ENVIRONMENTALLY SENSITIVE HABITAT AREA (ESHA) SURVEY

BALDONADO PROPERTY

IRISH BEACH, MENDOCINO COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

This report details the regulatory background, methods, results, and recommendations of an Environmentally Sensitive Habitat Area (ESHA) assessment for the proposed development of a single-family residence and associated infrastructure totaling 0.3 acre, located at the 15161 Irish Beach Drive in unincorporated Mendocino County, California.

WRA, Inc. performed field surveys on February 12, April 22, and June 3, 2021. The Study Area is composed of sweet vernal grass prairie and coyote brush scrub. There are no land cover ESHA in the Study Area, including aquatic resource (e.g., wetland).

Protocol-level rare plant surveys resulted in negative detections for special-status plants; therefore, there are no special-status plant ESHA in the Study Area.

Two special-status birds, as well as non-status birds with baseline legal protections, have the potential to occur in the Study Area. Mitigation measures and best management practices have been developed and provided herein to avoid impacts to these resources.

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DEFINITIONS

Study Area: The area throughout which the assessment was performed, the entire subject property (APN: 132-050-09), totaling 0.3 acre.

Project Area: The area encompassing the proposed project (proposed residence); the area evaluated for potential impacts to sensitive biological resources

LIST OF ABBREVIATIONS & ACRONYMS

BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BRRS	Biological Resources Reconnaissance Survey
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
County	County of Mendocino
Corps	U.S. Army Corps of Engineers
CRLF	California Red-legged Frog
CSRL	California Soils Resources Lab
CTS	California Tiger Salamander
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	(Federal) Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
MSFCMA	Magnuson-Stevens Fishery Conservation & Management Act
MBTA	Migratory Bird Treaty Act
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Ranks
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SFP	State Fully Protected Species
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

On February 12, April 22, and June 3, 2021, WRA, Inc. (WRA) performed an assessment of biological resources at 15161 Irish Beach Drive (APN: 132-050-09; hereafter Study Area) (Figure A-1, Appendix A). The purpose of this study was to gather the information necessary to complete a review of biological resources under the California Coastal Act (CCA), California Environmental Quality Act (CEQA), and Mendocino County Code, including the Local Coastal Program, for the evaluation of the development of a single-family residence.

An environmentally sensitive habitat area (ESHA) survey provides general information on the presence, or potential presence, of sensitive species and habitats. These survey(s) contain the results of a focused protocol-level survey for listed plant species in the Study Area; however, protocol-level surveys for wildlife may or may not be included as part of the survey. This survey is not a formal wetland delineation; in instances where such a delineation may be required for project approval by local, state, or federal agencies, results would be reported herein, but may be presented elsewhere in separate reports. This survey is based on information available at the time of the study and on-site conditions that were observed on the date(s) the site was visited.

This report describes the results of the site visit, which assessed the Project Area for (1) the presence of sensitive land cover types, (2) the potential for land cover types on the site to support special-status plant and wildlife species, and (3) the presence of any other sensitive natural resources protected by local, state, or federal laws and regulations. Overall, these sensitive biological resources are considered ESHA under the CCA. Special-status species observed during the site assessment were documented and their presence is discussed herein. Specific findings on the habitat suitability or presence of special-status species or sensitive habitats may require that protocol-level surveys or other studies be conducted; recommendations for additional studies are provided, if necessary.

2.0 REGULATORY BACKGROUND

This report is intended to facilitate conformance of the Proposed Project with the standards outlined in the Mendocino County Local Coastal Plan (LCP). In addition to the requirements of Mendocino County, the Proposed Project may also be subject to several federal and state regulations designed to protect sensitive natural resources. Full analysis of these requirements in the context of the Project are addressed herein.

2.1 Federal and State Regulatory Setting

2.1.1 Sensitive Land Cover Types

Land cover types are herein defined as those areas of a particular vegetation type, soil or bedrock formation, aquatic features, and/or other distinct phenomenon. Typically, land cover types have identifiable boundaries that can be delineated based on changes in plant assemblages, soil or rock types, soil surface or near-surface hydroperiod, anthropogenic or natural disturbance, topography, elevation, etc. Many land cover types are not considered sensitive or otherwise protected under the environmental regulations discussed here. However, these land cover types typically provide essential ecological and

biological functions for plants and wildlife, including, frequently, special-status species. Those land cover types that are considered or protected under one or more environmental regulations are discussed below.

Waters of the United States: The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State: The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat: Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) 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 [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream." Riparian vegetation is defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Sensitive Natural Communities: Sensitive natural communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFG 2010, CDFW 2018a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018a). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G).

Environmentally Sensitive Habitat Areas: The California Coastal Act Section 30107.5 defines ESHAs as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Coastal Act Section 30240 protects ESHAs from "significant disruption of habitat values" limits allowable land uses within ESHAs, and requires adjacent uses to be designed to be compatible with habitat benefits provided by ESHAs. The Coastal Act includes wetlands as ESHAs, but does not specifically define every vegetation community defined as an ESHA. Instead, the California Coastal Commission (CCC) often delegates the responsibility for administering the California Coastal Act to local municipalities through the approval of Local Coastal Programs (LCPs). Many LCPs provide more specific lists of features that are considered ESHAs. More information about ESHAs defined by the Mendocino County LCP is provided in Section 2.2 below.

2.1.2 Special-status Species

Plants: Special-status plants include taxa that have been listed as endangered or threatened, or are formal candidates for such listing, under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA). The California Native Plant Protection Act (CNPPA) lists 64 "rare" or "endangered" and prevents "take", with few exceptions, of these species. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. A description of the CNPS Ranks is provided in Appendices B and C.

Wildlife: As with plants, special-status wildlife includes species/taxa that have been listed or are formal candidates for such under ESA and/or CESA. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by ESA. The CFGC designates some species as Fully Protected (SFP), which indicates that take of that species cannot be authorized through a state permit. Additionally, CDFW Species of Special Concern (species that face extirpation in California if current population and habitat trends continue) are given special consideration under CEQA, and are therefore considered special-status species. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional

collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA. Finally, wildlife species/taxa named as "locally rare" in the NCBDR (Napa County 2005) are also treated as special-status for purposes of this assessment.

Critical Habitat, Essential Fish Habitat, and Wildlife Corridors: Critical habitat is a term defined in the ESA as a specific and formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. Note that designated critical habitat areas that are currently unoccupied by the species but which are deemed necessary for the species' recovery are also protected by the prohibition against adverse modification.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides for conservation and management of fishery resources in the U.S. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g. eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Mendocino County Regulatory Setting

The California Coastal Act (CCA) defines an ESHA as follows:

> *Environmentally sensitive habitat area' means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

The Mendocino County LCP and California Coastal Commission (CCC) Guidelines contain definitions for specific types of ESHAs, including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of ESHA as defined by the CCA, CCC guidelines, or the Mendocino County LCP.

The Mendocino County LCP requires a 100-foot buffer to be established adjacent to all ESHA to provide protection for such. This buffer can be reduced from 100 feet upon approval from the CDFW if it is demonstrated that 100 feet is not necessary to protect the ESHA in question. However, in such instances, the Mendocino County LCP requires the amended buffer to not be less than 50 feet, and uses permitted

within those 50 feet shall be the same as those allowed in the ESHA itself. Likewise, those uses must at a minimum meet the following standards: (1) be sited and designed to minimize impacts, (2) must maintain the ESHA functional capacity and natural species diversity, and (3) allowed only if there is not feasible alternative.

Wetlands: The CCA and Mendocino County LCP define wetlands as:

> *Wetland means lands within the Coastal Zone 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.*
>
> Public Resources Code Section 30121

CCC Administrative Regulations (Section 13577 (b)) provide a more explicit definition:

> *Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance 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 deepwater habitats.*

The CCC considers this definition as requiring the observation of one diagnostic feature of a wetland, such as wetland hydrology, dominance by wetland vegetation (hydrophytes), or presence of hydric soils, as a basis for asserting jurisdiction under the CCA.

In addition to the above definition, the *Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas* (CCC 1981) provide technical criteria for use in identifying and delineating wetlands and other ESHAs within the Coastal Zone. The technical criteria presented in the guidelines are based on the CCA definition and indicate that wetland hydrology is the most important parameter for determining a wetland, recognizing that:

> *. . . the single feature that most wetlands share is soil or substrata that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, 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 Technical Criteria requires that saturation of soil in a wetland must be at or near the surface continuously for a period of time. The meaning of "at or near the surface" generally is considered to be approximately one-foot from the surface or less (the root zone), and the saturation must be continuously present for a period of time (generally more than two weeks) in order to create the necessary soil

reduction (anaerobic) processes that create wetland conditions. For example, water from rain during a storm that causes saturation near the surface but then evaporates or infiltrates to 18 inches or deeper below the surface shortly after the storm does not meet the generally accepted criteria for wetland hydrology.

The presence of wetland classified plants or the presence of hydric soils (generally referred to as the "one parameter approach") can be used to identify an area as a wetland in the Coastal Zone. There is a correlation between the presence of wetland plants, wetland hydrology, and/or hydric soils occurring together, especially in natural undisturbed areas, and in many cases where one of these parameters is found (e.g., wetland plants), the other parameters will also occur. But there are situations which can result in the presence of wetland classified plants without wetland conditions, and these areas are not wetlands. Where these conditions occur, the delineation study must carefully scrutinize whether the wetland classified plants present are growing as hydrophytes, reducing (anaerobic) conditions caused by the presence of wetland hydrology, or for some other (non-wetland) reason. Examples may include wetland-classified plants which are also salt-tolerant (e.g., alkali heath) that may be responding to either wetland conditions or saline soil conditions, but not necessarily both, and deep-rooted trees (e.g., willows) which are able to tap into deep groundwater sources and can grow in dry surface soils, but are also found in wetland conditions where surface water is present.

Hydric soils can also occur in upland areas, especially in areas where historic disturbances may have exposed substratum, or in densely vegetated grasslands (Mollisols). Similarly, the delineation must determine if the hydric soil indicators are the result of frequent anaerobic conditions or of non-wetland conditions.

