in very small numbers.

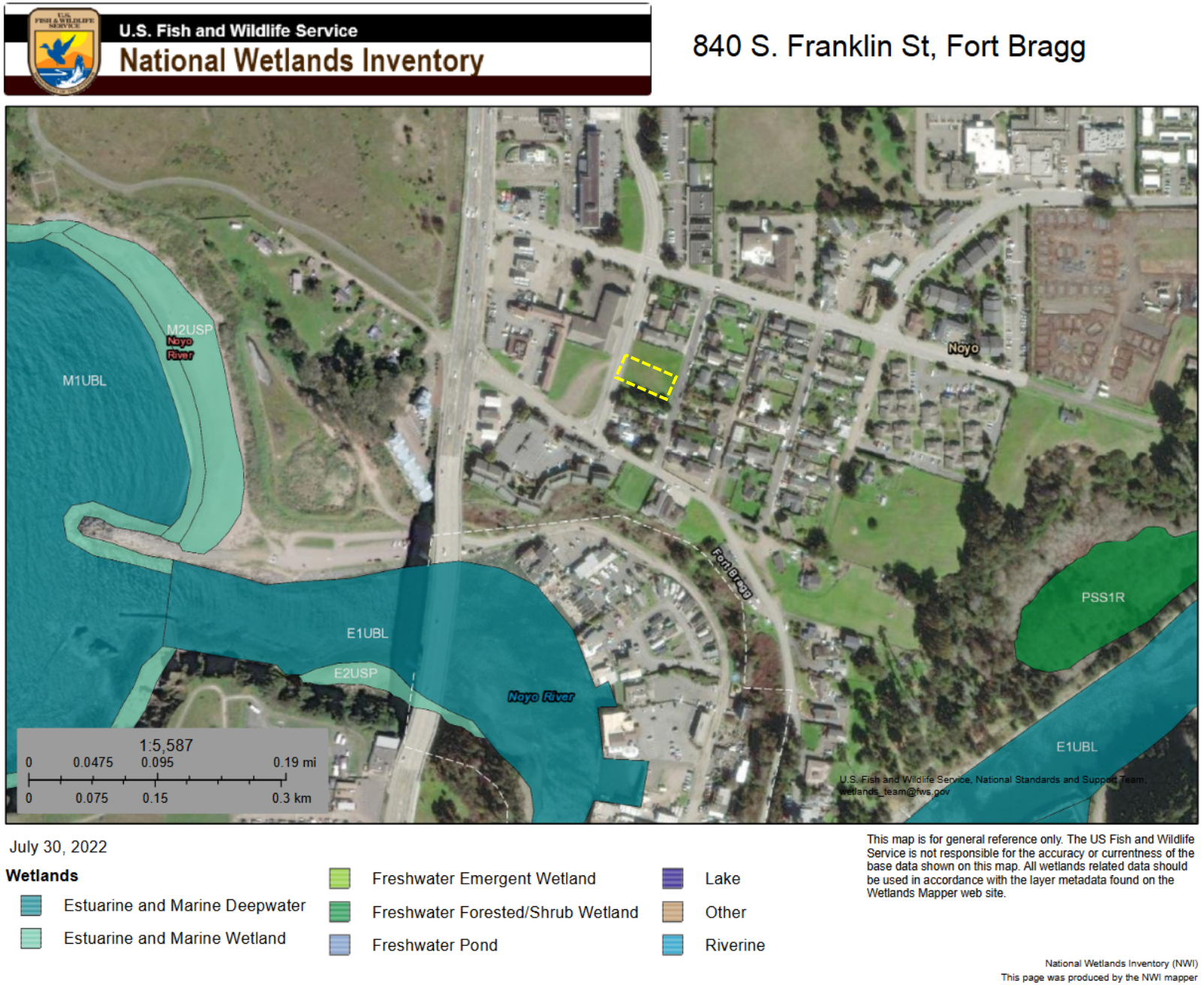

Figure 3. National Wetland Inventory Map of Project Site. A map was generated from the National Wetlands Inventory *Wetlands Mapper* (https://www.fws.gov/wetlands/data/Mapper.html) for the project site outlined in yellow.

Figure 4. Soil Map of Project Area. A map was generated from the Natural Resources Conservation Service *Web Soil Survey* (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx) for the project site outlined in yellow. All of the soil in the study area was mapped as *Map Unit 219 – Urban land*.

4.3 Botanical Resources

Results from the botanical survey on July 10, 2022 identified only 18 species, only 2 of which were native. With the non-native perennial grasses as the predominant vegetation community and the fact that the study area is in an urban residential area, the high number of non-native plants is not surprising. A list of all plants documented from the study area is included in Appendix C.

4.3.1 Documented Occurrences

No special-status plant species were documented.

4.3.2 Potential Occurrence

No special-status plant species were identified as having a moderate level for potentially occurring on the study area.

4.4 Wildlife Resources

From wildlife surveys on July 10, 2022, no special-status species were detected. Two special-status wildlife species had the potential of occurring in the study area but were not detected. These species are addressed below.

4.4.1 Documented Occurrences

No special-status animal species were documented.

4.4.2 Potential Occurrences

Animals not documented from surveys but that had the potential for occurrence included Ten Mile shoulderband snail and western bumble bee. These species were not found, and no further surveys or mitigation measures are recommended.

Invertebrates

Ten Mile shoulderband snail (*Noyo intersessa* G2 S2)
The Ten Mile shoulderband snail is known from Glass Beach, which is less than 2 miles to the north. Dr. Barry Roth suspects that most snails found in Fort Bragg would be *N. intersessa* and *Helminthoglypta arrosa*. subsp. *a.* (Roth 2001). Since the identification of these two snails is very difficult, the possibility of misidentification is high and it should be assumed that any shoulderband snail found in the study area could potentially be the Ten Mile shoulderband.

During each survey date, suitable habitat areas, were examined for snails by moving vegetation aside and looking for snail shells. One garden snail (*Cornu aspersum*) was found on a wild radish but no shoulderband snails were encountered. The occurrence of Ten Mile shoulderband snails is not anticipated and no further surveys are recommended.

Western bumble bee (*Bombus occidentalis* G2G3 S1)
Western bumble bees are distinguished from other bumble bees in northern California by having a white patch of hairs at the end of their abdomen segments. No bumblebees were found foraging within the study area. No further studies are recommended.

5 ESHA Summary and Impact Analysis

No areas on the project site met the definition of ESHA. As such, the project as proposed will not impact ESHA.

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Appendix A

Scoping Lists

Special Status Plants with Potential Occurrence in Coastal Mendocino County Including the Coastal Region of Southern Humboldt to Northern Sonoma Counties

Special Status Animals with Potential for Occurrence in Coastal Mendocino County

Special-Status Plant Communities Occurring in Coastal Mendocino County

Special Status Plants with Potential Occurrence in Coastal Mendocino County. This table is derived from federal, state, and CNPS–listed plant species, including plants of regional significance (CDFW 2022a). Explanation of column headings:

FESA: federal status includes federally rare (FR), threatened (FT), or endangered (FE)

STATE: California state status includes rare (CR), threatened (CT), or endangered (CE)

CRPR: California Rare Plant Rank - ranked inventory of native California plants (Element Occurrences, EO's) thought to be at risk,

Rank 1A - Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A - Plants Presumed Extirpated in California, but more common elsewhere.
Rank 2B - Plants rare, threatened or endangered in California but more common elsewhere.
Rank 3 - Plants about which more information is needed, a review list.
Rank 4 – Plants of limited distribution, a watch list.

A Threat Code extension has been added following the CRPR e.g. 1B.1, 2.2 etc.)

Threat Code extensions and their meanings:

.1 – Seriously endangered in California (> 80% of occurrences threatened / high degree and immediacy of threat)

.2 – Fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 – Not very endangered in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known

GLOBAL RANK: The *global rank* (G-rank) is a reflection of the overall status of an element throughout its global range. Both Global and State ranks represent a letter + number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heavier on Rarity than the other two.

SPECIES OR NATURAL COMMUNITY LEVEL

GX = *Presumed extinct*

GH = *Possibly extinct*. Known only from historical occurrences but there is still some hope of rediscovery

G1 = *Critically Imperiled* - At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.

G2 = *Imperiled* – at high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

G3 = *Vulnerable* – at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

G4 = *Apparently Secure* – at fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

G5 = *Secure* – at very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

SUBSPECIES LEVEL

Subspecies receive a T-rank attached to the G-rank. With the subspecies and varieties, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. For example: *Chorizanthe robusta* var. *hartwegii*. This plant is ranked G2TI. The G-rank refers to the whole species range i.e., *Chorizanthe robusta*. The T-rank refers only to the global condition of var. *hartwegii*.

STATE-RANK: The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

SX = Presumed extirpated.

SH = Possibly extirpated. Known only from historical occurrences but there is still some hope of rediscovery

S1 = *Critically Imperiled* – at very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

S2 = *Imperiled* – at high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 = *Vulnerable* – at moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 = *Apparently Secure* – at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 = *Secure* – at very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threat

Notes:

1. Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take a broad view when ranking sensitive elements rather than simply counting element occurrences.
2. Uncertainty about the rank of an element is expressed in two major ways: By expressing the rank as a range of values: e.g., S2S3 expresses uncertainty as to whether an element is a G3 or G4, or by adding modifiers. A '?' to the rank: e.g., S2? indicates the element is most likely an S2 but there is a significant change the element could be an S1 or S3. A 'Q' can be added to denote questionable taxonomy (e.g. G3Q).
3. A 'C' modifier denotes that the element is extinct in the wild across its native range but is present in cultivation or captivity (e.g., G1C).