Riparian Habitats and Streams, Rivers, and Anadromous Fish Habitat: The CCA and Mendocino County LCP define riparian habitats as follows:

> *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 freshwater.*

The Statewide Interpretive Guidelines (CCC 1981) state:

> *For the purpose of interpreting Coastal Act policies, another important distinction is between "wetland" and "riparian habitat." While the Service's classification system includes riparian areas as a kind of wetland, the intent of the Coastal Act was to distinguish these two areas. "Riparian habitat" in the Coastal Act refers to riparian vegetation and the animal species that require or utilize these plants. The geographic extent of a riparian habitat would be the extent of the riparian vegetation.*
>
> *. . . Unfortunately, a complete and universally acceptable definition of riparian vegetation has not yet been developed, so determining the geographic extent of such vegetation is rather difficult. The special case of determining consistent boundaries of riparian vegetation along watercourses throughout California is particularly difficult. In Southern California these boundaries are usually obvious; the riparian vegetation grows immediately adjacent to watercourses and only extends a short distance away from the watercourse. . .*

. . . For the purposes of this guideline, riparian vegetation is defined as that association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other freshwater bodies. Riparian plant species and wetland plant species either require or tolerate a higher level of soil moisture than dryer upland vegetation, and are therefore generally considered hydrophytic. However, riparian vegetation may be distinguished from wetland vegetation by the different kinds of plant species. . .

The guidelines include a list of representative riparian plants that are meant to help distinguish wetland areas from riparian areas. Therefore, under the Coastal Act, riparian areas do not have to be wetlands, and are determined based primarily on vegetation and that vegetation's ability to provide habitat for animal species.

The CCA and Mendocino County LCP define Streams, Rivers and Anadromous Fish habitats as follows:

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.

Freshwater streams used as migration corridor or spawning or nursery habitat by fish, such as salmon and steelhead trout, that live most of their adult lives in saltwater.

Sand Dunes: The CCA and Mendocino County LCP define sand dunes as follows:

Sand formed in hills or ridges by the wind and sometimes stabilized by vegetation. Dunes are distinct ecosystems made up of various community types, ranging from open unvegetated sand hills to stabilized dune forests that frequently contain rare, endangered, protected, or unusual plant and animal species. This highly specialized habitat can be extremely unstable, sensitive to the continuous interplay of surf, sand, and wind.

Coastal Marine Ecosystem, and Open Coastal Waters and Coastal Waters: The CCA and Mendocino County LCP define Coastal Marine Ecosystem habitats as follows:

That area and its environs containing a delicately balanced environmental system which provides a suitable habitat for local indigenous and migrating species, including all life forms in the tidal zones seaward. The Coastal Marine Ecosystem also is recognized to contain and provide valuable food resources, economic opportunities, and aesthetic value to shore-side establishments, residents and the public in general.

The CCA and Mendocino County LCP define coastal waters as follows:

The term 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.

Pygmy Forests and Pygmy-type Vegetation: The CCC and Mendocino County LCP define pygmy forests and pygmy-type vegetation as follows:

> Pygmy forest: *"A stunted forest, with mature vegetation the majority of which is approximately two to twelve feet in height occurring on soils with conditions which severely limit the growth of vegetation such as Blacklock soils and characterized by Mendocino cypresses, Fort Bragg manzanita, Bolander pines, and pygmy Mendocino Bishop pines."*
>
> Pygmy-type vegetation: *"A forest occurring south of the Navarro River, mainly on Gualala series soils, characterized by stunted vegetation on sites with low commercial timber value. Plant species include knobcone pines and manzanita."*

Natural Communities and Other ESHA: The CCA and Mendocino County LCP define other resource areas as follows:

> *Other designated resource areas include: State parks and reserves, underwater parks and reserves, areas of special biological significance, natural areas, special treatment areas, fishing access points, areas of special biological importance, significant California ecosystems, and coastal marine ecosystems.*

Special-status Species: Special-status species and their habitats are defined as ESHA by the CCA and Mendocino County LCP. Special-status species include those species as defined in Section 2.1 above.

3.0 ENVIRONMENTAL SETTING

The 0.3-acre Study Area is set across the entirety of the subject parcel (Appendix A). It is located in Mendocino County, approximately 1.5 aerial miles south of the town of Elk and 13.5 aerial miles north of Point Arena. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The Study Area is bluff top parcel with the majority of the topography very gently sloped as a coastal terrace and an extremely sloped as a coastal bluff face. With the exception of the bluff face, the aspect is predominantly neutral to slightly southerly and elevations range from 0 to 200 feet above sea level. According to the *Soil Survey of Mendocino County* (USDA 1999), the Study Area is underlain by one soil mapping units: Mallopass loam, 0 to 5 percent slopes. The parent soil series of this mapping unit is summarized below.

Mallopass Series: This series consists of very deep loam soils formed in alluvium from a variety of rock rouses situated on marine terraces on at elevations ranging from 50 to 800 feet. These soils are considered hydric, are moderately well drained with very slow through rapid runoff, and moderately slow permeability (USDA 1999, USDA 2012). Native vegetation is typically composed of perennial and annual herbs, and land uses include livestock grazing, open space, and wildlife habitat (USDA 1999).

3.2 Climate and Hydrology

The Study Area is located directly within the coastal fog zone of Mendocino County where summer temperatures are buffeted by fog and fog drip contributes to annual rainfall totals. The average monthly maximum temperature of Point Arena (CA047009) is 66.7 degrees Fahrenheit, while the average monthly minimum temperature is 40.2 degrees Fahrenheit. Predominantly, precipitation falls as rainfall with an annual average of 41.28 inches. Precipitation bearing weather systems are predominantly from the west with the majority of rain falls between November and March, with a combined average of 33.08 inches (USDA 2021).

The local watershed is Alder Creek (HUC 12: 180101080905) and the regional watershed is Frontal Pacific Ocean (HUC 8: 18010108). There are no aquatic features mapped on the Mallo Pass Creek 7.5-minute quadrangle (USGS 2012). Likewise, there are no aquatic features mapped within the National Wetland Inventory (NWI: USFWS 2021a) or the California Aquatic Resource Inventory (CARI; SFEI 2021). Precipitation and overland sheet flows are the primary hydrologic sources. See Section 5.1.2 for details on aquatic features within the Study Area.

3.3 Land Cover and Land Use

The Study Area is an open, undeveloped lot within the Irish Beach community. It is a mix of coyote brush scrub and non-native grassland. The property is situated on the coastal bluff of the area, set approximately 100 feet from the inflection of the coastal bluff, across the street of Irish Beach Drive. Detailed land cover descriptions are included in Section 5.1 below, and all observed plants are included in Appendix B. Regional land uses include residential, livestock grazing, timbering, sport and commercial fishing, and open space (Google Earth 2021). Historically, the region was open rangeland of larger ranches for livestock and timber resources. There is no history of intensive agriculture, quarrying, mining, timbering, or development in the Study Area (Historic Aerials 2021).

4.0 ASSESSMENT METHODS

Prior to the site visit, WRA biologists reviewed the following literature and performed database searches to assess the potential for sensitive natural communities (e.g., wetlands) and special-status species (e.g., endangered plants):

- *Soil Survey of Mendocino County, California* (USDA 1999)
- Mallo Pass Creek 7.5-minute quadrangle (USGS 2012)
- Contemporary aerial photographs (Google Earth 2021)
- Historical aerial photographs (Historical Aerials 2021)
- National Wetlands Inventory (USFWS 2021a)
- California Aquatic Resources Inventory (SFEI 2021)
- California Natural Diversity Database (CNDDB, CDFW 2021a)
- California Native Plant Society Electronic Inventory (CNPS 2021a)
- Consortium of California Herbaria (CCH 2021)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2021b)

- *eBird* Online Database (eBird 2021)
- CDFW Publication, *California Bird Species of Special Concern in California* (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *Breeding Birds of Napa County, California* (Smith 2003)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009)
- *A Manual of California Vegetation Online* (CNPS 2021b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- *California Natural Community List* (CDFW 2018a)

Database searches (i.e., CNDDB, CNPS) focused on the Albion, Elk, Navarro, Mallo Pass Creek, Cold Spring, Point Arena, and Eureka Hill USGS 7.5-minute quadrangles for special-status plants. The special-status wildlife evaluation was based on database searches for the entirety of Mendocino County. Appendix A contains observations of special-status species documented within a five-mile radius of the Study Area.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation and wildlife biologist training traversed the entire Study Area on foot to document: (1) land cover types (e.g., terrestrial communities, aquatic resources), (2) if and what type of aquatic natural communities (e.g., wetlands) are present, (3) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, and (4) if special-status species are present[1].

4.1 Land Cover Types

4.1.1 Terrestrial Land Cover Types

Terrestrial land cover types were mapped across the entire Subject Property, but they were only evaluated to determine if such areas have the potential to support special-status plants or wildlife within in the Study Area. In most instances, communities are delineated based on distinct shifts in plant assemblage (vegetation), and follow the *California Natural Community List* (CDFW 2018a), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and *A Manual of California Vegetation, Online Edition* (CNPS 2021b). In some cases, it may be necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature; should an undescribed variant be used, it will be noted in the description. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled (S1/G1), imperiled (S2/G2), or vulnerable (S3/G3), were evaluated as sensitive as part of this evaluation.[2]

4.1.2 Aquatic Resources

Aquatic resources include Waters of the U.S., Waters of the State, and Streams, Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, and CFGC, respectively. Sonoma County mandates

[1] Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 4.2 if the site assessment would constitute a formal or protocol-level species survey.
[2] Ranking of CDFW List of Vegetation Alliances is based on NatureServe Rankings (NatureServe 2018)

setbacks from these aquatic resources, and therefore requires mapping of the outward extent of such features.

This site assessment does not constitute a formal wetland delineation; however, the surveys looked for superficial indicators of wetlands such as hydrophytic vegetation (i.e., plant communities dominated by wetland species), evidence of inundation or flowing water, saturated soils and seepage, and topographic depressions/swales. If sample points were taken, WRA followed the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008).

This document uses several new wetland hydrology indicators not specified in the 1987 Corps Manual (Environmental Laboratory 1987). The Study Area was surveyed for indicators of wetland hydrology. Positive indicators of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, oxidized root channels, and drift lines, or indirect indicators (secondary indicators) such as algal mats, shallow restrictive layers in the soil, or vegetation meeting the FAC-neutral test. Depressions, seeps, and topographic low areas were examined for these hydrological indicators.

Soils in the Study Area were examined for hydric soil indicators according to Natural Resources Conservation Service guidelines (USDA 2016). Soils formed under wetland (anaerobic) conditions generally have a low chroma matrix color, designated 0, 1, or 2, and contain mottles or other redoximorphic features. Soil profiles were characterized by depth, color, redoximorphic features, and texture. Soil color and chroma were determined using a Munsell soil color chart (Gretag Macbeth 2000) to determine if the soils in a particular area could be considered hydric.

Plant species within potential wetlands were assigned a wetland status according to the Corps list of plant species that occur in wetlands (Lichvar 2016). This wetland plant classification system is based on the expected frequency of occurrence of each species in wetlands.

If streams potentially jurisdictional under the CWA and/or the CFGC are noted on a site, they are delineated using a mix of surveyed topography data, high resolution aerial photographs, and a sub-meter GPS unit. The ordinary high water mark would be used to determine the extent of potential Section 404 jurisdiction, while the top-of-bank would be used to determine the extent of CFGC Section 1602 and 401. Streams with associated woody vegetation were assessed to determine if these areas would be considered riparian habitat by the CDFW following *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994).

4.2 Special-status Species

4.2.1 General Assessment

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the greater vicinity through a literature and database review. Database searches for known occurrences of special-status species focused on the 7.5-minute USGS quadrangles mentioned above for special-status plants and the entirety of Mendocino County for special-status wildlife.

A preliminary site visit was made on February 12, 2021 to evaluate the presence of suitable habitat for special-status species. Suitable habitat conditions are based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

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

If a more thorough assessment was warranted, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. Methods for the assessments are described below. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2.

4.2.2 Special-status Plants

A general botanical assessment was performed on February 12, 2021. This assessment consisted of traversing the entirety of the Study Area. Habitat elements required or associated with certain species or species groups were searched for and noted. Such habitat elements include, but are not limited to: plant assemblages and vegetation structure; soil texture, parent material, and hydroperiod; surface and subsurface hydroperiods; topography, aspect, slope, and elevation; site management, including vegetation management; distance to documented occurrences of special-status plants; etc.

To determine the presence or absence of special-status plant species, focused surveys were conducted within the Study Area on February 12, April 22, and June 3, 2021. The surveys correspond to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field surveys were conducted by botanists familiar with the flora of Napa and surrounding counties. The surveys were performed in accordance with those outlined by Napa County (2016b), which follow those described by resource experts and agencies (CNPS 2001, CDFW 2018c, USFWS 1996). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2019), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2019), unless otherwise noted.

4.2.3 Special-status Wildlife

A general wildlife assessment was performed on February 12, 2021. This assessment consisted of traversing the entirety of the Study Area as well as substantial portions of the Subject Property. Habitat elements required or associated with certain species (e.g., northern spotted owl) or species groups (e.g., bats, anadromous fish) were searched for and noted. Such habitat elements include, but are not limited to: plant assemblages and vegetation structure; stream depth, width, hydro-period, slope, and bed-and-bank structure; rock outcrops, caves, cliffs, overhangs, and substrate texture and rock content; history of site alteration and contemporary disturbances; etc.

A targeted assessment, including two surveys for American badger (*Taxidea taxus*), was conducted in Study Area on February 22, April 22, and June 3, 2021. The surveys consisted of traversing the entirety of the Study Area searching for den openings and throw piles reminiscent of those created by badgers. Den openings are elliptical (rather than round) of at least twelve inches in width, while throw piles are approximately two to six feet in length and at least two feet in width. Such burrow characteristics were searched for throughout the Study Area on both site visits.

A targeted assessment, including three surveys for Point Arena mountain beaver (*Aplodontia rufa nigra*), was conducted in Study Area on February 22, April 22, and June 3, 2021. The surveys consisted of traversing the entirety of the Study Area searching for burrow openings created by mountain beavers, particularly in dense shrubby areas. Burrow openings are round and four to eleven inches in width. Such burrow characteristics were searched for throughout the Study Area on all three site visits, with particular focus in the shrubby areas in the eastern portion of the property.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2021b) and the NMFS Essential Fish Habitat Mapper (NMFS 2021) were queried to determine if critical habitat for any species or EFH, respectively, occurs within the Study Area. To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010) and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2021a). Additionally, aerial imagery (Google 2021) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions.

5.0 ASSESSMENT RESULTS

5.1 Land Cover Types

WRA observed two land cover types within the Study Area: non-native grassland (sweet vernal grass prairie) and coyote brush scrub (Figure A-3). Neither of these are considered ESHA under the Mendocino County LCP.

5.1.1 Terrestrial Land Cover Types

Sweet Vernal Grass Prairie (*Anthoxanthum odoratum* Semi-Natural Herbaceous Stands). CDFW Rank: None; ESHA: No. Sweet vernal grass prairies are known primarily from the coastal counties and Sierra Nevada Foothills (Sawyer et al. 2009, CNPS 2021b). These meadows are situated on coastal bluffs, coastal terraces, and moist pastures (Sawyer et al. 2009). The Study Area contains 0.1 acre of sweet vernal grass prairie, which is situated in the western portion (Figure A-3).

This grassland is dominated by the herbaceous layer with sporadic individuals of grand fir (*Abies grandis*), Douglas fir (*Pseudotsuga menziesii*), yellow bush lupine (*Lupinus arboreus*), and coyote brush (*Baccharis pilularis*). The herbaceous layer is dominated by sweet vernal grass (*Anthoxanthum odoratum*) with secondary species of common velvet grass (*Holcus lanatus*), orchard grass (*Dactylis glomerata*), and big rattlesnake grass (*Briza maxima*). Native and non-native forbs within this prairie include Douglas iris (*Iris douglasiana*), wild carrot (*Daucus carota*), bull thistle (*Cirsium vulgare*), rough cat's-ear (*Hypochaeris radicata*), and English plantain (*Plantago lanceolata*).

Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance). CDFW Rank: G5 S5. Coyote brush scrub is known from the outer Coast Ranges and Sierra Nevada Foothills from Del Norte County south to San Diego County. These scrubs are typically located on river mouths, riparian areas, terraces, stabilized dunes, coastal bluffs, open hillsides, and ridgelines on all aspects underlain by variable substrate of sand to clay (Sawyer et al. 2009, CNPS 2021b). The Study Area contains 0.2 acre of coyote brush scrub, which is situated in the eastern portion (Figure A-3).

The dominant cover element is the shrub layer, with the dominant species of coyote brush (*Baccharis pilularis*), with substantial cover from a combination of poison oak (*Toxicodendron diversilobum*), twinberry (*Lonicera involucrata*), rosemary grevillea (*Grevillea rosmarinifolia*), Carmel ceanothus (*Ceanothus thyrsiflorus*), California coffeeberry (*Frangula californica*), western thimbleberry (*Rubus parviflorus*), and salmonberry (*Rubus spectabilis*). The herbaceous layer contains a mix of native and non-native species including common velvet grass (*Holcus lanatus*), sweet vernal grass (*Anthoxanthum odoratum*), common yarrow (*Achillea millefolium*), false lily of the valley (*Maianthemum racemosum*), Pacific false bindweed (*Calystegia purpurata* ssp. *purpurata*), and coast manroot (*Marah oregana*).

5.1.2 Aquatic Resources

There are no aquatic resources within the Study Area.

5.2 Special-status Species

5.2.1 Special-status Plant Species

Based upon a review of the resource databases listed in Section 4.0, 62 special-status plant species have been documented in the vicinity of the Study Area. Appendix C summarizes the potential for each of the 62 species to occur there. Twenty of these plants have the potential to occur in the Study Area. The remaining 42 species documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Study Area
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Study Area
- Topographic conditions (e.g., north-facing slope, montane) necessary to support the special-status plant species are not present in the Study Area
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Study Area
- Associated natural communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Study Area
- The Study Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species
- Land use history and contemporary management (e.g., absence of mowing or grazing) has degraded the localized habitat necessary to support the special-status plant species

The following species were initially assessed to have the potential to occur within the Study Area; however, none were observed during surveys conducted on February 22, April 22, and June 3, 2021.