Scientific Name	Common Name	CRPR	Global Rank	State Rank	CESA	FESA	Lifeform	Elevation	Blooming Period	Notes	Potential for Occurrence within Project Area
Abronia umbellata var. *breviflora*	pink sand-verbena	1B.1	G4G5 T2	S2	None	None	perennial herb	0-10 m.	June - October	Coastal dunes and coastal strand with sparse cover. Often the plant growing closest to the ocean.	No habitat.
Agrostis blasdalei	Blasdale's bent grass	1B.2	G2	S2	None	None	perennial rhizomatous herb	5-150 m.	May - July	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation.	No habitat.
Alisma gramineum	grass leaf water plantain	2B.2	G5	S3	None	None	perennial rhizomatous herb	390-1800 m.	June - August	Shallow freshwater marshes and swamps. Vouchered from Laytonville and 9 miles west of Willits on Sherwood Road otherwise a plant from Modoc area.	No habitat.
Angelica lucida	sea-watch	4.2	G5	S3	None	None	perennial herb	0-150 m.	May - September	Coastal bluff scrub, coastal scrub, coastal marshes and swamps, and coastal dunes. Bluff faces and rocky areas near the ocean. Fields and thickets along the coast.	No habitat.
Arctostaphylos nummularia subsp. *mendocinoensis*	pygmy manzanita	1B.2	G3?T1	S1	None	None	perennial evergreen shrub	90-200 m.	January (vegetation : all year)	Closed-cone coniferous forest. Acidic sandy-clay soils in dwarfed coniferous forest. Only known location 2 miles east of Mendocino.	No marine terrace chaparral.
Astragalus agnicidus	Humboldt County milk-vetch	1B.1	G2	S2	CE	None	perennial herb	180-800 m.	April - September	Broadleafed upland forests, North Coast coniferous forests, redwood forests. Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects. Known from east of Point Arena, Mendocino Co. to north to southern Humboldt Co.	No habitat on coast.
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	1B.2	G2T2	S2	None	None	perennial herb	0-30 m.	April - October	Coastal scrub, coastal salt marshes and swamps, mesic sites in coastal dunes, and along streams. Known from coastal San Mateo and Marin Co., and Humboldt Co., from Petrolia to Eureka.	No habitat.
Blennosperma nanum var. *robustum*	Point Reyes blennosperma	1B.2	G4T2	S2	CR	None	annual herb	10-145 m.	February - April	Coastal prairie, coastal scrub. On open hills in sandy soil. From Pt. Reyes and Glass Beach, Fort Bragg.	No habitat.
Bryoria pseudocapillaris	false gray horsehair lichen	2B.3	G5	S3	None	None	fruticose lichen (epiphytic)	0-90 m.		Dark, filamentous, epiphytic, pendent lichen known from Point Arena. Largest known population from Samoa Peninsula in Humboldt Co. Usually on conifers, sometimes huckleberry, in coastal dunes in San Louis Obispo Co.; North Coast coniferous forest on the immediate coast – usually shore pine and Sitka spruce.	No pine scrub habitat.
Calamagrostis bolanderi	Bolander's reed grass	4.2	G4	S4	None	None	perennial rhizomatous herb	0-455 m.	May - August	Often mesic sites. Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, wet meadows and seeps, marshes and swamps (freshwater), North Coast coniferous forest. Known from Santa Rosa to northern Humboldt Co; usually not far from the coast, but not always.	No habitat.
Calamagrostis stricta ssp. *inexpansa*	Thurber's reed grass	2B.1	G3Q	S2	None	None	perennial rhizomatous herb	10-60 m.	May - July	Coastal scrub (mesic), freshwater marshes and swamps. Usually in marshy swales surrounded by grassland or coastal scrub. Sporadic in marshes from Crescent City to Marin. Only 1 old record for Mendocino County.	No coastal marshes.
Calamagrostis foliosa	leafy reed grass	4.2	G3	S3	CR	None	perennial herb	0-1220 m.	May - September	Coastal bluff scrub, rocky cliffs and ocean-facing bluffs, clumps in rock crevices of bluff bank of river. North Coast coniferous forests, often on steep wooded cliffs. Many occurrences located in the King Range, HUM Co. Westport is southernmost known location.	No habitat.
Calystegia purpurata subsp. *saxicola*	coastal bluff morning-glory	1B.2	G4T2T 3	S2S3	None	None	perennial herb	10-105 m.	May - September	Coastal scrub, road edges and ruderal sites, coastal dunes, North Coast coniferous forest (openings and edges in forests near the coast). Intermediate with subsp. *purpurata*. Occurs in central Mendocino County and southward.	Out of range.
Campanula californica	swamp harebell	1B.2	G3	S3	None	None	perennial rhizomatous herb	1-405 m.	June - October	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, and North Coast coniferous forests. Many occurrences have few plants; uncommon where it occurs. From Pt. Reyes to Ten Mile River north of Fort Bragg and usually within 5 miles of the coast except for Santa Rosa area and one location west of Willits.	No habitat.
Carex arcta	northern clustered sedge	2B.2	G5	S2	None	None	perennial herb	60-1400 m.	June - September	Willow, alder, or redwood swamps; stock ponds; seasonal ponds of several feet deep, moist meadows. Mostly from central Humboldt Co. at various elevations, but one 1866 collection from a sphagnum swamp in Mendocino (city or county unspecified) and one collection from Crescent City.	No habitat.

Scientific Name	Common Name	CRPR	Global Rank	State Rank	CESA	FESA	Lifeform	Elevation	Blooming Period	Notes	Potential for Occurrence within Project Area
Carex californica	California sedge	2B.2	G5	S2	None	None	perennial rhizomatous herb	90-335 m.	May - August	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (often on margins or drier areas). Usually within several miles of the coast from Salt Point, Sonoma Co. north to Fort Bragg. One unvouchered specimen from Lassics Botanical Area, Six Rivers National Forest.	Not suitable habitat.
Carex lenticularis var. *limnophila*	lagoon sedge	2B.2	G5T5	S1	None	None	perennial herb	0-6 m.	June - August	Lakeshores, beaches (often gravelly), bogs and fens, marshes and swamps, North Coast coniferous forest. Known from north road to Glen Blair.	No habitat.
Carex livida	livid sedge	2A	G5	SH	None	None	perennial rhizomatous herb	0-0 m.	June	Sphagnum bogs in California. Possibly extirpated from the state.	No habitat.
Carex lyngbyei	Lyngbye's sedge	2B.2	G5	S3	None	None	perennial rhizomatous herb	0-10 m.	May - August	Brackish or freshwater marshes and swamps, in water in mucky soil, soughs. May be growing near *Scirpus pungens* and *Triglochin maritima*. From Marin to Del Norte Cos.	No habitat.
Carex saliniformis	deceiving sedge	1B.2	G2	S2	None	None	perennial rhizomatous herb	3-230 m.	June - July	Mesic sites of coastal prairie, coastal scrub, and meadows; seeps, marshes and swamps (coastal salt); boggy ground. Often growing with *Panicum acuminatum* in Mendocino County. Known to grow with *Arenaria paludicola*. Plant very similar to *C. hassei,* and FNA considers *C. saliniformis* a synonym of *C. hassei*.	No sufficient wet habitat.
Carex viridula subsp. *viridula*	green yellow sedge	2B.3	G5T5	S2	None	None	perennial herb	0-1600 m.	June - November	Freshwater marshes and swamps; bogs and fens; mesic sites of North Coast coniferous forest. In Mendocino Co., known only from a 1909 collection in Inglenook Fen.	No habitat.
Castilleja ambigua subsp. *ambigua*	johnny-nip	4.2	G4T4	S3S4	None	None	annual herb (hemiparasitic)	0-435 m.	March - August	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill, grasslands, vernal pools margins, sometimes in alkaline soil. Mostly from northern Monterey Bay to Fort Bragg, Mendocino Co., and a few occurrences north to Del Norte Co.	No habitat.
Castilleja ambigua var. *humboldtiensis*	Humboldt Bay owl's-clover	1B.2	G4T2	S2	None	None	annual herb (hemiparasitic)	0-3 m.	April - August	Coastal salt marsh, sometimes with *Spartina*, *Distichlis*, *Salicornia*, Jaumea. Clay-peat soil with above species.	No coastal marsh habitat.
Castilleja litoralis	Oregon coast paintbrush	2B.2	G3	S3	None	None	perennial herb (hemiparasitic)	15-100 m.	June	Sandy sites in coastal bluff scrub and coastal scrub; coastal dunes. Grassy coastal bluffs. Cliffs above shore. In understory of mixed conifer forest with *Maianthemum* sp. Reported from the bank of the Ten Mile River and Jug Handle SNR; vouchered from Navarro Pt. Mostly from Petrolia to Orick, Humboldt Co.	No habitat.
Castilleja mendocinensis	Mendocino Coast paintbrush	1B.2	G2	S2	None	None	perennial herb (hemiparasitic)	0-160 m.	April – August (vegetation : all year)	Coastal bluff scrub, coastal scrub, closed-cone coniferous forest, coastal dunes, coastal prairie. Primarily coastal bluffs. From southern Mendocino Co. around Gualala R. north to Usual, then from one collection at Patrick's Point, Humboldt Co.	No habitat.
Ceanothus gloriosus var. *exaltatus*	glory brush	4.3	G4T4	S4	None	None	perennial evergreen shrub	30-610 m.	March – June (vegetation : all year)	Chaparral, often in pygmy forest or edges. From Marin to southern Humboldt Co. and extending inland in Mendocino and Sonoma Cos.	No potential habitat because lacking marine terrace soils.
Ceanothus gloriosus var. *gloriosus*	Point Reyes ceanothus	4.3	G4T4	S4	None	None	perennial evergreen shrub	5-520 m.	March – May (vegetation : all year)	Sandy, coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal scrub.	No habitat.
Chorizanthe howellii	Howell's spineflower	1B.2	G1	S1	CT	FE	annual herb	0-35 m.	May - July	Sandy, often disturbed, areas of coastal prairie and coastal scrub. Coastal dunes, sandy slopes.	No habitat.
Clarkia amoena subsp. *whitneyi*	Whitney's farewell-to-spring	1B.1	G5T1	S1	None	None	annual herb	10-100 m.	June - August	Coastal bluff scrub, coastal scrub. Coastal bluffs; often in rocky clay soil; in sun on slopes of road cuts. Known Westport to Ft. Bragg area with numerous disjunct locations through coastal CA.	No habitat.
Collinsia corymbosa	round-headed Chinese-houses	1B.2	G1	S1	None	None	annual herb	0-20 m.	April - June	Coastal dunes, coastal prairie.	No habitat.
Coptis laciniata	Oregon goldthread	4.2	G4?	S3?	None	None	perennial rhizomatous herb	0-1000 m.	March – April (vegetation : all year)	Meadows and seeps; North Coast coniferous forest moist streambanks and other mesic sites. Banks and floodplains of rivers in North Coast coniferous forests. Cutbanks of old skid roads. From north of Point Arena, Alder Cr., to Del Norte Co.	No forest habitat.

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Cordylanthus tenuis subsp. *brunneus*	serpentine bird's-beak	4.3	G4G5 T3	S3	None	None	annual herb	475-915 m.	July - August	Usually serpentinite. Closed-cone coniferous forest, chaparral, cismontane woodland, along edge of a dirt road, non-serpentine, rocky (serpentine) summit. Known from Gualala Ridge area, Timberwood Way; mostly from southern Inner and Outer North Coast Ranges.	No habitat.
Cornus canadensis	bunchberry	2B.2	G5	S2	None	None	perennial rhizomatous herb	60-1920 m.	May – July	Bogs and fens, meadows and seeps, North Coast coniferous forest. Several populations at the southern end of its distribution in CA are extirpated. Many collections old; need field surveys.	No boggy habitat.
Cuscuta pacifica var. *papillata*	Mendocino dodder	1B.2	G5T1	S1	None	None	annual vine (parasitic)	0-50 m.	July - October	Coastal dunes (interdune depressions). Rediscovered at Point Arena in 2011. Many historical occurrences may be extirpated; need field surveys. Known to occur on *Gnaphalium*, *Silene*, and *Lupinus* spp. in Mendocino Co.; and on *Polycarpon tetraphyllum* and *Calystegia purpurata* subsp. *saxicola* with *Sanicula arctopoides* nearby in Sonoma Co.	No dune habitat.
Cypripedium californicum	California lady's slipper	4.2	G4	S4	None	None	perennial rhizomatous herb	30-2750 m.	April – September	Seeps and streambanks, usually serpentinite. Bogs and fens, lower montane coniferous forest. Prefers shade and often grows with *Darlingtonia californica* and with incense cedar.	No boggy or wet habitat.
Erigeron supplex	supple daisy	1B.2	G2	S2	None	None	perennial herb	10-50 m.	May - July	Coastal bluff scrub, coastal prairie. Usually in open rocky areas in grassy sites with short grasses. From Point Reyes; Gualala to Point Arena and then from Little River to Point Cabrillo, and from Glen Blair; with a few occurrences from west of Willits. A few occurrences from Humboldt Co., Orick and east of Eureka.	No habitat.
Erysimum concinnum	bluff wallflower	1B.2	G3	S2	None	None	annual / perennial herb	0-185 m.	March – May	Coastal bluff scrub, coastal dunes, coastal prairie. Largest occurrence known from Pt. Reyes NS; possibly of hybrid origin. Some occurrences from Del Norte and Mendocino Counties are also of possible hybrid origin; further study is ongoing.	No habitat.
Erysimum menziesii	Menzies wallflower	1B.1	G1	S1	CE	FE	perennial herb	0-35 m.	March - June	Localized on coastal dunes and coastal strand. In remnant, open, partially stabilized dune habitat. Plants treated as subsp.; not validly published.	Occurs nearby but no habitat.
Erythronium revolutum	coast fawn lily	2B.2	G4G5	S3	None	None	perennial bulbiferous herb	0-1600 m.	March - August	Bogs and fens; broadleafed upland forests; North Coast coniferous forest. On timbered and brushy hillside; wet soil under redwoods. Shady and mesic glens. Sometimes associated with *Arbutus menziesii*, *Lithocarpus densiflorus*, *Quercus chrysolepis*, *and Pseudotsuga menziesii.* On rock outcrops and slopes in forests. Along rivers and in meadows. Known from Greenwood Ridge southeast of Elk north to Del Norte Co, and one disjunct occurrence from 1931 near St. Helena. Usually a couple miles from the coast.	No forest habitat.
Erythronium oregonum	giant fawn lily	2B.2	G5	S2	None	None	perennial herb	100-1150 m.	March - July	Often moist or damp soils in openings of cismontane woodland, firs, oaks, tanoak. Rocky areas, sometimes serpentine; meadows and seeps. Mostly from Humboldt Co. away from the coast but isolated occurrences in Bell Springs, northern Mendocino Co. and southeast of Hiouchi, Del Norte Co.	No forest habitat.
Fritillaria roderickii	Roderick's fritillary	1B.1	G1Q	S1	CE	None	perennial bulbiferous herb	15-400 m.	March - May	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Grassy slopes, mesas. Usually found on heavy clay soils that stay wet through May and then dry by October. Often coastal, from Gualala to Manchester with several occurrences in the Anderson Valley, Ukiah, and north of Orrs Springs.	No wet clay habitat on coastal bluff.
Gilia capitata subsp. *chamissonis*	blue coast gilia	1B.1	G5T2	S2	None	None	annual herb	2-200 m.	April - July	Coastal dunes; coastal scrub. On disturbed Franciscan sage scrub on loose sandy soils. Growing with *Ericameria ericoides*, *Lupinus chamissonis*, *Erysimum franciscanum*, *Croton californicus*, *Camissonia cheiranthifolia*, *Phacelia distans*. From San Francisco Bay to Bodega Bay; Mendocino Headlands and Ten Mile Dunes; and Ferndale area in Humboldt Co.	No habitat.
Gilia capitata subsp. *pacifica*	Pacific gilia	1B.2	G5T3	S2	None	None	annual herb	5-1330 m.	April - August	Coastal bluff scrub, openings in chaparral, coastal prairie, valley and foothill grassland. Steep cliffs, fields, and dry banks.	No habitat.
Gilia capitata subsp. *tomentosa*	woolly-headed gilia	1B.1	G5T2	S2	None	None	annual herb	- m.	May - July	Coastal bluff scrub, valley and foothill grassland, rocky outcrops on the coast. Locally abundant on serpentine outcrop and serpentine-derived loam on west-facing slopes in grassland/pastureland. Grows with *Linum perenne*, *Lupinus* spp. and *Avena barbata*. From Pt. Reyes to Stewart's Point, Sonoma Co.	Out of range.
Gilia millefoliata	dark-eyed gilia	1B.2	G2	S2	None	None	annual herb	2-30 m.	April - July	Coastal dunes. Sandy, stabilized dune habitat. Sandy grassland between *Lupinus arboreus* shrubs dominated by nonnative grasses.	No dune habitat.