- Blasdale's bentgrass (*Agrostis blasdalei*); CRPR 1B
- Coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*); CRPR 1B
- Oregon paintbrush (*Castilleja affinis* ssp. *litoralis*); CRPR 2B
- Mendocino paintbrush (*Castilleja mendocinensis*); CRPR 1B
- Point Reyes ceanothus (*Ceanothus gloriosus* var. *gloriosus*); CRPR 4
- Supple daisy (*Erigeron supplex*); CRPR 1B
- Bluff wallflower (*Erysimum concinnum*); CRPR 1B
- Roderick's fritillary (*Fritillaria roderickii*); CRPR 1B
- Pacific gilia (*Gilia capitata* ssp. *pacifica*); CRPR 1B
- Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*); CRPR 1B
- Harlequin lotus (*Hosackia gracilis*); CRPR 4, butterfly host plant
- Baker's goldfields (*Lasthenia californica* ssp. *bakeri*); CRPR 1B
- Perennial goldfields (*Lasthenia californica* ssp. *macrantha*); CRPR 1B
- Marsh microseris (*Microseris paludosa*); CRPR 1B
- Wolf's evening-primrose (*Oenothera wolfii*); CRPR 1B
- Maple-leaved checkerbloom (*Sidalcea malachroides*); CRPR 4
- Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*); CRPR 1B
- Purple-stemmed checkerbloom (*Sidalcea malviflora* ssp. *purpurea*); CRPR 1B
- Santa Cruz clover (*Trifolium buckwestiorum*); CRPR 1B
- Western dog violet (*Viola adunca*); butterfly host plant

5.2.2 Special-status Wildlife Species

A total of 48 special-status wildlife species have been documented in Mendocino County (CDFW 2021a). Appendix C summarizes the potential for each of the 48 species to documented from Mendocino County. Those species that are unlikely or have no potential to occur within the Study Area and/or Project Area do so for one or more of the following reasons:

- Aquatic habitats (e.g., rivers, estuaries) necessary to support the special-status wildlife species are not present in the Study Area
- Vegetation habitats (e.g., coast redwood forest, coastal prairie) that provide nesting and/or foraging resources necessary support the special-status wildlife species are not present in the Study Area
- Physical structures and vegetation (e.g., mines, old-growth coniferous trees) necessary to provide nesting, cover, and/or foraging habitat to support the special-status wildlife species are not present in the Study Area
- Host plants (e.g., dog violet, harlequin lotus) necessary to provide larval and nectar resources for the special-status wildlife species are not present in the Study Area
- The Study Area is outside (e.g., north of, west of) of the special-status wildlife species documented nesting range

The following two special-status birds have the potential to occur in and utilize the Study Area:

Grasshopper Sparrow (*Ammodramus savannarum*). CDFW Species of Special Concern. Moderate Potential (Presence Unknown). Grasshopper Sparrow generally prefers moderately open grasslands and prairies with patchy bare ground. They select different components of vegetation, depending on grassland ecosystem. This sparrow typically avoids grasslands with extensive shrub cover, although some level of shrub cover is important for birds in western regions (Vickery 1996). Grasshopper Sparrows are ground-nesting birds. The nest cup is domed with overhanging grasses and a side entrance. Eggs are usually laid in early to mid-June and hatch 12 days later. Males and females provide care to the young and second broods are common. This species feeds primarily on insects (Vickery 1996).

Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*). CDFW Species of Special Concern. Moderate Potential (Presence Unknown). This subspecies of the common and widespread savannah sparrow is a year-round resident of the coastal California fog belt. It typically occupies upper tidally-influenced habitats, often found where wetland communities merge into grassland. Nesting occurs in vegetation on or near the ground, including along roads, levees, and canals (Shuford and Gardali 2008). Like most sparrows, Bryant's consumes primarily invertebrates and vegetative matter (e.g., seeds).

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2021b) or Essential Fish Habitat (NMFS 2021). The Study Area is not within a designated wildlife corridor (CalTrans 2010). The site is located within a much larger tract of moderately developed land within a rural portion of Mendocino County. While common wildlife species presumably utilize the site to some degree for movement at a highly localized scale, the Study Area itself does not provide corridor functions beyond connecting similar small, grassland and scrubland parcels in the immediate vicinity.

6.0 PROJECT ANALYSIS AND RECOMMENDATIONS

The Proposed Project involves the construction of a single-family residence with associated infrastructure including a driveway, and utility lines. The residence will comply with design elements mandated by the Irish Beach community. Currently, there are no specific designs or locations; therefore, the following analysis and recommendations covers the entire Study Area (parcel), which does not contain any ESHA with the possible exception of two special-status and non-status nesting birds.

The following are general recommendations to protect the Study Area's overall biological integrity:

- Construction during the dry season and/or dry periods: May 15 – October 15; if a rain event occurs in excess of one inch over a 24-hour period occurs during the construction phase, all activities shall cease for 24 hours after perceptible rain ceases.

6.1 Land Cover Types

6.1.1 Terrestrial Land Cover Types

The Study Area contains two terrestrial land cover types: sweet vernal grass prairie and coyote brush scrub, neither of which are considered sensitive by the CDFW or the Mendocino County LCP. Therefore, the Study Area does not support terrestrial land cover ESHA. No further actions are recommended for such.

6.1.2 Aquatic Resources

The Study Area does not support aquatic resources. No further actions are recommended for such.

6.2 Special-status Species

6.2.1 Special-status Plants

The Study Area was initially assessed to have the potential to support twenty special-status plants; however, none were observed during protocol-level rare plant surveys conducted on three site visits in spring and summer 2021. No further actions are recommended for such.

6.2.2 Special-status Wildlife

The Study Area has the potential to support two special-status wildlife: grasshopper sparrow (*Ammodramus savannarum*) and Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), as well as nesting non-status birds. The following recommendations are forwarded to protect these special-status species.

All Bird Species (including non-special-status): In addition to the special-status birds discussed above, a variety of non-status bird species with baseline protections under the MBTA and CFGC may use vegetation within the Study Area for nesting. Pre-construction surveys are recommended to ensure that construction would not impact any nesting birds.

Recommendation 1: WRA recommends that tree/vegetation removal and initial ground disturbance occur from August 16 to January 31, outside of the general bird nesting season. If tree/vegetation removal during this time is not feasible, a pre-construction nesting bird survey should be performed by a qualified biologist no more than 14 days prior to the initiation of tree removal or ground disturbance is recommended. The survey should cover the construction footprint (including lay-down areas) and surrounding areas within 500 feet. If active bird nests are found during the survey, an appropriate no-disturbance buffer should be established by the qualified biologist. Once it is determined that the young have fledged (left the nest) or the nest otherwise becomes inactive (e.g., due to predation), the buffer may be lifted and work may be initiated within the buffer.

6.2.3 Wildlife Movement

There is no Critical Habitat, Essential Fish Habitat, or regional migratory corridors within the Study Area. Residential redevelopment within the Study Area is in and of itself unlikely to result in any significant impacts to local wildlife movement. No further actions are recommended for such.

7.0 REFERENCES

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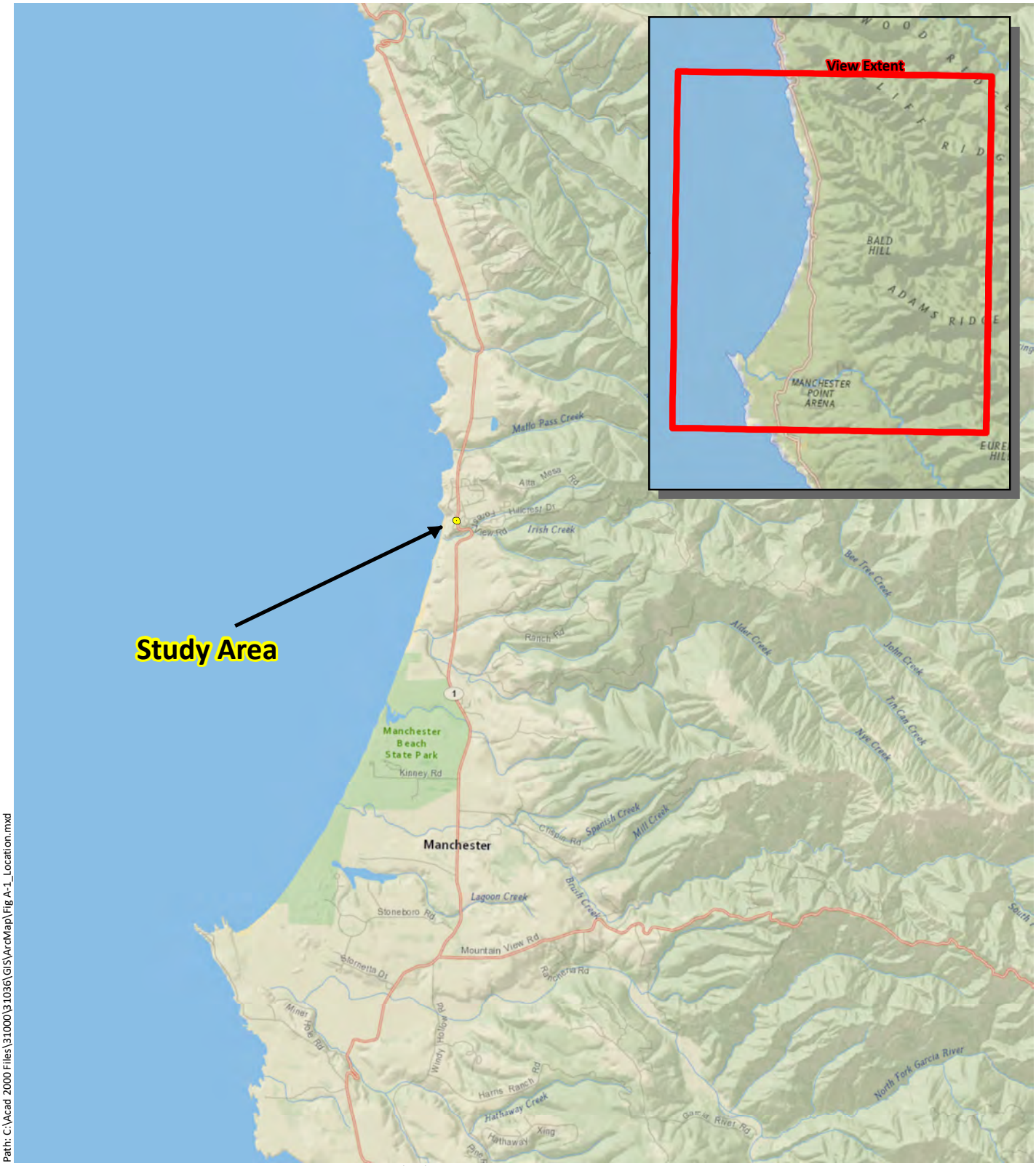
Appendix A

Figures



Sources: National Geographic, WRA | Prepared By: aarthur, 6/14/2021

Figure A-1. Study Area Location

15161 Irish Beach Drive
Mendocino County, CA

0 1 2 Miles

N

wra ENVIRONMENTAL CONSULTANTS

Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: aarthur, 6/14/2021

Figure A-2. Soil Mapping Units

15161 Irish Beach Drive
Mendocino County, CA

0 25 50 Feet

N

wra
ENVIRONMENTAL CONSULTANTS

Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: aarthur, 6/14/2021

Figure A-3. Land Cover

15161 Irish Beach Drive
Mendocino County, CA

0 25 50 Feet

N

wra
ENVIRONMENTAL CONSULTANTS

Appendix B

Species Observed in the Study Area

Table B-1. Plant species observed in the Study Area, February 12, April 22, and June 3, 2021

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Agavaceae	*Chlorogalum pomeridianum* var. *pomeridianum*	common soap plant	perennial forb	native	--	--	NL
Aizoaceae	*Carpobrotus edulis*	iceplant	perennial forb	non-native	--	high	NL
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	deciduous shrub	native	--	--	FAC
Apiaceae	*Angelica hendersonii*	Henderson's angelica	perennial forb	native	--	--	NL
Apiaceae	*Daucus carota*	wild carrot	perennial forb	non-native	--	--	NL
Apiaceae	*Daucus pusillus*	American wild carrot	annual forb	native	--	--	NL
Apiaceae	*Heracleum maximum*	common cow parsnip	perennial forb	native	--	--	FAC
Apiaceae	*Sanicula crassicaulis*	Pacific sanicle	perennial forb	native	--	--	NL
Asphodelaceae	*Kniphofia uvaria*	redhot poker	perennial forb	non-native	--	--	NL
Asteraceae	*Achillea millefolium*	common yarrow	perennial forb	native	--	--	FACU
Asteraceae	*Arctotheca prostrata*	prostrate Cape weed	perennial forb	non-native	--	moderate	NL
Asteraceae	*Artemisia douglasiana*	mugwort	perennial forb	native	--	--	FACW
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	coyote brush	evergreen shrub	native	--	--	NL
Asteraceae	*Carduus pycnocephalus*	Italian thistle	annual forb	non-native	--	moderate	NL
Asteraceae	*Cirsium vulgare*	bull thistle	perennial forb	non-native	--	moderate	FACU
Asteraceae	*Gamochaeta ustulata*	featherweed	perennial forb	native	--	--	FACW
Asteraceae	*Hypochaeris radicata*	rough cat's-ear	perennial forb	non-native	--	moderate	FACU
Asteraceae	*Leucanthemum vulgare*	ox-eye daisy	perennial forb	non-native	--	moderate	FACU
Caprifoliaceae	*Lonicera involucrata* var. *ledebourii*	twinberry	evergreen shrub	native	--	--	FAC
Convolvulaceae	*Calystegia purpurata* ssp. *purpurata*	Pacific false bindweed	perennial vine	native	--	--	NL
Cucurbitaceae	*Marah oregana*	coast manroot	perennial vine	native	--	--	NL
Cyperaceae	*Carex obnupta*	coast sedge	perennial graminoid	native	--	--	OBL
Dennstaedtiaceae	*Pteridium aquilinum* var. *pubescens*	bracken fern	perennial fern	native	--	--	FACU
Dryopteridaceae	*Polystichum munitum*	western swordfern	perennial fern	native	--	--	FACU
Fabaceae	*Lotus corniculatus*	bird's-foot trefoil	perennial forb	non-native	--	assessed	FAC
Fabaceae	*Lupinus albifrons*	silver bush lupine	evergreen shrub	native	--	--	NL

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Fabaceae	*Lupinus arboreus*	yellow bush lupine	evergreen shrub	native	--	limited	NL
Fabaceae	*Vicia sativa*	garden vetch	annual forb	non-native	--	--	UPL
Fabaceae	*Vicia villosa*	woolly-pod vetch	annual forb	non-native	--	--	NL
Geraniaceae	*Geranium dissectum*	cutleaf geranium	annual forb	non-native	--	moderate	NL
Iridaceae	*Iris douglasiana*	Douglas' iris	perennial forb	native	--	--	NL
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	perennial forb	native	--	--	FACW
Juncaceae	*Juncus patens*	common rush	perennial graminoid	native	--	--	FACW
Juncaceae	*Luzula comosa*	Pacific woodrush	perennial graminoid	native	--	--	FAC
Lamiaceae	*Stachys ajugoides*	bugle hedgenettle	perennial forb	native	--	--	OBL
Linaceae	*Linum bienne*	pale flax	annual forb	non-native	--	--	NL
Melanthiaceae	*Toxicoscordion fremontii*	Fremot's star lily	perennial forb	native	--	--	NL
Myrsinaceae	*Lysimachia arvensis*	scarlet pimpernel	annual forb	non-native	--	--	NL
Papaveraceae	*Eschscholzia californica*	California poppy	perennial forb	native	--	--	NL
Pinaceae	*Abies grandis*	grand fir	evergreen tree	native	--	--	FACU
Pinaceae	*Pinus radiata*	Monterey pine	evergreen tree	native	--	limited	NL
Pinaceae	*Pseudotsuga menziesii*	Douglas fir	evergreen tree	native	--	--	FACU
Plantaginaceae	*Plantago lanceolata*	English plantain	perennial forb	non-native	--	limited	FACU
Poaceae	*Anthoxanthum odoratum*	sweet vernalgrass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	*Avena barbata*	wild oat	annual graminoid	non-native	--	moderate	NL
Poaceae	*Briza maxima*	big rattlesnake grass	annual graminoid	non-native	--	limited	NL
Poaceae	*Bromus carinatus*	California brome	perennial graminoid	native	--	--	NL
Poaceae	*Cynodon dactylon*	Bermuda grass	perennial graminoid	non-native	--	moderate	FACU
Poaceae	*Cynosurus echinatus*	dogtail grass	annual graminoid	non-native	--	moderate	NL
Poaceae	*Dactylis glomerata*	orchard grass	perennial graminoid	non-native	--	limited	FACU
Poaceae	*Danthonia californica*	California oat grass	perennial graminoid	native	--	--	FAC
Poaceae	*Elymus glaucus*	blue wildrye	perennial graminoid	native	--	--	FACU
Poaceae	*Holcus lanatus*	common velvet grass	perennial graminoid	non-native	--	moderate	FAC

Family	Scientific name	Common name	Life form	Origin	Rare Status[1]	Invasive Status[2]	Wetland indicator[3]
Polygonaceae	*Rumex acetosella*	sheep sorrel	perennial forb	non-native	--	moderate	FACU
Proteaceae	*Grevillea rosmarinifolia*	rosemary grevillea	evergreen shrub	non-native	--	--	NL
Rhamnaceae	*Ceanothus thyrsiflorus*	Carmel ceanothus	evergreen shrub	native	--	--	NL
Rhamnaceae	*Frangula californica*	California coffeeberry	evergreen shrub	native	--	--	NL
Rosaceae	*Rubus parviflorus*	western thimbleberry	evergreen shrub	native	--	--	FACU
Rosaceae	*Rubus spectabilis*	salmonberry	evergreen shrub	native	--	--	FAC
Rosaceae	*Rubus ursinus*	California blackberry	evergreen shrub	native	--	--	FACU
Rubiaceae	*Galium aparine*	common bedstraw	annual forb	native	--	--	FACU
Ruscaceae	*Maianthemum racemosum*	false lily of the valley	perennial forb	native	--	--	FAC

All species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012), *The Jepson Flora Project* (eFlora 2021), and *A Flora of Sonoma County* (Best et al. 1996); nomenclature follows *The Jepson Flora Project* (eFlora 2021) unless otherwise noted

Sp.: “species”, intended to indicate that the observer was confident in the identity of the genus but uncertain which species
Cf.: “*confer*” or “compared with”, intended to indicate a species appeared to the observer to be specific, but was not identified based on diagnostic characters

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2021a)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
CRPR 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B:	Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A:	Plants presumed extirpated in California, but more common elsewhere
CRPR 2B:	Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3:	Plants about which we need more information – a review list
CRPR 4:	Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2006)

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Corps 2018)

OBL:	Almost always a hydrophyte, rarely in uplands
FACW:	Usually a hydrophyte, but occasionally found in uplands
FAC:	Commonly either a hydrophyte or non-hydrophyte
FACU:	Occasionally a hydrophyte, but usually found in uplands
UPL:	Rarely a hydrophyte, almost always in uplands
NL:	Rarely a hydrophyte, almost always in uplands
NI:	No information; not factored during wetland delineation

Table B-2. Wildlife species observed in and around the Study Area

Scientific Name	Common Name
Mammals	
Odocoileus hemionus columbianus	black-tailed deer
Birds	
Aphelocoma californica	western scrub-jay
Callipepla californica	California quail
Corvus corax	common raven
Melozone crissalis	California towhee
Turdus migratorius	American robin
Zenaida macroura	mourning dove
Zonotrichia thalassina	white-crowned sparrow