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Glehnia littoralis subsp. *leiocarpa*	American glehnia	4.2	G5T5	S2S3	None	None	perennial herb	0-20 m.	May - August	Coastal dunes, wet seeps on bluff faces, sandstone bluffs with iceplant, beach sand just above high tide. From northern Monterey Co. north to Del Norte Co. In Mendocino: Glass Beach, Point Arena, and Manchester State Park near environmental campsites in driftwood.	No habitat.
Glyceria grandis	American manna grass	2B.3	G5	S3	None	None	perennial rhizomatous herb	15-1980 m.	June - August	Bogs and fens, wet meadows and seeps, marshes and swamps (streambanks and lake margins). Ditches streams and ponds in valleys and lower elevations in the mountains. Sometimes standing in water; margins of rivers. Only coastal collections from Garcia R. slough. Disjunct from high elevations.	No habitat.
Hemizonia congesta subsp. *congesta*	white seaside tarplant	1B.2	G5T2	S2	None	None	annual herb	20-560 m.	April - November	Sometimes coastal scrub but often valley and foothill grasslands, grassy valleys and hills, sometimes on grassy slopes with thin clayish soils; often in fallow fields. Known from Santa Clara to southern Del Norte Co. with occurrences form Marin and Sonoma Cos. Sometimes on roadsides. Known from Glen Blair, Comptche, and Pudding Creek.	No habitat.
Hemizonia congesta subsp. *tracyi*	Tracy's tarplant	4.3	G5T4	S4	None	None	annual herb	120-1200 m.	May - October	Openings, sometimes serpentinite. Coastal prairie, lower montane coniferous forest, North Coast coniferous forest. From Booneville to northern Humboldt Co., with most occurrence from Arcata to Leggett.	No forest habitat.
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	1B.2	G4T3	S3	None	None	annual herb	0-215 m.	March - June	Sandy coastal bluffs; coastal dunes, coastal dune mat, and sandy openings in wet dune meadows. Coastal bluff scrub. Rocky, grassy slopes. In areas of sparse vegetation cover in sandy substrate.	Low potential habitat in mowed field of grasses.
Hesperocyparis pygmaea	pygmy cypress	1B.2	G1	S1	None	None	perennial evergreen tree	30-600 m.	(vegetation : all year)	Closed-cone coniferous forests, usually podzol-like soils or Blacklock soils in Mendocino cypress pygmy forests.	No marine terrace soils.
Hesperolinon adenophyllum	glandular dwarf flax	1B.2	G2G3	S2S3	None	None	annual herb	150-1315 m.	May - August	Usually serpentinite, sometimes serpentine barrens in chaparral, serpentine scree on roadside, or burned areas. Chaparral, cismontane woodland, valley & foothill grassland. Not known from >5 km west of Willits.	Out of range.
Horkelia marinensis	Point Reyes horkelia	1B.2	G2	S2	None	None	perennial herb	5-755 m.	May - September	Sandy sites in coastal dunes, coastal prairie, and coastal scrub. From Monterey north Rockport, northern Mendocino Co, with a potentially dubious southern disjunct occurrence in the Irish Hills, coastal San Luis Obispo Co.	No habitat.
Horkelia tenuiloba	thin-lobed horkelia	1B.2	G2	S2	None	None	perennial herb	50-500 m.	May - July	Mesic openings or sandy sites in broadleafed upland forests, chaparral, and valley and foothill grassland. Wet meadows and marshy areas surrounded by *Pseudotsuga menziesii*, *Rhamnus californica*, *Baccharis pilularis*. Growing on sandy loam in coastal scrub. On sandstone in "pine barrens." Mostly ranging from southern Marin Co. to Anchor Bay, southern Mendocino Co. and inland east to western Napa Co.; also with several disjunct vouchers without supplemental determinations from Colusa Co., southern Monterey Co., and San Luis Obispo.	No habitat.
Hosackia gracilis	harlequin lotus	4.2	G3G4	S3	None	None	perennial rhizomatous herb	0-700 m.	March - July	Wetlands, roadsides, broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland. Usually found in wetlands.	No habitat.
Iris longipetala	coast iris	4.2	G3	S3	None	None	perennial rhizomatous herb	0-600 m.	March - May	Mesic. Coastal prairie, lower montane coniferous forest, meadows and seeps. Growing on roadcut on the side of a bluff, 0.25 miles north of Ten Mile River mouth. Wet bluffs in Mendocino City.	No habitat.
Juncus supiniformis	hair-leaved rush	2B.2	G5	S1	None	None	perennial rhizomatous herb	20-100 m.	April - June	Bogs and fens; freshwater marshes and swamps near the coast. Around pools, in ruts and ditches in podzol soils. One collection from Pt. Reyes, several collections from Mendocino to Fort Bragg area, two from Humboldt Co., and one from Del Norte Co.	No mesic habitat.
Kopsiopsis hookeri	small groundcone	2B.3	G4?	S1S2	None	None	perennial rhizomatous herb (parasitic)	90-885 m.	April - August	North Coast coniferous forest. Open woods, shrubby places. Pygmy forest intergrading with redwood and Douglas-fir forests with sandy soils and flat aspect. Generally on *Gaultheria shallon*. Plants concentrated around the base and/or drip line of *Arctostaphylos columbiana*, but also in close proximity with other ericaceous species. May be parasitic on *Arctostaphylos*. Locally mesic areas, like areas with moss.	No forest habitat.

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Lasthenia californica subsp. *bakeri*	Baker's goldfields	1B.2	G3T1	S1	None	None	perennial herb	60-520 m.	April - October	Openings in closed-cone coniferous forest; coastal scrub; meadows and seeps; marshes and swamps. On windswept grassy hills; grazed areas. Early in the life of a plant the leaves may be wide and the plant prostrate; later the leaves become narrow and the plants' flowering stems turn upright.	No habitat.
Lasthenia californica subsp. *macrantha*	perennial goldfields	1B.2	G3T2	S2	None	None	perennial herb	5-520 m.	January - November	Coastal bluff scrub, coastal dunes, and coastal scrub. In clay soil on wind-swept ocean bluffs and coastal terraces, and in grassy patches and dried vernal pool beds. On sea bluffs and grassy plateaus back from the ocean. Coastal bluffs in heavy adobe; sandy soil of ocean headlands.	No habitat.
Lasthenia conjugens	Contra Costa goldfields	1B.1	G1	S1	None	FE	annual herb	0-470 m.	March - June	Mesic sites in cismontane woodlands; alkaline playas; valley and foothill grasslands; vernal pools, swales, and low depressions. Extirpated from most of its range. Only one coastal location in Manchester from 1938 otherwise from eastern San Francisco Bay.	No habitat.
Lathyrus palustris	marsh pea	2B.2	G5	S2	None	None	perennial herb	1-100 m.	March - August	Bogs and fens; mesic sites (seasonally wet depressions) in clay loam soil of coastal prairies, coastal scrub, lower montane coniferous forests, and North Coast coniferous forests, seasonal seeps surrounded by redwood/Douglas-fir/tanoak forests; marshes and swamps, including swamps adjacent to tidewater. Sometimes at the edge of wet *Carex* marshes in transition to scrub and spruce forests. Only one Mendocino occurrence. Coastal and then at high elevations.	No mesic habitat.
Layia carnosa	beach layia	1B.1	G2	S2	CE	FE	annual herb	0-60 m.	March - July	Coastal dunes and sandy coastal scrub. From Monterey, Point Reyes, Petrolia, and Eureka area.	No habitat and not known from Sonoma or Mendocino Cos.
Lilium maritimum	coast lily	1B.1	G2	S2	None	None	perennial bulbiferous herb	5-475 m.	May - August	Broadleafed upland forests, closed-cone coniferous forests, coastal prairies, coastal scrub, freshwater marshes and swamps. Historically in sandy soil, often on raised hummocks or bogs; today mostly on roadsides or roadside ditches. Sometimes growing with *Veratrum fimbriatum*, *Lithocarpus*, *Pinus muricata*, *Vaccinium*, Gaultheria *shallon*, *Pteridium*, and *Morella*.	No habitat.
Lilium rubescens	redwood lily	4.2	G3	S3	None	None	perennial bulbiferous herb	30-1910 m.	April - September	Sometimes serpentinite, sometimes roadsides. Broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest. Several 100-year old records for Mendocino City area; one recent from Haven's Neck. Usually not on the immediate coast.	No forest habitat.
Limnanthes bakeri	Baker's meadow foam	1B.1	G1	S1	CR	None	annual herb	175-910 m.	April - May	Meadows and seeps, freshwater marshes and swamps, vernally mesic areas in valley and foothill grassland, vernal pools. Known from valley around Willits.	No habitat.
Listera cordata	heart-leaved twayblade	4.2	G5	S4	None	None	perennial herb	5-1370 m.	February - July	Bogs and fens, lower montane coniferous forest, North Coast coniferous forest. Grows in patches from thin runners in moss and moist micro-climates. On thick duff of bishop pine-redwood forest in Point Arena.	No mesic forest habitat.
Lupinus milo-bakeri	*Milo Baker's lupine*	1B.1	G1Q	S1	CT	None	annual herb	395-430 m.	June - September	Often along roadsides in cismontane woodland. Valley and foothill grasslands. Mostly from Covelo area but also Longvale where it was purposefully introduced on CalTrans property along Hwy 101.	No habitat and out of range.
Lycopodium clavatum	running-pine	4.1	G5	S3	None	None	perennial rhizomatous herb	45-1225 m.	June - August	Marshes & swamps, North Coast coniferous forests (mesic). Sometimes associated with pygmy forest or podzol soils.	No habitat.
Microseris paludosa	marsh microseris	1B.2	G2	S2	None	None	perennial herb	5-300 m.	April - July	Closed-cone coniferous forests, cismontane woodlands, coastal scrub, valley and foothill grasslands; vernal pools. Known from northern San Luis Obispo Co. to Point Arena. A 1968 collection from Point Arena (3.2 km to N, between Hwy. 1 and beach) is the northernmost occurrence.	No habitat.
Mitellastra caulescens	leafy-stemmed mitrewort	4.2	G5	S4	None	None	perennial rhizomatous herb	5-1700 m.	April - October	Mesic sites in broadleafed upland forests, lower montane coniferous forests, meadows and seeps, North Coast coniferous forests. Moist alluvial soil under alder; mesic streamside and streambank habitat. Sides of roads in floodplains.	No forest habitat.
Montia howellii	Howell's monita	2B.2	G3G4	S3	None	None	annual herb	0-835 m.	February - May	Moist open ground, vernally mesic sites, sometimes roadsides. Meadows and seeps, north coast coniferous forest, vernal pools. From southern Humboldt Co. north to Orick.	Out of range.