Appendix C

Potential for Special-status Species to Occur in the Study Area

Table C. Potential for Special-status Species to Occur in the Study Area. List compiled from the CDFW BIOS database (CDFW 2021a), USFWS IPaC Report (USFWS 2021), and CNPS Electronic Inventory (CNPS 2021a) searches. For plants, the Albion, Elk, Navarro, Mallo Pass Creek, Cold Spring, Point Arena, and Eureka Hill USGS 7.5' quadrangles were included in the search. For wildlife, the entirety of Mendocino County was considered.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
PLANTS				
Abronia umbellata var. *breviflora* pink sand-verbena	CRPR 1B	Coastal dunes, coastal strand; located on fore-dunes and inter-dunes with sparse cover. Elevation range: 0 – 35 feet. Blooms: June – October.	**No Potential.** The Study Area does not contain coastal dune habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Agrostis blasdalei Blasdale's bentgrass	CRPR 1B	Coastal dunes, coastal bluff scrub, coastal prairie; on sandy or gravelly soil near exposed rock; often in nutrient-poor soil. Elevation range: 15 – 490 feet. Blooms: May – July.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Angelica lucida sea-watch	CRPR 4	Coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps; located on wetland margins. Elevation range: 0 – 490 feet. Blooms: May – September.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Arctostaphylos nummularia ssp. *mendocinensis* pygmy manzanita	CRPR 1B	Closed-cone coniferous forest; located acidic, sandy clay substrate in pygmy forest stands. Elevation range: 290 – 600 feet. Blooms: January.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Astragalus agnicidus Humboldt County milk-vetch	SE; CRPR 1B	Broadleaf upland forest, redwood forest; located in disturbed openings in timber lands, on south-facing aspects, and along ridgelines. Elevation range: 585 – 2600 feet. Blooms: April – September.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Calamagrostis bolanderi Bolander's reed grass	CRPR 4	Bogs and fens, Broadleaf upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest; situated in freshwater wetlands. Elevation range: 0 – 1490 feet. Blooms: May – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Calystegia purpurata ssp. *saxicola* coastal bluff morning glory	CRPR 1B	Coastal dunes, coastal scrub; located on coastal bluffs. Elevation range: 30 – 330 feet. Blooms: May – September.	**High Potential.** The Study Area contains coastal scrub or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Campanula californica swamp harebell	CRPR 1B	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows, freshwater marsh, North Coast coniferous forest; typically located in wetlands within a variety of surrounding habitats. Elevation range: 3 – 1320 feet. Blooms: June – October.	**Unlikely.** Although the Study Area contains coastal scrub and grassland, this species is typically situated in mesic to wetland areas within such habitats.	**Presumed Absent.** No further actions are recommended for this species.
Carex californica California sedge	CRPR 2B	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows, marshes and swamps; located in drier areas of swamps, bogs, and marsh margins. Elevation range: 290 – 1090 feet. Blooms: May – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Carex lyngbyei Lyngbye's sedge	CRPR 2B	Marshes and swamps; brackish to freshwater. Elevation range: 0 – 35 feet. Blooms: April – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Carex saliniformis deceiving sedge	CRPR 1B	Coastal prairie, coastal scrub, meadows and seeps, coastal salt marshes and swamps; located in mesic sites. Elevation range: 10 – 750 feet. Blooms: June – July.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Carex viridula var. *viridula* green yellow sedge	CRPR 2B	Bogs and fens, freshwater marshes and swamps, North Coast coniferous forest; located in mesic sites. Elevation range: 0 – 5200 feet. Blooms: June – November.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Castilleja affinis spp. *littoralis* Oregon Coast paintbrush	CRPR 2B	Coastal bluff scrub, coastal dune, coastal scrub; located on sandy substrate. Elevation range: 45 – 325 feet. Blooms: June.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Castilleja ambigua ssp. *humboldtiensis* Humboldt Bay owl's-clover	CRPR 1B	Coastal salt marsh; located in marshes associated with salt grass, cordgrass, pickleweed, and jaumea. Elevation range: 0 – 10 feet. Blooms: April – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Castilleja mendocinensis Mendocino Coast paintbrush	CRPR 1B	Coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dune; typically located on open sea bluffs and cliffs. Elevation range: 0 – 520 feet. Blooms: April – August.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Ceanothus gloriosus var. *exaltatus* glory brush	CRPR 4.3	Chaparral. Elevation ranges from 100 - 2000 feet. Blooms: March – June, sometimes August.	**No Potential.** The Study Area does not contain chaparral or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Ceanothus gloriosus var. *gloriosus* Point Reyes ceanothus	CRPR 4.3	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal scrub/sandy. Elevation ranges from 20 – 1710 feet. Blooms: March – May.	**Moderate Potential.** The Study Area contains coastal scrub or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Chrysosplenium glechomifolium Pacific golden saxifrage	CRPR 4	North coast coniferous forest, riparian forest/streambanks, sometimes seeps, sometimes roadsides. Elevation ranges from 30 - 720 feet. Blooms: February – June.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Coptis laciniata Oregon goldthread	CRPR 2B	North Coast coniferous forest, meadows and seeps; located in mesic sites, roadsides, and streamsides. Elevation range: 0 – 3250 feet. Blooms: March – April.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Cordylanthus tenuis ssp. *brunneus* serpentine bird's-beak	CRPR 4	Closed-cone coniferous forest, chaparral, cismontane woodland; typically located serpentine substrate. Elevation range: 1540 – 2975 feet. Blooms: July – August.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Cuscuta pacifica var. *papillata* Mendocino dodder	CRPR 1B	Coastal dunes; located in interdune depressions; likely hosts on lupines, catchflies, and cudweeds. Elevation range: 0 – 165 feet. Blooms: July – October.	**No Potential.** The Study Area does not contain coastal dune habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Cypripedium montanum mountain lady's-slipper	CRPR 4	Broadleaf upland forest, cismontane woodland, lower montane coniferous forest, North Coast coniferous forest. Elevation range: 600 – 7235 feet. Blooms: March – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Erigeron supplex supple daisy	CRPR 1B	Coastal bluff scrub, coastal prairie; typically located in grassy sites along the coastline. Elevation range: 30 – 165 feet. Blooms: May – July.	**High Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Erysimum concinnum bluff wallflower	CRPR 1B	Coastal bluff scrub, coastal scrub, coastal dunes; situated on sandy substrate. Elevation range: 0 – 605 feet. Blooms: February – July.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Erythronium revolutum coast fawn lily	CRPR 2B	Bogs and fens, broadleaf upland forest, North Coast coniferous forest; located on mesic streambanks and decommissioned logging roads. Elevation range: 0 – 5200 feet. Blooms: March – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Fritillaria roderickii Roderick's fritillary	SE; CRPR 1B	Coastal bluff scrub, coastal prairie, valley and foothill grassland; located on grassy slopes, mesas, and terraces. Elevation range: 45 – 1300 feet. Blooms: March – May.	**Moderate Potential.** The Study Area contains coastal scrub and grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Gilia capitata ssp. *pacifica* Pacific gilia	CRPR 1B	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation range: 15 – 3090 feet. Blooms: April – August.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Glehnia littoralis ssp. *leiocarpa* American Glehnia	CRPR 4.2	Coastal dunes. Elevation range: 0 – 70 feet. Blooms: May – August.	**No Potential.** The Study Area does not contain coastal dune habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Glyceria grandis American manna grass	CRPR 2B	Meadow and seep; located in wet meadows, ditches, streamsides, and pond edges in valleys and low mountains. Elevation range: 45 – 6435 feet. Blooms: June – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Hesperevax sparsiflora var. *brevifolia* short-leaved evax	CRPR 1B	Coastal bluff scrub, coastal dune; located on sandy bluffs and flats near the immediate coastline. Elevation range: 0 – 700 feet. Blooms: March – June.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Hesperocyparis pygmaea pygmy cypress	CRPR 1B	Closed-cone coniferous forest; located on podzol-like soils (e.g., Blacklock series). Elevation range: 100 – 1950 feet.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Hosackia gracilis Harlequin lotus	CRPR 4; (butterfly host plant)	Broadleaf 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; located in wetlands and often roadside ditches or compacted decommissioned roadbeds. Elevation range: 0 – 2275 feet. Blooms: March – July.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Kopsiopsis hookeri small groundcone	CRPR 2B	North Coast coniferous forest; located in open woods, shrublands, generally hosts on salal (*Gaultheria shallon*). Elevation range: 290 – 2880 feet. Blooms: April – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lasthenia californica ssp. *bakeri* Baker's goldfields	CRPR 1B	Closed-cone coniferous forest, coastal scrub; located in openings in scrub and coastal forest habitat. Elevation range: 195 – 1690 feet. Blooms: April – October.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lasthenia californica ssp. *macrantha* perennial goldfields	CRPR 1B	Coastal bluff scrub, coastal dune, coastal scrub. Elevation range: 15 – 1690 feet. Blooms: January – November.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Lasthenia conjugens Contra Costa goldfields	FE; CRPR 1B	Valley and foothill grassland, vernal pools, cismontane woodland, playas; located in grassy areas in swales, pools, and depressions; often underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lathyrus palustris marsh pea	CRPR 2B	Bogs and fens, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest, coastal prairie, coastal scrub; located in moist coastal areas. Elevation range: 3 – 325 feet. Blooms: March – August.	**Unlikely.** Although the Study Area contains coastal grassland, this species is typically situated in mesic areas, which are lacking.	**Presumed Absent.** No further actions are recommended for this species.
Leptosiphon acicularis bristly leptosiphon	CRPR 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; often located on shallow, rocky substrate in foothill positions; typically, low-growing and sparse vegetation; often on edge of chaparral and shrub thickets. Elevation range: 175 – 4875 feet. Blooms: April – July.	**Unlikely.** This species is predominantly known from drier areas at inland sites.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lilium maritimum coast lily	CRPR 1B	Closed-cone coniferous forest, coastal prairie, coastal scrub, broadleaf upland forest, North Coast coniferous forest; typically located on sandy soils, often in raised hummocks or bogs, and roadside ditches. Elevation range: 15 – 1545 feet. Blooms: May – August.	**Unlikely.** Although the Study Area contains coastal scrub and grassland, this species is typically situated in mesic to wetland areas within such habitats.	**Presumed Absent.** No further actions are recommended for this species.
Lilium rubescens redwood lily	CRPR 4	Broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, North Coast coniferous forest; often located on serpentine substrates, and along roadcuts. Elevation range: 95 – 6210 feet. Blooms: April – September.	**No Potential.** The Study Area does not contain coniferous forest, chaparral, or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Lycopodium clavatum running-pine	CRPR 4.1	Lower montane coniferous forest, marshes and swamps, North Coast coniferous forest; typically on forest edges, openings, and roadsides. Elevation range: 150 – 4020 feet. Blooms: June – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Microseris paludosa marsh Microseris	CRPR 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 15 – 925 feet. Blooms: April – July.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Mitellastra caulescens leafy-stemmed miterwort	CRPR 4.2	Broadleaf upland forest, lower montane coniferous forest, meadows and seeps, North Coast coniferous forest; sometimes roadsides. Elevation range: 20 - 5580 feet. Blooms: sometimes March, April – October.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Oenothera wolfii Wolf's evening-primrose	CRPR 1B	Coastal bluff scrub, coastal dune, coastal prairie, lower montane coniferous forest; located on sandy substrates in mesic sites. Elevation range: 10 – 2600 feet. Blooms: May – October.	**Moderate Potential.** The Study Area contains coastal scrub/grassland or similar habitat that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	CRPR 4.2	Broadleaf upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools; situated in vernally mesic. Elevation range: 0 – 2000 feet. Blooms: June – October.	**Unlikely.** Although the Study Area contains coastal grassland, this species is typically situated in mesic areas underlain by clay soils.	**Presumed Absent.** No further actions are recommended for this species.
Pinus contorta ssp. *bolanderi* Bolander's pine	CRPR 1B	Closed-cone coniferous forest; located on podzol-like soils (Blacklock series), closely associated with Bishop pine and pygmy cypress. Elevation range: 240 – 815 feet.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Piperia candida white-flowered rein orchid	CRPR 1B	North Coast coniferous forest, lower montane coniferous forest, broadleaf upland forest; located on forest duff, mossy banks, often decommissioned logging roads, rock outcrops, and muskeg; periodically on serpentine substrate. Elevation range: 95 – 4260 feet. Blooms: March – September.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Pityopus californicus California pinefoot	CRPR 4.2	Broadleaf upland forest, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest; situated in mesic areas. Elevation range: 50 – 7300 feet. Blooms: sometimes March, April – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Pleuropogon hooverianus North coast semaphore grass	ST; CRPR 1B	Broadleaf upland forests, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest, shaded, wet, and grassy areas in forested habitat. Elevation range: 10 – 635 feet. Blooms May – August.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Potamogeton epihydrus Nuttall's ribbon-leaved pondweed	CRPR 2B	Marshes and swamps; located in assorted shallow freshwater. Elevation range: 1210 – 7130 feet. Blooms: sometimes June, July – September.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Rhynchospora alba white beaked-rush	CRPR 2B	Bogs and fens, meadows and seeps, marshes and swamps; located in freshwater perennial wetlands and sphagnum bogs. Elevation range: 195 – 6630 feet. Blooms: July – August.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Sanguisorba officinalis great burnet	CRPR 2B	Bogs and fens, meadows and seeps, broadleaf upland forest, marshes and swamps, North Coast coniferous forest, riparian forest; located on rocky serpentine seeps and streams. Elevation range: 195 – 4550 feet. Blooms: July – October.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea calycosa ssp. *rhizomata* Point Reyes checkerbloom	CRPR 1B	Marshes and swamps; located in freshwater marsh habitat near the coast. Elevation range: 10 – 245 feet. Blooms: April – September.	**No Potential.** The Study Area does not contain wetland habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Sidalcea malachroides maple-leaved checkerbloom	CRPR 4.2	Broadleaf upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian woodland; often located in disturbed areas. Elevation range: 0 - 2400 feet. Blooms: sometimes March, April – August.	**Moderate Potential.** The Study Area contains coastal scrub/grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Sidalcea malviflora ssp. *patula* Siskiyou checkerbloom	CRPR 1B	Coastal bluff scrub, coastal prairie, North Coast coniferous forest; often situated on roadcuts. Elevation range: 50 – 2890 feet. Blooms: May – August.	**Moderate Potential.** The Study Area contains coastal scrub/grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Sidalcea malviflora ssp. *purpurea* purple-stemmed checkerbloom	CRPR 1B	Broadleaf upland forest, coastal scrub. Elevation range: 45 – 280 feet. Blooms: May – June.	**High Potential.** The Study Area contains coastal scrub/grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Streptanthus glandulosus ssp. *hoffmanii* Hoffman's bristly jewel-flower	CRPR 1B	Chaparral, cismontane woodland, valley and foothill grassland; located on rocky sites often derived from serpentine. Elevation range: 390 – 1545 feet. Blooms: March – July.	**No Potential.** The Study Area does not contain serpentine habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Trifolium buckwestiorum Santa Cruz clover	CRPR 1B	Coastal prairie, broadleaf upland forest, cismontane woodland; located in moist grassy areas. Elevation range: 340 – 1985 feet. Blooms: April – October.	**Moderate Potential.** The Study Area contains coastal grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.
Trifolium trichocalyx Monterey clover	FE; SE; CRPR 1B	Closed-cone coniferous forest; located on poorly drained, nutrient-deficient soils with a hardpan; often in openings and burned areas. Elevation range: 95 – 780 feet. Blooms: April – June.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Usnea longissima Methusaleh's beard lichen	CRPR 4	Broadleaf upland forest, North Coast coniferous forest; typically on old-growth and mature hardwood and coniferous trees. Elevation range: 165 – 4790 feet.	**No Potential.** The Study Area does not contain coniferous forest or similar habitat to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Veratrum fimbriatum fringed false-hellbore	CRPR 4	Bogs and fens, coastal scrub, meadows and seeps, North Coast coniferous forest; located in mesic areas, frequently on stream banks. Elevation range: 10 – 980 feet. Blooms: July – September.	**No Potential.** The Study Area does not contain wetland or streamside habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Viola adunca western dog violet	none; (butterfly host plant)	Streambanks, meadow-forest edges in a wide variety of forest types, coastal prairie; typically located in mesic areas. Host plant for Behren's silverspot butterfly (*Speyeria zerene behrensii*). Elevation range: 10 – 11605 feet. Blooms: April – August.	**Moderate Potential.** The Study Area contains coastal scrub and grassland that may support this species.	**Not Observed.** This species was not observed during protocol-level special-status plant surveys in spring/summer 2021. No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
WILDLIFE				
Mammals				
Antrozous pallidus pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**No Potential.** The Study Area does not contain trees or forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Aplodontia rufa nigra Point Arena mountain beaver	FE, SSC	Coastal areas in the vicinity of Point Arena with springs or seepages. Utilizes north-facing slopes of ridges and gullies with friable soils and thickets of undergrowth.	**Unlikely.** Although the Study Area contains coastal scrub, this species is known from extensive and thick coastal scrubs located near perennial surface waters that are absent in the Study Area. Likewise, the Study Area is located within a broadly developed area with regular human, canine, and feline visitation that likely reduces the opportunity for this species to forage and range. Finally, no burrows were observed during concentrated searches on three separate site visits in late-winter/spring 2021.	**Presumed Absent.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Arborimus pomo Sonoma tree vole	SSC	Occurs in old-growth and mature coniferous forests, particularly bishop pine forest, Douglas fir forest, coast redwood forest, and montane mixed conifer-hardwood. Recent documentation from Monterey pine stands.	**No Potential.** The Study Area does not contain trees or forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Corynorhinus townsendii pallescens Pale big-eared bat	SSC	Roosts in caves, lava tubes, and abandoned mines. Feeds near forested areas, gleaning insects off plant leaves or in flight.	**No Potential.** The Study Area does not contain trees or forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Corynorhinus townsendii townsendii Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to disturbance	**No Potential.** The Study Area does not contain buildings, caves, or similar structures necessary to support this species.	**Not Present.** No further actions are recommended for this species.
Pekania pennanti fisher	FC, SSC	Known from mature to old-growth coniferous forest and deciduous riparian areas with high percent canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Requires large ranges of contiguous mature, dense forest.	**No Potential.** The Study Area does not contain trees or forest habitat necessary to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, woodland, and herbaceous vegetation types. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**Unlikely.** Although the Study Area contains coastal scrub and grassland with friable soils, it is situated within a broadly developed area with regular human and canine visitation that limits foraging and ranging opportunities for this species. Likewise, no dens or burrows of a size and dimension were observed.	**Presumed Absent.** No further actions are recommended for this species.
Birds				
Accipiter gentilis Northern goshawk	SSC	Year-round resident in extensive forests, primarily those with old-growth or otherwise mature stands of conifer or mixed conifer-hardwood. Nests in large trees, with some vertical heterogeneity. Preys on forest birds and mammals.	**No Potential.** The Study Area does not contain coniferous forest to support this species.	**Not Present.** No further actions are recommended for this species.
Ammodramus savannarum grasshopper sparrow	SSC, LR	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Moderate Potential.** The Study Area contains a mix of coastal shrubs and grasses that may support nesting of this species.	**Presence Unknown.** Vegetation removal and initial ground disturbance should occur outside of the nesting season, or conduct pre-construction breeding bird surveys and avoid any active nests found. See Section 6 for details.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Aquila chrysaetos golden eagle	BGEPA, SFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**No Potential.** The Study Area does not contain large canyons, rock outcrops, or other suitable nesting substrates for this species.	**Not Present.** No further actions are recommended for this species.
Asio flammeus short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	**Unlikely.** The Study Area offers limited perching sites for this medium sized owl. Suitable nesting substrate is absent.	**Presumed Absent.** No further actions are recommended for this species.
Brachyramphus marmoratus marbled murrelet	FT, SE	Primarily coastal marine, but breeds in old-growth redwood stands containing platform-like branches along the coast. Migrates daily from inland nests and roosts to forage in the Pacific Ocean.	**No Potential.** The Study Area does not contain coniferous forest to support this species.	**Not Present.** No further actions are recommended for this species.
Cerorhinca monocerata Cassin's auklet	SSC	Pelagic species, nesting colonially in burrows or crevices on offshore and coastal islands and rocks.	**No Potential.** The Study Area does not contain nor is immediately adjacent to offshore islands or sea stacks.	**Not Present.** No further actions are recommended for this species.
Chaetura vauxi Vaux's swift	SSC	Summer resident, typically nesting and roosting in the cavities of large, hollowed-out trees. Forages high in the air, generally over or near lakes and rivers.	**No Potential.** Trees and other similar nesting/roosting structures are absent for this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Charadrius alexandrines nivosus western snowy plover	FT, SSC	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	**No Potential.** The Study Area does not contain beaches or other suitable barren habitat near water.	**Not Present.** No further actions are recommended for this species.
Circus hudsonius northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	**Unlikely.** Although the Study Area contains coastal grassland and shrubs, the frequent human and canine visitation, as well as limited extent of open habitat, likely precludes nesting of this species. May forage or flyover the site.	**Presumed Absent.** No further actions are recommended for this species.
Contopus cooperi olive-sided flycatcher	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**No Potential.** The Study Area does not contain forest or woodland stands of the type typically used by this species.	**Not Present.** No further actions are recommended for this species.
Diomedea albatrus short-tailed albatross	FE	Pelagic, nesting on remote Pacific Ocean islands. Rare along the coast of California coast. Feeds on small animals and carrion on water's surface.	**No Potential.** The Study Area does not contain nor is immediately adjacent to offshore islands or sea stacks.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Elanus leucurus white-tailed kite	SFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Unlikely.** Although the Study Area contains coastal grassland and shrubs, the frequent human and canine visitation, as well as no trees/shrubs of a sufficient size, likely precludes nesting of this species. May forage or flyover the site.	**Presumed Absent.** No further actions are recommended for this species.
Falco peregrinus anatum American peregrine falcon	SE, SFP	Year-round resident and winter visitor. Occurs near water, including coastal areas, wetlands, lakes and rivers. Usually nests on sheltered cliffs or tall man-made structures. Preys primarily on waterbirds.	**No Potential.** The Study Area does not contain large cliffs or suitable man-made structures for nesting.	**Not Present.** No further actions are recommended for this species.
Fratercula cirrhata tufted puffin	SSC	Pelagic and coastal marine. Nests near or along the coast on islands, islets, and (rarely) isolated mainland cliffs. Requires sod or earth into which the birds can burrow, or rocky crevices where friable soil is absent. Forages at sea, primarily for fish.	**No Potential.** The Study Area does not contain nor is immediately adjacent to offshore islands or sea stacks.	**Not Present.** No further actions are recommended for this species.
Gavia immer common loon	SSC	Winter visitor to coastal marine, estuarine, and some expansive coastal freshwater habitats.	**No Potential.** The Study Area does not contain marine, estuarine, or other freshwater habitats.	**Not Present.** No further actions are recommended for this species.
Haliaeetus leucocephalus bald eagle	BGEPA, SE, SFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs, and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**No Potential.** The Study Area does not contain trees or other substrates sufficient to provide nesting.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Histrionicus histrionicus harlequin duck	SSC	Winter visitor to coastal habitats, usually along turbulent, rocky shores. Breeds in inland streams.	**No Potential.** The Study Area does not contain streams, or direct coastal habitat to support this species.	**Not Present.** No further actions are recommended for this species.
Oceanodroma homochroa ashy storm-petrel	SSC	Marine species; nests in rocky crevices on offshore islands and rocks from southern Mendocino County to norther Baja California. Forages over open ocean for invertebrates and larval fishes.	**No Potential.** The Study Area does not contain nor is immediately adjacent to offshore islands or sea stacks.	**Not Present.** No further actions are recommended for this species.
Passerculus sandwichensis alaudinus Bryant's savannah sparrow	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas, including grasslands. Also uses drier, more upland coastal grasslands. Nests near the ground in taller vegetation, including along levees and canals.	**Moderate Potential.** The Study Area contains a mix of coastal shrubs and grasses that may support nesting of this species.	**Presence Unknown.** Vegetation removal and initial ground disturbance should occur outside of the nesting season, or conduct pre-construction breeding bird surveys and avoid any active nests found. See Section 6 for details.
Progne subis purple martin	SSC, LR	Summer resident. Inhabits woodlands and low-elevation coniferous forests. Nests in old woodpecker cavities and man-made structures (bridges, utility towers). Nest is often located in tall, isolated tree or snag.	**No Potential.** Typical mixed or coniferous forest habitat is not present.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Riparia riparia bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Study Area does not contain cliffs or cuts with fine-textured soils or any other potentially suitable nesting substrate.	**Not Present.** No further actions are recommended for this species.
Setophaga petechia brewsteri (Brewster's) yellow warbler	SSC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting is variable, but dense willow growth is typical. Occurs widely on migration.	**No Potential.** The Study Area does not contain riparian habitat with dense, mature thickets of willows.	**Not Present.** No further actions are recommended for this species.
Strix occidentalis caurina northern spotted owl	FT,ST, SSC	Year-round resident in dense, structurally complex forests, primarily those with stands of mature conifers. In Napa County, uses both coniferous and mixed (coniferous-hardwood) forests. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	**No Potential.** The Study Area does not contain coniferous forest to support this species.	**Not Present.** No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Reptiles and Amphibians				
Ascaphus truei coastal tail frog	SSC	Requires permanent streams of low temperature in forested areas of high annual precipitation (greater than 40 inches). Individuals have been collected up to 40 feet from streams during moist periods. The normal home range has a long dimension that rare exceeds 80 feet.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Dicamptodon ensatus California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Emys marmorata western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Plethodon elongatus Del Norte salamander	SSC	Redwood and North Coast forests with talus slopes and hardwood understories.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Rana aurora northern red-legged frog	SSC	Occurs in the vicinity of quiet, permanent pools of streams, marshes, and occasionally ponds. Prefers shorelines with extensive vegetation.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Rana boylii foothill yellow-legged frog	SSC	Found in or near rocky streams in a variety of habitats; highly aquatic. Prefers partially-sunlit, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on invertebrates (aquatic and terrestrial).	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Rana draytonii California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense emergent and/or overhanging riparian vegetation. Favors perennial to intermittent ponds, marshes, and stream pools. Requires 11 to 20 weeks of continuous inundation for larval development. Disperses through upland habitats during and after rains.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Rhyacotriton variegatus southern torrent salamander	SSC	Known from cold, permanent seeps and small streams with rocky substrate in coast redwood-Douglas fir forests.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Taricha rivularis red-bellied newt	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat, though other forest types (e.g., hardwood) are also occupied. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flows.	**No Potential.** The Study Area and environs do not contain aquatic habitat necessary to support breeding or other essential life functions.	**Not Present.** Not further actions are recommended for this species.
Fishes				
Eucyclogobius newberryi tidewater goby	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. Requires fairly still but not stagnant water and high oxygen levels.	**No Potential.** The Study Area does not contain brackish or estuarine waters.	**Not Present.** Not further actions are recommended for this species.
Lampetra ayresi river lamprey	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps less than 25 degrees Celsius.	**No Potential.** The Study Area does not contain suitable riverine or estuarine waters.	**Not Present.** Not further actions are recommended for this species.
Lavinia symmetricus navarroensis Navarro roach	SSC	Known from the Navarro River watershed in predominantly warmer waters. Presumably prefers pools, but may favor stream margins when pikeminnows are present. Feeds on filamentous algae, crustaceans, and insects.	**No Potential.** The Study Area does not contain suitable riverine waters.	**Not Present.** Not further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Lavinia symmetricus parvipinnis Gualala roach	SSC	Known from the Gualala River watershed in predominantly warmer waters. Presumably prefers pools, but may favor stream margins when pikeminnows are present. Feeds on filamentous algae, crustaceans, and insects.	**No Potential.** The Study Area does not contain suitable riverine waters.	**Not Present.** Not further actions are recommended for this species.
Oncorhynchus kisutch coho salmon – central CA coast ESU	FE, SE	Occurs in inland and coastal rivers, and marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also requires riparian cover to contribute to cool, well-aerated water. Federal listing applies to populations between Punta Gorda and San Lorenzo River. State listing applies populations south of San Francisco Bay only.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** Not further actions are recommended for this species.
Oncorhynchus mykiss irideus steelhead - central CA coast DPS	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** Not further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Oncorhynchus tshawytscha Chinook salmon - California coastal ESU	FT	This ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps less than 27 degrees Celsius lethal to adults.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** Not further actions are recommended for this species.
Invertebrates				
Lycaedes argyrognomon lotis lotis blue butterfly	FE	Known from sphagnum-willow bogs in transition zones between coastal prairie with bishop pine and Bolander pine forests. Harlequin lotus (*Hosackia gracilis*) is suspected host plants.	**No Potential.** The Study Area does not support this species' larval host.	**Not Present.** Not further actions are recommended for this species.
Speyeria zerene behrensii Behren's silverspot butterfly	FE	Inhabits coastal terrace prairie habitat. Larval plant is dog violet (*Viola adunca*). Known from six historic locations from City of Mendocino to Salt Point; currently considered extant from Point Arena south to Salt Point.	**No Potential.** The Study Area does not support this species' larval host.	**Not Present.** Not further actions are recommended for this species.