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Navarretia leucocephala subsp. *bakeri*	Baker's navarretia	1B1	G4T2	S2	None	None	annual herb	5-1740 m.	April - July	Wet areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Known from Santa Rosa and other locations (Longvale and Willits) primarily along or east of Hwy 101.	No habitat.
Oenothera wolfii	Wolf's evening-primrose	1B.1	G2	S1	None	None	perennial herb	3-800 m.	May - October	Sandy, usually mesic sites in coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forests. Along roads on vertical cutbanks and in grassy median. On disturbed sterile soil; upper stabilized dunes; rocky slopes protected above strand; vertical cliffs above the ocean. Abundant in Ten Mile dunes and known from one 1964 collection ~3 mi. south of Pt. Arena along Hwy 1 in grassy field.	No habitat.
Packera bolanderi var. *bolanderi*	seacoast ragwort	2B.2	G4T4	S2S3	None	None	perennial rhizomatous herb	30-650 m.	February - July	Coastal scrub, North Coast coniferous forests. In loose, rocky, poorly consolidated siltstone and mudstone. Associated with old growth redwood, Douglas-fir, tanoak, maple, dogwood, wild ginger, salal. Steep slopes in dry, sunny woods. Sandy stream banks, roadsides, rocky banks, old quarries. From Mendocino/Fort Bragg area, central Humboldt Co., and Del Norte Co.	No habitat.
Perideridia gairdneri subsp. *gairdneri*	Gairdner's yampah	4.2	G5T3T4	S3S4	None	None	perennial herb	0-610 m.	June - October	Vernally mesic sites in grasslands and swales, broadleafed upland forests, chaparral, coastal prairies, valley and foothill grasslands, vernal pools. Few coastal records, one from Point Arena, another From Glenblair.	No mesic forest meadow openings.
Phacelia argentea	sand dune phacelia	1B.1	G2	S1	None	None	perennial herb	3-25 m.	June - August	In open sand above high tide, partly stabilized sand dunes, coastal bluffs. Two unvouchered records from Jug Handle SNR and Salt Point, one misidentified voucher from mouth of Ten Mile River in 1956. Most occurrences from north of Crescent City.	Out of range.
Phacelia insularis var. *incontinentis*	North Coast phacelia	1B.2	G2T2	S2	None	None	annual herb	10-170 m.	March - May	Sandy, sometimes rocky, sites in coastal bluff scrub; open maritime bluffs; coastal dunes. Rocky, thin soil with native and non-native grasses and forbs. Sandy pastureland and grazed coastal prairie.	No habitat.
Pinus contorta subsp. *bolanderi*	Bolander's beach pine	1B.2	G5T2	S2	None	None	perennial evergreen tree	75-250 m.	(vegetation : all year)	Closed-cone coniferous forests with podzol-like soils. Associated with Mendocino cypress and bishop pine, and Mendocino pygmy cypress forests. Mainly from marine terraces of Navarro R. to the Ten Mile R. but one voucher from Manchester town and a report from Salt Point SP. Also 2 records from Humboldt Co.: Patrick's Point and Samoa Dunes.	No habitat.
Piperia candida	white-flowered rein orchid	1B.2	G3	S3	None	None	perennial herb	30-1310 m.	March - September	Forest and chaparral openings. Sometimes serpentinite. Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest. Shady, rocky areas, gravel bars. In the redwood region north of San Francisco, known from Cazadero north to Del Norte Co. at various elevations.	No habitat.
Pityopus californicus	California pinefoot	4.2	G4G5	S4	None	None	perennial herb (achlorophyllous)	15-2225 m.	March - August	Mesic. Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest. Under redwoods, tanoak/Douglas fir forests, Jug Handle SNR, Big River, Gualala; fairly frequent on the coast. (*P. californica*). From Navarro north to Del Norte Co.	No forest habitat.
Pleuropogon hooverianus	North Coast semaphore grass	1B.1	G2	S2	CT	None	perennial rhizomatous herb	10-671 m.	April - June	Open and mesic areas of North Coast coniferous and broadleafed upland forests (oak/madrone); grassy flats in the shade of redwoods. Meadows and seeps. Wet grassy, usually shady areas, sometimes in freshwater marshes and often associated with forest environments. In stagnant water of highway ditches.	No habitat.
Pleuropogon refractus	nodding semaphore grass	4.2	G4	S4	None	None	perennial rhizomatous herb	0-1600 m.	March - August	Mesic; open wet meadows, in wet areas along roads and streamsides. Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest. Along road cuts in alder riparian forest of Russian Gulch. Mostly from Ferndale to Crescent City along the coast and inland to high elevations, and then two disjunct populations in Russian Gulch, Mendocino Co. and Bolinas, Marin Co.	No habitat.
Polemonium carneum	royal sky pilot	2B.2	G3G4	S2	None	None	perennial herb	0-1830 m.	April - September	Coastal prairie, coastal scrub, lower montane coniferous forest. Often collected from moist places in brushy areas or from edges of thickets. From San Francisco Bay area; east of Bodega Bay; Humboldt Co. south of Ferndale and Big Lagoon; then Del Norte Co. and into the Klamath Ranges.	No habitat.
Potamogeton epihydrus	ribbon leaf pondweed	2B.2	G5	S2S3	None	None	perennial rhizomatous herb	369-2172 m.	June - September	Shallow freshwater marshes and swamps. Along the marshy edges of streams. Known from Willits, Laytonville, and Covelo.	No mesic habitat.

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Puccinellia pumila	dwarf alkali grass	2B.2	G4?	SH	None	None	perennial herb	1-10 m.	July	Coastal salt marshes and swamps; meadows and seeps, mineral spring meadows. Unconfirmed record (no date) from Fort Bragg. Salt marsh at the mouth of the Eel River is the only confirmed coastal location in CA.	No habitat.
Ramalina thrausta	angel's hair lichen	2B.1	G5?	SH	None	None	fruticose lichen (epiphytic)	75-430 m.		In northern CA it is usually found on dead twigs, and has been found on *Alnus rubra*, *Calocedrus decurrens*, *Pseudotsuga menziesii*, *Quercus garryana*, and *Rubus spectabilis*. Most collections from Del Norte Co. One collection from Sonoma Co. where it grows on and among dangling mats of *Ramalina menziesii* and *Usnea* spp. Similar to *Alectoria sarmentosa*, *A. vancouverensis*, and *R. menziesii*.	Insufficient substrate habitat.
Rhynchospora alba	white beaked-rush	2B.2	G5	S2	None	None	perennial rhizomatous herb	60-2040 m.	July - August	Sphagnum bogs and fens (sometimes in Mendocino pygmy forests); meadows and seeps; marshes and swamps (freshwater). Sometimes in low, wet swales immediately surrounding grasslands. Known from Inglenook Fen and bog east of Fort Bragg.	No boggy habitat.
Sanguisorba officinalis	great burnet	2B.2	G5?	S2	None	None	perennial rhizomatous herb	60-1400 m.	July - October	Bogs and fens; broadleafed upland forests; meadows and seeps; marshes and swamps (marshy streams); North Coast coniferous forests; riparian forests. Serpentine seepage areas and along stream borders.	No mesic habitat.
Sidalcea calycosa subsp. *rhizomata*	Point Reyes checkerbloom	1B.2	G5T2	S2	None	None	perennial rhizomatous herb	3-75 m.	April – September	Freshwater marshes and swamps near the coast. Moist slopes from seeps and ephemeral streams, most areas quite marshy.	No mesic habitat.
Sidalcea malachroides	maple-leaved checkerbloom	4.2	G3	S3	None	None	perennial herb	0-730 m.	March - August	Broadleafed upland forests; coastal prairie, coastal scrub, North Coast coniferous forest, riparian woodland. Woodlands and clearings near the coast, often in disturbed areas. Sometimes along floodplains.	No habitat.
Sidalcea malviflora subsp. *patula*	Siskiyou checkerbloom	1B.2	G5T2	S2	None	None	perennial rhizomatous herb	15-880 m.	May - August	Coastal bluff scrub; coastal prairie; broadleafed upland forests, open areas of North Coast coniferous forest. Pastures, grassy landings, and roadsides. Only 1 Mendocino occurrence 2 mi. south of Albion in roadside ditch and then mostly from southern Humboldt Co. north to the Oregon border, coastal and inland.	No habitat.
Sidalcea malviflora subsp. *purpurea*	purple-stemmed checkerbloom	1B.2	G5T1	S1	None	None	perennial rhizomatous herb	15-85 m.	May - June	Broadleafed upland forests; coastal prairie; grassy hills. From coastal San Mateo Co. north to Fort Bragg, Mendocino Co.	No forest habitat.
Sisyrinchium hitchcockii	Hitchcock's blue-eyed grass	1B.1	G1G2	S1	None	None	perennial rhizomatous herb	not given	June	Openings in cismontane woodlands; valley and foothill grassland. Known in CA from only one occurrence 3 mi east of Cape Mendocino, otherwise mainly from OR around Eugene.	Out of range.
Stellaria littoralis	beach starwort	4.2	G3	S3	None	None	perennial rhizomatous herb	5-40 m.	March - July	Bogs and fens, coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps. At Bodega Pt. in dense vegetation of *Juncus lescurii*, *Mimulus guttatus*. In coyote brush in dunes at Manchester State Park. Reported from Ten Mile dunes. Coastal bluffs near Trinidad, Humboldt Co.	No habitat.
Toxicoscordion fontanum	marsh zigadenus	4.2	G3	S3	None	None	perennial bulbiferous herb	15-1000 m.	April - July	Vernally mesic, often serpentinite. Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps. One coastal record from Ross Cr., south of Moat Cr.	No mesic habitat.
Trifolium buckwestiorum	Santa Cruz clover	1B.1	G2	S2	None	None	annual herb	105-610 m.	April - October	Broad-leafed upland forests, cismontane woodlands, coastal prairie. Moist grasslands. Disturbed sites on roadbed in redwood forest; Sparsely vegetated, gravelly, hardpacked, somewhat barren flats or gentle inclines, roadbeds or former roadbeds. Flat open areas with sun exposure, seasonal moisture, and gravelly, poor soils. Shallow depressions that collect water in rain. Common associates include *Juncus bufonius*, *Soliva sessilis*, *Danthonia californica*, and *Bromus hordeaceus*. From Monterey; Santa Cruz; collected from Bodega Bay and reported from The Cedars in Sonoma Co; northern occurrence in Mendocino Co., most collections from ~5 miles up Garcia River.	No habitat.
Trifolium trichocalyx	Monterey clover	1B.1	G1	S1	CE	FE	annual herb	30-240 m.	April - June	Closed-cone coniferous forest (sandy, openings, burned areas). Discovered in Big River Forest in 2011. Previously known from only two occurrences from the central portion of the Monterey Peninsula. "Plants growing in shaded, moist soil of seasonal logging road graded 5 years prior. North-facing slope within redwood/Douglas fir/tanoak forest" in grass around road in pine wood." from label (JEPS111487).	No habitat.

Scientific Name	Common Name	CRPR	Global Rank	State Rank	CESA	FESA	Lifeform	Elevation	Blooming Period	Notes	Potential for Occurrence within Project Area
Triquetrella californica	coastal triquetrella	1B.2	G2	S2	None	None	moss	10-100 m.		On soil in coastal bluffs scrub and coastal scrub.	No habitat.
Usnea longissima	Methuselah's beard lichen	4.2	G4	S4	None	None	fruticose lichen (epiphytic)	50-1460 m.		On tree branches; usually on old growth hardwoods and conifers in broadleafed upland forest and North Coast coniferous forest.	No habitat.
Veratrum fimbriatum	fringed false-hellebore	4.3	G3	S3	None	None	perennial herb	3-300 m.	July - September	Wet areas in coastal scrub and North Coast coniferous forests, meadows and seeps, bogs and fens. Restricted to coastal Sonoma and Mendocino Counties.	No mesic habitat.
Viola adunca	Western dog violet	Not ranked	None	None	None	None	perennial herb		April-August	Yellow pine forest, red fir forest, lodgepole forest, redwood forest, mixed evergreen forest, subalpine forest, alpine fell-fields, wetland-riparian. Common and widespread on open sea bluffs to red fir forest.	No habitat in non-mesic site.
Viola palustris	alpine marsh violet	2B.2	G5	S1S2	None	None	perennial rhizomatous herb	0-150 m.	March - August	Coastal bogs and fens; mesic coastal scrub. Swampy, shrubby places in coastal scrub or coastal bogs. Carpeting the ground in shady wet places but flowering rarely. Sometimes growing among Carex, or among brush at edges of swamps. Freshwater marsh on deep peat substrate (4-5'). Very few locations on the Mendocino Coast. Known from northern Sonoma Co. north to the Oregon border. Usually coastal but can occur inland at higher elevations.	No habitat.

Special Status Animals with Potential for Occurrence in Coastal Mendocino County. Species gleaned from the California Department of Fish and Wildlife's list, "Special Animals," (CDFW 2022c). See Table 1 for an explanation of global and state rankings. An explanation of the field "Organization: Code" is at the end of the table.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
INVERTEBRATES							
Snails, Slugs, and Abalone (*GASTROPODA*)							
Helminthoglypta arrosa pomoensis Pomo bronze shoulderband	None	None	G2G3T1	S1	IUCN:DD	Found near the coast in heavily-timbered redwood canyons of Mendocino County, from Big River and Russian Gulch watersheds. Found under redwoods. Generally, in somewhat moist duff. Found in scrub in forest opening under a power line in Russian Gulch adjacent to second growth redwood forest.	No forest habitat.
Noyo intersessa Ten Mile shoulderband	None	None	G2	S2	None	Known from a few locations in Mendocino County with limited habitat information. Known from Ten Mile Dunes. Barry Roth suspects most snails found in Fort Bragg would be *N. intersessa* and *Helminthoglypta arrosa*. subsp. *a.*	Not expected in city lot, but potential occurrence – known from Glass Beach.
Beetles (*INSECTA, Coleoptera*)							
Coelus globosus Globose dune beetle	None	None	G1G2	S1S2	IUCN:VU	Subterranean beetle that tunnels through sand under dune vegetation. Since coastal dune habitat in California is diminishing, the beetle is a special-status species.	None. No coastal dunes.
Butterflies & Moths (*INSECTA, Hymenoptera*)							
Danaus plexippus pop. 1 Monarch butterfly – CA overwintering population	Candidate	None	G4T2T3	S2S3	USFS:S	Overwintering habitat requirements include tree groves that provide suitable environmental conditions, which include high humidity, dappled sunlight, a nearby water source, and protection from high winds, storms, and fluctuating temperatures.	No habitat.
Lycaeides argyrognomon lotis [*Plebejus idas lotis]* lotis blue butterfly	Endangered	None	G5TH	SH	[XERCES:CI]	Not seen since 1983, it is primarily from Mendocino County but historically from northern Sonoma and possibly Marin Counties. Inhabits wet meadows, damp coastal prairie, and potentially bogs or poorly-drained sphagnum-willow bogs where soils are waterlogged and acidic. Presumed host plant is *Hosackia gracilis* [*Hosackia gracilis*].	No habitat. No host plants found.
Speyeria zerene behrensii Behren's silverspot butterfly	Endangered	None	G5T1	S1	[XERCES:CI]	Historically from near the City of Mendocino, Mendocino County, south to the area of Salt Point State Park, Sonoma County. Now presumed to be from Manchester south to Salt Point area. Inhabits coastal terrace prairie with caterpillar host plants: violet (*Viola adunca*) and adult nectar sources: thistles, asters, etc.	No. No coastal terrace prairie habitat. No host plants found.
Ants, Bees, & Wasps (*INSECTA, Hymenoptera*)							
Bombus occidentalis Western bumble bee	None	None	G2G3	S1	USFS:S [XERCES:IM]	Populations in central California have declined since the 1990's. It visits flowers in a variety of habitats. Identified by a white patch on its abdomen hind tip. None recorded from coastal Mendocino County at http://www.xerces.org/bumblebees/. Nests in abandoned rodent burrows or undisturbed grass 6-18" below ground and occasionally on the surface in clumps of grass. (http://www.xerces.org/wp-content/uploads/2009/03/xerces_2008_bombus_status_review.pdf)	Potential nectar plants but not expected habitat in mowed field.
FISH							
Lampreys (*PETROMYZONTIDAE*)							
Entosphenus tridentatus Pacific lamprey	None	None	G4	S3	AFS:VU BLM:S CDFW:SSC USFS:S	Anadromous lamprey found in freshwater rivers around the Pacific Rim, from Japan to Baja California. Adult Pacific Lamprey spawn in habitat similar to salmon: low gradient stream reaches, in gravel, often at the tailouts of pools and riffles.	No suitable watercourses.
Lampetra ayresii river lamprey	None	None	G5	S3	AFS:VU CDFW:SSC	Anadromous lamprey that uses riffle and side channel habitats for spawning and for ammocoete rearing where good water quality is essential. Adult Pacific Lamprey spawn in habitat similar to salmon: low gradient stream reaches, in gravel, often at the tailouts of pools and riffles.	No suitable watercourses.
Trout & Salmon (*SALMONIDAE*)							
Oncorhynchus gorbuscha pink salmon	None	None	G5	S1		Most spawn in intertidal or lower reaches of streams and rivers in Sept and Oct. and move further upstream in Sacramento River. Optimal temp = 5.6 to 14.4° C. Embryos and alevins require fast-flowing well oxygenated water for development and survival.	No streams present.
Oncorhynchus kisutch Coho salmon - central California coast ESU	Endangered	Endangered	G5T2T3Q	S2	AFS:EN	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	No sufficient aquatic habitat.
Oncorhynchus kisutch Coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	G5T2Q	S2	AFS:TH	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	No sufficient aquatic habitat.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Oncorhynchus mykiss irideus summer-run steelhead trout (population 36)	None	Candidate Endangered	G5T4Q	S2	CDFW:SSC	Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.	No sufficient aquatic habitat.
Oncorhynchus mykiss irideus steelhead - central California coast DPS (population 8)	Threatened	None	G5T2T3Q	S2S3	AFS:TH	Adult steelhead require high flows with water at least 18 cm deep for passage. They may leap up to ~3 m. For spawning, sufficient streamflow over clean gravel, cool water temperature, depth, and cover for escape (usually a deep pool with cover).	No sufficient aquatic habitat.
Oncorhynchus mykiss irideus steelhead-northern California DPS (population 16)	Threatened	None	G5T2T3Q	S2S3	AFS:TH	Cool, swift, shallow water and clean loose gravel for spawning.	No sufficient aquatic habitat.
Oncorhynchus tshawytscha chinook salmon – California coastal ESU (population 17)	Threatened	None	G5T2Q	S2	AFS:TH	Adults depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27° C lethal to adults.	No sufficient aquatic habitat.
Minnows & Carp (*CYPRINIDAE*)							
Lavinia symmetricus navarroensis Navarro roach	None	None	G4T1T2	S2S3	CDFW:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams. Found in the lower, warmer reaches of streams in the Russian and Navarro River drainages.	No streams present.
Lavinia symmetricus parvipinnis Gualala roach	None	None	G4T1T2	S2S3	CDFW:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.	No streams present.
Gobies (*GOBIIDAE*)							
Eucyclogobius newberryi tidewater goby	Endangered	None	G3	S3	AFS:EN IUCN:VU	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No aquatic features.
AMPHIBIANS & REPTILES							
Olympic salamanders (RHYACOTRITONIDAE)							
Rhyacotriton variegatus southern torrent (=seep) salamander	None	None	G3G4	S2S3	CDFW:SSC IUCN:LC USFS:S	Found in Coastal redwood, Douglas fir, mixed conifer, montane riparian, and montane hardwood-conifer forests from northern California south to Point Arena. Aquatic habitat includes permanent cold creeks, steams and seepages with low water flow; associated with moss-covered rocks within trickling water and the splash zone of waterfalls; old-growth coniferous forests with closed canopy; <50% cobble in creeks, remainder mixture of pebble, gravel and sand.	No aquatic habitat.
Tailed frogs (ASCAPHIDAE)							
Ascaphus truei Pacific tailed frog	None	None	G4	S3S4	CDFW:SSC IUCN:LC	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Coastal from Anchor Bay, Mendocino Co. to Oregon border. Cold, clear, rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.	No aquatic habitat.
Frogs (RANIDAE)							
Rana aurora aurora northern red-legged frog	None	None	G4	S3	CDFW:SSC IUCN:LC USFS:S	Found in humid forests, woodlands, grasslands, and streamsides in northwestern California. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Integration zone between northern and California species is between Manchester and Elk.	No. Out of range.
Rana aurora draytonii California red-legged frog	Threatened	None	G2G3	S2S3	CDFW:SSC IUCN:VU	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Potential upland habitat used in passing and not expected.
Rana boylii foothill yellow-legged frog	None	Endangered	G3	S3	BLM:S CDFW:SSC IUCN:NT USFS:S	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying.	No sufficient aquatic habitat.
Box & Water Turtles (EMYDIDAE)							
Emys marmorata marmorata western pond turtle	None	None	G3G4	S3	BLM:S CDFW:SSC IUCN:VU USFS:S	Former scientific name: *Clemmys marmorata marmorata*. Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nests sites may be found up to 0.5 km from water.	No sufficient aquatic habitat.
BIRDS							
Pelicans (*PELECANIDAE*)							

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Pelecanus occidentalis californicus California brown pelican (nesting colony & communal roosts)	Delisted	Delisted	G4T3T4	S3	BLM:S CDFW:FP USFS:S	Nest colonies are on offshore islands free of mammalian predators and human disturbance, are of sufficient elevation to prevent flooding of nests, and are associated with an adequate and consistent food supply. Brown pelicans roost communally, generally in areas that are near adequate food supplies, have some type of physical barrier to predation and disturbance, and provide some protection from environmental stresses such as wind and high surf.	No marine habitat.
Cormorants (*PHALACROCORACIDAE*)							
Phalacrocorax auritus double-crested cormorant (nesting colony)	None	None	G5	S4	CDFW:WL IUCN:LC	Rookery site: colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No marine habitat.
Herons, Egrets, and Bitterns (*ARDEIDAE*)							
Ardea alba great egret (nesting colony)	None	None	G5	S4	CDF:S IUCN:LC	Rookery: colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. Breeding territory is limited to the immediate vicinity of nest, and is used for courtship and copulation as well as nesting. A monogamous, colonial nester.	No occurrence of wetland or aquatic habitat for nesting sites.
Ardea herodias great blue heron (nesting colony)	None	None	G5	S4	CDF:S IUCN:LC	Rookery: colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	No occurrence of wetland or aquatic habitat for nesting sites.
Egretta thula snowy egret (nesting colony)	None	None	G5	S4	IUCN:LC	Rookery: colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	No occurrence of aquatic habitat for nesting sites.
Hawks, Kites, Harriers, & Eagles (*ACCIPITRIDAE*)							
Accipiter cooperii Cooper's hawk (nesting)	None	None	G5	S4	CDFW:WL IUCN:LC	Nesting: woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No nesting habitat.
Accipiter gentilis northern goshawk (nesting)	None	None	G5	S3	BLM:S CDF:S CDFW:SSC IUCN:LC USFS:S	Nesting: within and in vicinity of coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodge pole pine, Jeffrey pine, and aspens are typical nest trees. Northern goshawks typically nest in conifer forests containing large trees and an open understory on the west slope of the Sierra. There is historic nesting in Big River and Pudding Creek. Winter migrant on the coast.	Not good habitat and out of range.
Accipiter striatus sharp-shinned hawk (nesting)	None	None	G5	S4	CDFW:WL IUCN:LC	Nesting: ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes, with plucking perches are critical requirements. Nests usually within 275 ft. of water. Nests in dense, even-aged, single-layered forest canopy, usually nests in dense, pole and small-tree stands of conifers, which are cool, moist, well shaded, with little ground-cover, near water. Foraging: Uses dense stands in close proximity to open areas.	No nesting habitat in residential area.
Aquila chrysaetos golden eagle (nesting & wintering)	None	None	G5	S3	BLM:S CDF:S CDFW:FP CDFW:WL IUCN:LC USFWS:BCC	Nesting and wintering: rolling foothills mountain areas, sage-juniper flats, desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas. Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 10 ft. across and 3 ft. high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most frequently for nesting.	No nesting habitat.
Buteo regalis ferruginous hawk (wintering)	None	None	G4	S3S4	CDFW:WL IUCN:LC USFWS:BCC	Usually east of the coastal belt, uncommon migrant in coastal Mendocino County seen in open areas such as Bald Hill and Manchester. Feeding habitat in open, treeless areas. Does not breed in California.	No wintering habitat.
Circus cyaneus Northern harrier (nesting)	None	None	G5	S3	CDFW:SSC IUCN:LC	Northern harriers prefer sloughs, wet meadows, marshlands, swamps, prairies, plains, grasslands, and shrublands and perch on structures such as fence posts. Nesting habitat: nest on the ground, usually near water, or in tall grass, open fields, clearings, or on the water on a stick foundation, willow clump, or sedge tussock. Most nests built within patches of dense, often tall, vegetation (e.g., cattails) in undisturbed areas. They usually nest near hunting grounds. Foraging: They need open, low woody or herbaceous vegetation for nesting and hunting.	No nesting habitat.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Elanus leucurus white-tailed kite (nesting)	None	None	G5	S3S4	BLM:S CDFW:FP IUCN:LC	Nesting: rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland, open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Winter congregation of at least 20 birds seen at Manchester State Park in early 2000's. One nest known from a THP in Albion ~2006; nest was at the edge of conifer forest with no pasture immediately adjacent.	No open habitat, poor habitat.
Haliaeetus leucocephalus bald eagle (nesting & wintering)	Delisted	Endangered	G5	S2	BLM:S CDF:S CDFW:FP IUCN:LC USFS:S USFWS:BCC	Nesting and wintering: ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter. Known from winter in Lake Cleone, MacKerricher State Park and Little River.	No habitat.
Ospreys (*PANDIONIDAE*)							
Pandion haliaetus osprey (nesting)	None	None	G5	S4	CDF:S CDFW:WL IUCN:LC	Nesting: ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in tree-tops within 6-7 to 15 miles of good fish-producing body of water. Flattened portions of partially broken off snags, trees, rocks, dirt pinnacles, cacti, and numerous man-made structures such as utility poles and duck blinds are used for nests. Furthest nest inland may be McGuire's Pond.	No habitat.
Falcons (*FALCONIDAE*)							
Falco columbarius merlin (wintering)	None	None	G5	S3S4	CDFW:WL IUCN:LC	General wintering habitat: Uncommon winter migrants on the coast. Habitat apparently similar to breeding habitat, (open forest and grasslands). Regularly hunts prey (e.g., shorebirds) concentrated on tidal flats. Often winters in cities throughout its range, where frequently perches on buildings, power poles, and tall trees. Also winters in open woodland, grasslands, open cultivated fields, marshes, estuaries, and seacoasts. Frequents open habitats at low elevation near water and tree stands.	No habitat.
Falco peregrinus anatum American peregrine falcon (nesting)	Delisted	Delisted	G4T4	S3S4	CDF:S CDFW:FP USFWS:BCC	Nesting: near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	No open sites for nesting.
Plovers & Relatives (CHARADRIIDAE)							
Charadrius alexandrinus nivosus western snowy plover (nesting)	Threatened	None	G3T3	S2	CDFW:SSC NABCI:RWL USFWS:BCC	Nesting: federal listing applies only to the pacific coastal population. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting. Sand spits, dune-backed beaches, unvegetated beach strands, open areas around estuaries, and beaches at river mouths are the preferred coastal habitats for nesting. Less common nesting habitat includes salt pans, coastal dredged spoil disposal sites, dry salt ponds, and salt pond levees and islands.	No coastal strand, open dune, or open river gravel bar habitat.
Oystercatchers (HAEMATOPODIDAE)							
Haematopus bachmani Black oystercatcher (nesting)	Not on List	Not on List	-	-	-	From the Aleutian Islands to Baja California, the forage on intertidal macroinvertebrates along gravel or rocky shores and in the southern part of their range nest primarily on rocky headlands and offshore rocks.	No coastal habitat.
Gulls & Terns (LARIDAE)							
Larus californicus California gull (nesting)	None	None	G5	S4	CDFW:WL IUCN:LC	Colony nesters and usually occurring on an island or vegetated offshore rock.	No coastal habitat.
Auklets, Puffins, & Relatives (ALCIDAE)							
Brachyramphus marmoratus marbled murrelet (nesting)	Threatened	Endangered	G3	S2	CDF:S IUCN:EN NABCI:RWL	Nesting: feeds near-shore; nests inland along coast, from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir. Presence of platforms (flat surface at least four inches in diameter) appears to be the most important stand characteristic for predicting murrelet presence. Stands can be: 1) mature (with or without an old-growth component); 2) old-growth; 3) young coniferous forests with platforms; and 4) include large residual trees in low densities sometimes less than one tree per acre.	No large trees for nesting.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Fratercula cirrhata tufted puffin (nesting colony)	None	None	G5	S1S2	CDFW:SSC IUCN:LC	Nesting colony: open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs free of human disturbance and mammalian predators. Nests in burrows or rock crevices when sod or earth in unavailable for burrowing. Occurs year-road offshore near breeding colonies in northern California, but more common in winter. Breeding records from Goat Rock, Mendocino Headlands State Park.	No coastal habitat.
Owls (*STRIGIDAE*)							
Athene cunicularia burrowing owl (burrow sites and some winter sites)	None	None	G4	S3	BLM:S CDFW:SSC IUCN:LC USFWS:BCC	Burrow sites: open, dry annual or perennial grasslands, deserts and scrublands, and dunes characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No open habitat or ground squirrel burrows.
Strix occidentalis caurina northern spotted owl	Threatened	Threatened	G3G4T3	S2S3	CDF:S IUCN:NT NABCI:YWL	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests w/patches of big trees. High, multistory canopy dominated by big trees, many trees w/cavities or broken tops, woody debris, and space under canopy.	No habitat.
Swifts (*APODIDAE*)							
Chaetura vauxi Vaux's swift (nesting)	None	None	G5	S2S3	CDFW:SSC IUCN:LC	Nesting: redwood, Douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes. The most important habitat requirement appears to be an appropriate nest-site in a large, hollow tree. Forages over most terrains and habitats, often high in the air. Shows an apparent preference for foraging over rivers and lakes.	No basal hollows or snags.
Hummingbirds (*TROCHILIDAE*)							
Selasphorus rufus rufous hummingbird (nesting)	None	None	G5	S1S2	IUCN:LC USFWS:BCC	Breeds in open or shrubby areas, forest openings, yards and parks, and sometimes in forests, thickets, and meadows. Late winter and spring migrant on the California coast. Breeding range from southeast Alaska and as far south as northwestern California.	Out of range for breeding site.
Woodpeckers (*PICIDAE*)							
Picoides nuttallii Nuttall's woodpecker (nesting)	None	None	G5	SNR	ABC:WLBCC IUCN:LC	Ranging from west of the Cascade mountains and in the Sierra Nevada from southern Oregon to Northern Baja California. Nests are excavated in dead branches or snags of various trees, usually in close association with oak woodlands and riparian zone, habitat vulnerable to development. At least one Mendocino Coast record from 2011 Audubon Christmas Bird Count.	Nesting habitat associated with oak woodlands inland from coast.
Sphyrapicus ruber red-breasted sapsucker (nesting)	None	None	G5	SNR	None	Breeds primarily in coniferous forests, but also uses deciduous and riparian habitat, as well as orchards and power line corridors. The nest is a hole usually dug in a live deciduous tree (e.g. alder, willow, madrone) with possible preference for larger trees showing decay-softened wood.	No habitat.
Tyrant Flycatchers (*TYRANNIDAE*)							
Contopus cooperi olive-sided flycatcher (nesting)	None	None	G4	S3	CDFW:SSC IUCN:NT NABCI:YWL USFWS:BCC	Breeds in montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds. Tall standing dead trees are used as perch trees for catching flying insects. Accordingly, an open canopy is a key components of suitable habitat. Nest is an open cup of twigs, rootlets, and lichens, placed out near tip of horizontal branch of a tree.	No habitat.
Swallows (*HIRUNDINIDAE*)							
Progne subis purple martin	None	None	G5	S3	CDFW:SSC IUCN:LC	Nesting: inhabits woodlands, low elevation coniferous forest of Douglas fir, Ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures such as weep holes in bridges. Nest often located in tall, isolated trees and snags. Nesting on the Mendocino Coast known, in part, from Juan Creek, Ten Mile, Noyo, and Big River, and snags from Ten Mile River to Pudding Creek. Need open foraging habitats.	Low potential for nesting site.
Wood-warblers (*PARULIDAE*)							

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Dendroica occidentalis hermit warbler (nesting)	Not Listed	Not Listed	-	-	-	Breeding range is relatively limited to the Pacific Coast and the Cascade and Sierra Nevada mountain ranges of Washington, Oregon, and California. Some winter along the coastal central and southern California, but most winter primarily in the mountains of western Mexico and Central America. Nesting habitats in Pacific northwestern are coniferous forests with a high canopy volume, generally preferring mature stands of pine and Douglas fir. Avoids areas with a high deciduous volume; absent from riparian areas and clearcuts. Birds of coniferous forests; they prefer cool, wet fir forests at elevation, and moist forests of Douglas-fir, hemlock, and western red cedar closer to sea level. Major threat to this species appears to be the degradation of breeding habitat. Not know as frequently nesting on the coast, perhaps more common inland.	Low potential for nesting on the coast.
Sparrows, Buntings, Warblers, & Relatives (*EMBERIZIDAE*)							
Ammodramus savannarum grasshopper sparrow (nesting)	None	None	G5	S3	CDFW:SSC IUCN:LC	Nesting: dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting. Summer (breeding) resident in Mendocino County known from north of Ten Mile River.	No nesting habitat.
Passerculus sandwichensis alaudinus Bryant's savannah sparrow (nesting)	None	None	G5T2T3	S2S3	CDFW:SSC	California endemic from near Humboldt Bay, Humboldt Co. to Morro Bay, San Luis Obispo Co. Breeds in low tidally influenced habitats in higher parts of pickleweed/saltgrass marshes, adjacent ruderal areas, moist grasslands within and just above the fog belt, bottomlands and dairy pastures in the taller grasses and rushes along roads and fences, and infrequently, drier grasslands. In moist upland grasslands, it occurs where herbaceous vegetation is relatively short, with no or little woody plant cover. Open areas, whether provided by tidal mudflats or upland interstitial areas between clumps of vegetation, appears to be an important component of occupied habitat.	No nesting habitat.
Blackbirds (*ICTERIDAE*)							
Agelaius tricolor tricolored blackbird (nesting colony)	None	Threatened	G1G2	S1S2	BLM:S CDFW:SSC IUCN:EN NABCI:RWL USFWS:BCC	Nesting colony: highly colonial species, most numerous in central valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, such as cattails and foraging area with insect prey within a few km of the colony. Known inland from McGuire's Pond.	No occurrence of open freshwater habitat.
MAMMALS							
Evening Bats (*VESPERTILIONIDAE*)							
Antrozous pallidus pallid bat	None	None	G4	S3	BLM:S CDFW:SSC IUCN:LC USFS:S WBWG:H	A wide variety of habitats deserts, grasslands, shrublands, woodlands and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings where there is protection from high temperatures.	No basal hollows or snags.
Corynorhinus townsendi Townsend's big-eared bat	None	None	G4	S2	BLM:S CDFW:SSC IUCN:LC USFS:S WBWG:H	Generally found in the dry uplands throughout the West, but also occur in mesic coniferous and deciduous forest habitats along the Pacific coast. Unequivocally associated with areas containing caves and cave-analogs for roosting habitat. Requires spacious cavern-like structures for roosting during all stages of its life cycle. Typically, they use caves and mines, but have been noted roosting in large hollows of redwood trees, attics and abandoned buildings, lava tubes, and under bridges. Extremely sensitive to disturbance.	No basal hollows or snags.
Lasionycteris noctivagans silver-haired bat	None	None	G3G4	S3S4	IUCN:LC WBWG:M	Ranges throughout California in coastal and montane forests. May be found anywhere in California during spring and fall migrations. Primarily a forest (tree-roosting) bat associated with north temperate zone conifer and mixed conifer/hardwood forests. Prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. During migration, sometimes occurs in xeric areas. Roosts in dead or dying trees with exfoliating bark, extensive vertical cracks, or cavities, rock crevices, and occasionally under wood piles, in leaf litter, under foundations, and in buildings, mines and caves. The primary threat is likely loss of roosting habitat due to logging practices that fail to accommodate the roosting needs of this species (e.g., clusters of large snags).	No basal hollows or snags.

Scientific name Common name	ESA (Federal)	CESA (State)	Global Rank	State Rank	Organization: Code	Habitat	Potential for Occurrence within Project Area
Lasiurus blossevillii western red bat	None	None	G4	S3	CDFW:SSC IUCN:LC WBWG:H	Locally common in some areas of California from Shasta County south to the Mexican border. California Central Valley is the species' primary breeding region. Species appears to be strongly associated with riparian habitats for roosting and foraging, particularly mature stands/large diameter of cottonwood/sycamore. Roosts in woodland borders, rivers, agricultural areas, and urban areas with mature trees in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. It often hangs from one foot on the leaf petiole and may resemble a fruit or dead leaf. Rarely observed roosting in mines.	Not good potential habitat.
Lasiurus cinereus hoary bat	None	None	G3G4	S4	IUCN:LC WBWG:M	Most widespread North American bat. Solitary species that winters along the coast and in southern California, breeding inland. Roosts in foliage of trees near ends of branches 3-5 m. above ground. Blends with the bark of trees. Highly associated with forested habitats but can be found in suburbs with old, large trees.	No habitat.
Myotis evotis long-eared myotis	None	None	G5	S3	BLM:S IUCN:LC WBWG:M	Widespread in California, but generally is believed to be uncommon in most of its range. It avoids the arid Central Valley and hot deserts, occurring along the entire coast and interior mountains. Found in nearly all brush, woodland, and forest habitats, from sea level to at least 9,000 ft., but coniferous woodlands and forests seem to be preferred. Roosts in loose bark in tall, open-canopied snags; stumps in south-facing clear-cuts with minimal vegetation overgrowth in younger forests, and conifer snags in older forests, rocks, caves, bridges and abandoned mines.	Low potential for roosting. No snags.
Myotis yumanensis Yuma myotis	None	None	G5	S4	BLM:S IUCN:LC WBWG:LM	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Low potential for roosting.
Mountain Beavers (*PLODONTIDAE*)							
Aplodontia rufa nigra Point Arena mountain beaver	Endangered	None	G5T1	S1	CDFW:SSC IUCN:LC	Generally known from 2 miles north of Bridgeport Landing to 5 miles south of the town of Point Arena. Coastal areas often near springs or seepages; mesic coastal scrub, northern dune scrub, edges of conifer forests, and riparian plant communities. North facing slopes of ridges and gullies with friable soils and thickets of undergrowth.	Out of range; no habitat.
Mice, Rats, & Voles (*MURIDAE*)							
Arborimus pomo Sonoma tree vole	None	None	G3	S3	CDFW:SSC IUCN:NT	Species split into red tree vole and Sonoma tree vole; approximate boundary between two species is Klamath River. Inhabits north coast fog belt from Oregon border to Somona Co. in old-growth and other forests, mainly Douglas-fir, redwood, and montane hardwood-conifer habitats. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	Potential habitat.
Weasels & Relatives (*MUSTELIDAE*)							
Martes americana humboldtensis Humboldt marten	Threatened	Endangered	G4G5T1	S1	CDFW:SSC USFS:S	Endemic to the coastal forests of northwestern California with a historical range described as "the narrow northwest humid coast strip, chiefly within the redwood belt" from the Oregon border to northern Sonoma county. However, the one known remnant Humboldt marten population occurs in the north-central portion of the described range in an area dominated by Douglas-fir and tanoak. Typically associated with closed-canopy, late-successional, mesic coniferous forests with complex physical structure near the ground. Very rare on the Mendocino coast.	No habitat.
***Pekania pennant* [West Coast DPS]** [Pacific] fisher	None	None	G5	S2S3	BLM:S CDFW:SSC USFS:S	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs and rocky areas for cover and denning. Need large areas of mature, dense forest. Very rare on the Mendocino coast.	No habitat.
Sea Lions & Fur Seals (*OTARIIDAE*)							
Arctocephalus townsendi Guadalupe fur-seal	Threatened	Threatened	G1	S1	CDFW:FP IUCN:NT	Solitary, non-social "eared" seals breed in the tropical waters off southern California/Mexico region but have been seen on rare occasion off Mendocino.	No habitat.
Callorhinus ursinus northern fur-seal	None	None	G3	S1	IUCN:VU	Mostly pelagic seal ranging throughout the Pacific Rim, from Japan to the Channel Islands. Pacific rookeries in the Channel and Farallon Islands. Infrequent visitor to the Mendocino Coast. One was stranded on Albion flat in 2013 and rescued by the Marine Mammal Center.	No habitat.
Eumetopias jubatus Steller (=northern) sea-lion	Delisted	None	G3	S2	IUCN:EN MMC:SSC	Range throughout the North Pacific Rim from Japan to central California. Unlike California sea lions, Stellers tend to remain off shore or haul out in unpopulated areas. Breeding rookery on Año Nuevo Island.	No habitat.

Explanation of "Organization: Code" taken from CDFW 2022.

ABC: American Bird Conservancy – The United States WatchList is a joint project between the American Bird Conservancy and the National Audubon Society. It reflects a comprehensive analysis of all the bird species in the United States. It reveals those in greatest need of immediate conservation attention to survive a convergence of environmental challenges, including habitat loss, invasive species, and global warming. The list builds on the species assessments conducted for many years by Partners in Flight (PIF) for land birds. It uses those same PIF standards but it is expanded to cover all bird species, not just land birds. The list is based on the latest available research and assessments from the bird conservation community, along with data from the Christmas Bird Count and Breeding Bird Survey. More information is available at:
http://www.abcbirds.org/abcprograms/science/watchlist/index.html
WLBCC - United States WatchList of Birds of Conservation Concern

AFS: American Fisheries Society – Designations for freshwater and diadromous species were taken from the paper: Jelks, H.L., S.J. Walsh, N.M. Burkhead, S.Contreras-Balderas, E. Díaz-Pardo, D.A. Hendrickson, J. Lyons, N.E. Mandrak, F. McCormick, J.S. Nelson, S.P. Platania, B.A. Porter, C.B. Renaud, J. J. Schmitter-Soto, E.B. Taylor, and M.L. Warren, Jr. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. Fisheries 33(8):372-407. Available at:
http://www.fisheries.org/afs/docs/fisheries/fisheries_3308.pdf Designations for marine and estuarine species were taken from the paper: Musick, J.T. et al. 2000. "Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids). Fisheries 25(11):6-30. Available at:
http://www.flmnh.ufl.edu/fish/sharks/sawfish/Reprint1390.pdf
EN - Endangered
T - Threatened
VU – Vulnerable

BLM: Bureau of Land Management – BLM Manual §6840 defines sensitive species as"...those species that are (1) under status review by the FWS/NMFS; or (2) whose numbers are declining so rapidly that Federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats." Existing California-BLM policy concerning the designation of sensitive species identifies two conditions that must be met before a species may be considered as BLM sensitive: (1) a significant population of the species must occur on BLM-administered lands, and (2) the potential must exist for improvement of the species' condition through BLM management. The "Sensitive Species" designation is not meant to include federally listed species, proposed species, candidate species or State-listed species. It is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species. The list is available at: http://www.blm.gov/ca/pdfs/pa_pdfs/biology_pdfs/SensitiveAnimals.pdf
S - Sensitive

CDFW: California Department of Fish and Wildlife – The name California Department of Fish and Game (CDFG, or DFG) was changed to the California Department of Fish and Wildlife in 2013 and the changes are reflected here. It is the goal and responsibility of the Department of Fish and Game to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all "Species of Special Concern" have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a "Threatened" or "Endangered" species under the State and/or Federal Endangered Species Acts. More information is available at:
http://www.nrm.dfg.ca.gov/fileHandler.ashx?DocumentID=3778 The 1995 report for fish, the 1994 report for amphibians and reptiles and the 1986 & 1998 reports for mammals are available on-line.
Fish: http://www.dfg.ca.gov/wildlife/nongame/publications/docs/fish_ssc.pdf
Amphibians & Reptiles: http://www.dfg.ca.gov/wildlife/nongame/publications/docs/herp_ssc.pdf
Mammals: http://www.dfg.ca.gov/wildlife/nongame/publications/bm_research/docs/86_27.pdf
http://www.dfg.ca.gov/wildlife/nongame/ssc/1998mssc.html
Updates of all three reports are in preparation. Information on the Amphibian and Reptile Species of Special Concern report is available at: http://arssc.ucdavis.edu
Information on the mammal report is available at: http://www.dfg.ca.gov/wildlife/nongame/ssc/mammals.html and
http://www.dfg.ca.gov/wildlife/nongame/ssc/docs/mammal/MSSCProjectTimeline.pdf
A new California Bird Species of Special Concern report was completed in 2008. More information is available at:
http://www.dfg.ca.gov/wildlife/species/ssc/birds.html
A new category of "Taxa to Watch" was created in the new California Bird Species of Special Concern report. The birds on this Watch List are 1) not on the current Special Concern list but were on previous lists and they have not been state listed under CESA; 2) were previously state or federally listed and now are on neither list; or 3) are on the list of "Fully Protected" species. More information and brief accounts for each species is available in the report.

DFG (CDFW): Fully Protected: The classification of Fully Protected was the State's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts; white-tailed kite, golden eagle, trumpeter swan, northern elephant seal and ring-tailed cat are the exceptions. The white-tailed kite and the golden eagle are tracked in the CNDDB; the trumpeter swan, northern elephant seal and ring-tailed cat are not.

The Fish and Game Code sections dealing with Fully Protected species state that these species "....may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research. This language arguably makes the "Fully Protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003 the code sections dealing with fully protected species were amended to allow the Department to authorize take resulting from recovery activities for state-listed species. More information on Fully Protected species and the take provisions can be found in the Fish and Game Code, (birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515). Additional information on Fully Protected fish can be found in the California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 2, Article 4, §5.93. The category of Protected Amphibians and Reptiles in Title 14 has been repealed. The Fish and Game Code is available online at: http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=fgc&codebody=&hits=20. Title 14 of the California Code of Regulations is available at: http://ccr.oal.ca.gov/linkedslice/default.asp?SP=CCR-1000&Action=Welcome
FP - Fully Protected
SSC - Species of Special Concern
WL - Watch List

CDF: California Department of Forestry & Fire Protection – The Board of Forestry classifies as "sensitive species" those species that warrant special protection during timber operations. The list of "sensitive species" is given in §895.1 (Definitions) of the California Forest Practice Rules. The 2010 Forest Practice Rules are available at:
http://www.fire.ca.gov/resource_mgt/downloads/2010_FP_Rulebook_w-Diagrams_wo-TechRule_No1.pdf
S - Sensitive

IUCN: International Union for Conservation of Nature – provides objective, scientifically-based information on the current status of globally threatened biodiversity. More information at http://www.iucnredlist.org/technical-documents/categories-and-criteria; detailed information on the IUCN and the Red List is available at: http://www.redlist.org/
CD - Conservation Dependent
CR - Critically Endangered
DD - Data Deficient
EN - Endangered
LC - Least Concern
NT - Near Threatened
VU - Vulnerable

MMC: Marine Mammal Commission – Section 202 of the Marine Mammal Protection Act directs the Marine Mammal Commission, in consultation with its Committee of Scientific Advisors, to make recommendations to the Department of Commerce, the Department of the Interior, and other federal agencies on research and management actions needed to conserve species of marine mammals. To meet this charge, the Commission devotes special attention to particular species and populations that are vulnerable to various types of human-related activities, impacts, and contaminants. Such species may include marine mammals listed as endangered or threatened under the Endangered Species Act or as depleted under the Marine Mammal Protection Act. In addition, the Commission often directs special attention to other species or populations of marine mammals not so listed whenever special conservation challenges arise that may affect them. More information on the Marine Mammal Protection Act and the Species of Special Concern list is available at: http://www.mmc.gov/species
SSC: Species of Special Concern

NMFS: National Marine Fisheries Service – National Oceanic and Atmospheric Administration (NOAA): The Office of Protected Resources (OPR) is a headquarters program office of NOAA's National Marine Fisheries Service (NOAA Fisheries Service, or NMFS), under the U.S. Department of Commerce, with responsibility for protecting marine mammals and endangered marine life. NOAA's Office of Protected Resources works to conserve, protect, and recover species under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) in conjunction with our Regional offices, Science Centers, and various partners. The category Species of Concern was established by the (NMFS) effective 15 April 2004. Species of Concern are those species about which NOAA's National Marine Fisheries Service (NMFS) has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act (ESA). Proactive attention and conservation action is drawn to these species. "Species of concern" status does not carry any procedural or substantive protections under the ESA. More information is available at: http://www.nmfs.noaa.gov/pr/species/concern
SC: Species of Concern

USFS: United States Forest Service - USDA Forest Service defines sensitive species as those plant and animal species identified by a regional forester that are not listed or proposed for listing under the federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Regional Foresters shall identify sensitive species occurring within the region. California is the Pacific Southwest Region (Region 5).The list of sensitive animals for Region 5 is undergoing revision. The anticipated completion date was spring 2009, however it still has not been updated in spring 2010. The sensitive designation on this list is based on the previous list. More information is available at: http://www.fs.fed.us/r5/projects/sensitive-species/

USFWS: United States Fish and Wildlife Service – The goal of the Birds of Conservation Concern 2008 report is to accurately identify the migratory and nonmigratory bird species (beyond those already designated as Federally threatened or endangered) that represent our highest conservation priorities and draw attention to species in need of conservation action. We hope that by focusing attention on these highest priority species, this report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. This report is available at: http://library.fws.gov/Bird_Publications/BCC2008.pdf
BCC - Birds of Conservation Concern

WBWG: Western Bat Working Group - comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. Species designated as "High Priority" are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats. More information is available at: http://www.wbwg.org
H - High Priority
LM - Low-Medium
M - Medium Priority
MH - Medium-High Priority

XERCES: The Xerces Society is an international non-profit organization dedicated to protecting biological diversity through invertebrate conservation. Their core programs focus on endangered species, native pollinators, and watershed health. More information on the Red list is available at: http://www.xerces.org/
CI - Critically Imperiled
DD - Data Deficient
IM - Imperiled
VU - Vulnerable

Special-Status Plant Communities Occurring in Coastal Mendocino County. A partial list of vegetation alliances occurring in coastal Mendocino County is derived from the California Department of Fish and Wildlife's "List of Vegetation Alliances and Associations," (CDFW2021).

Scientific Name	Common Name
Woodland and Forest Alliances and Stands	
Abies grandis Alliance	Grand fir forest
Acer macrophyllum Alliance	Bigleaf maple forest
Alnus rubra Alliance	Red alder forest
Arbutus menziesii Alliance	Madrone forest
Callitropsis pigmaea Alliance	Mendocino pygmy cypress woodland
Chrysolepis chrysophylla Alliance	Golden chinquapin thickets
Lithocarpus densiflorus Alliance	Tanoak forest
Picea sitchensis Alliance	Sitka spruce forest
Pinus contorta subsp. *contorta* Alliance	Beach pine forest
Pinus muricata Alliance	Bishop pine forest
Pseudotsuga menziesii Alliance	Douglas fir forest
Pseudotsuga menziesii - Lithocarpus densiflorus Alliance	Douglas fir - tanoak forest
Sequoia sempervirens Alliance	Redwood forest
Tsuga heterophylla Alliance	Western hemlock forest
Umbellularia californica Alliance	California bay forest
Shrubland Alliances and Stands	
Arctostaphylos glandulosa Alliance	Eastwood manzanita chaparral
Arctostaphylos (nummularia, sensitiva) Alliance	Glossy leaf manzanita chaparral
Baccharis pilularis Alliance	Coyote brush scrub
Ceanothus thyrsiflorus Alliance	Blue blossom chaparral
Corylus cornuta var. *californica* Alliance	Hazelnut scrub
Frangula californica Alliance	California coffee berry scrub
Garrya elliptica Provisional Alliance	Coastal silk tassel scrub
Diplacus aurantiacus Alliance	Bush monkeyflower scrub
Holodiscus discolor Alliance	Ocean spray brush
Morella californica Alliance	Wax myrtle scrub
Rhododendron neoglandulosum Alliance	Western Labrador-tea thickets
Rhododendron occidentale Provisional Alliance	Western azalea patches
Rosa californica Alliance	California rose briar patches
Rubus (parviflorus, spectabilis, ursinus) Alliance	Coastal brambles
Salix hookeriana Alliance	Coastal dune willow thickets
Sphagnum Bog	Sphagnum bog
Salix sitchensis Provisional Alliance	Sitka willow thickets
Salix lasiolepis Alliance	Arroyo willow thickets
Toxicodendron diversilobum Alliance	Poison oak scrub
Herbaceous Alliances and Stands	
Abronia latifolia–Ambrosia chamissonis Alliance	Dune mat
Argentina egedii Alliance	Pacific silverweed marshes
Bolboschoenus maritimus Alliance	Salt marsh bulrush marshes
Calamagrostis nutkaensis Alliance	Pacific reed grass meadows
Camassia quamash Alliance	Small camas meadows
Carex obnupta Alliance	Slough sedge swards
Carex pansa Alliance	Sand dune sedge swaths
Danthonia californica Alliance	California oat grass prairie
Deschampsia caespitosa Alliance	Tufted hair grass meadows
Distichlis spicata Alliance	Salt grass flats
Eleocharis macrostachya Alliance	Pale spike rush marshes

Scientific Name	Common Name
Elymus glaucus Alliance	Blue wild rye meadows
Festuca rubra Alliance	Red fescue grassland
Festuca idahoensis Alliance	Idaho fescue grassland
Glyceria occidentalis	Northwest manna grass marshes
Grindelia (stricta) Provisional Alliance	Gum plant patches
Hordeum brachyantherum Alliance	Meadow barley patches
Juncus articus (var. *balticus, mexicanus*)	Baltic and Mexican rush marshes
Juncus effusus Alliance	Soft rush marshes
Juncus (oxymeris, xiphioides) Provisional Alliance	Iris-leaf rush seeps
Juncus lescurii Alliance	Salt rush swales
Juncus patens Provisional Alliance	Western rush marshes
Leymus mollis Alliance	Sea lyme grass patches
Leymus triticoides Alliance	Creeping rye grass turfs
Mimulus (guttatus) Alliance	Common monkey flower seeps
Poa secunda Alliance	Curley bluegrass grassland
Schoenoplectus acutus Alliance	Hardstem bulrush marsh
Schoenoplectus californicus Alliance	California bulrush marsh
Scirpus microcarpus Alliance	Small-fruited bulrush marsh
Sedum spathulifolium Provisional Alliance	Coast Range stonecrop draperies
Solidago canadensis Provisional Alliance	Canada goldenrod patches
Woodwardia fimbriata	Woodwardia thicket
Aquatic Vegetation	
Azolla (*filiculoides*, *mexicana*) Provisional Alliance	Mosquito fern mats
Hydrocotyle (*ranunculoides*, *umbellata*) Alliance	Mats of floating pennywort
Lemna (*minor*) and Relatives Provisional Alliance	Duckweed blooms
Nuphar lutea Provisional Alliance	Yellow pond-lily mats
Oenanthe sarmentosa Alliance	Water-parsley marsh
Sarcocornia pacifica (*Salicornia depressa*) Alliance	Pickleweed mats
Sparganium (*angustifolium*) Alliance	Mats of bur-reed leaves
Typha (*angustifolia, domingensis, latifolia*) Alliance	Cattail marshes

Appendix B

Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Mendocino County, Western Part, California

840 South Franklin St, Fort Bragg, CA

July 10, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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


Custom Soil Resource Report
Soil Map
123° 48' 17" W
123° 48' 14" W
39° 25' 46" N
39° 25' 45" N
430730
430737
430744
430751
430758
430765
430772
430779
430786
430793
4364760
4364753
4364746
4364739
4364732
4364725
4364718
Myrtle St
219
Soil Map may not be valid at this scale.
Map Scale: 1:318 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 4 9 18 27
Feet
0 15 30 60 90
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

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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, Western Part, California
Survey Area Data: Version 16, Sep 6, 2021

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
219	Urban land	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Mendocino County, Western Part, California

219—Urban land

Map Unit Composition

Urban land: 75 percent
Minor components: 24 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fluviomarine deposits derived from sedimentary rock

Minor Components

Biaggi

Percent of map unit: 3 percent
Hydric soil rating: No

Shinglemill

Percent of map unit: 3 percent
Landform: Marine terraces
Hydric soil rating: Yes

Gibney

Percent of map unit: 3 percent
Hydric soil rating: No

Tregoning

Percent of map unit: 3 percent
Landform: Marine terraces
Hydric soil rating: Yes

Tropaquepts

Percent of map unit: 3 percent
Landform: Depressions
Hydric soil rating: Yes

Heeser

Percent of map unit: 3 percent
Hydric soil rating: No

Cabrillo

Percent of map unit: 3 percent
Hydric soil rating: No

Harecreek

Percent of map unit: 3 percent
Hydric soil rating: No

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Appendix C

Plant List

List of Plant Species Documented from 245 West Fir Street, Fort Bragg, California.
Many of the plants were ornamental horticultural plants and were not examined further for classification or nomenclature. Such plants were rosemary, apple, strawberry tree, *Echium*, *Nasturtium*, mattress vine, iris, *Cotoneaster*, Mexican sage, red poppy, wheat barley for erosion control, holy hock, ornamental geranium, and Calla-lily.

CATEGORY	FAMILY	TAXON	COMMON NAME	WETLAND INDICATOR	NATIVE
Dicots					
	Apiaceae				
		Daucus carota	Carrot	FACU	N
	Apocynaceae				
		Vinca major	Vinca		N
	Asteraceae				
		Arctotheca calendula	Cape weed		N
		Hypochaeris radicata	Hairy cats ear	FACU	N
		Lactuca biennis	Biennial wild lettuce	FAC	N
		Sonchus asper	Spiny sowthistle	FACU	N
	Boraginaceae				
		Echium piniana	Pine echium		N
	Brassicaceae				
		Raphanus sativus	Wild radish		N
	Papaveraceae				
		Eschscholzia californica	California poppy		Y
	Polygonaceae				
		Rumex acetosella	Sheep sorrel	FACU	N
	Rosaceae				
		Rubus ursinus	California blackberry	FACU	Y
Monocots					
	Poaceae				
		Anthoxanthum odoratum	Sweet vernal grass	FACU	N
		Avena fatua	Wildoats		N
		Briza maxima	Rattlesnake grass		N
		Ehrharta erecta	Upright veldt grass		N
		Festuca perennis	Italian rye grass		N
		Holcus lanatus	Common velvetgrass	FAC	N