***Key to status codes:**

FC	Federal Candidate for Listing
FE	Federal Endangered
BGEPA	Bald and Golden Eagle Protection Act Species
FT	Federal Threatened
LR	Locally Rare as per Napa County Baseline Report
SC (E/T)	State Candidate for Listing (Endangered/Threatened)
SE	State Endangered
SFP	State Fully Protected Animal
SR	State Rare
SSC	State Species of Special Concern
ST	State Threatened
CRPR 1A	CNPS CRPR 1A: Plants presumed extinct in California
CRPR 1B	CNPS CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
CRPR 2A	CNPS CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
CRPR 2B	CNPS CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 3	CNPS CRPR 3: Plants about which CNPS needs more information (a review list)
CRPR 4	CNPS CRPR 4: Plants of limited distribution (a watch list)
WBWG	Western Bat Working Group High or Medium-high Priority Species

Potential to Occur:

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

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

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

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

Results and Recommendations:

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

Assumed Present: Species is assumed to be present on-site based on the presence of key habitat components.

Assumed Present without Impact: Species assumed present; however, project activities will not have an impact on the species.

Presumed Absent: Species is presumed to not be present due to a lack of key habitat components.

Not Present: Species is considered not present due to a clear lack of any suitable habitat and/or local range limitations.

Not Observed: Species was not observed during dedicated/formal surveys.

Presence Unknown: Species has the potential to be present, but no dedicated surveys to determine absence/presence were performed.

Appendix D

Representative Photographs

Coyote Brush Scrub (middle- and background) and Sweet Vernal Grass Prairie (foreground), April

Coyote Brush Scrub (background) and Sweet Vernal Grass Prairie (foreground), June

Coyote Brush Scrub (background) and Sweet Vernal Grass Prairie (foreground), June

Mixed shrubs in Coyote Brush Scrub on the eastern edge of the Study Area, April

Appendix E

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

WRA is an environmental consulting firm with over 30 years of experience conducting biological resources assessments, wetland delineations, protocol-level rare plant surveys, special-status wildlife assessments and species-specific surveys, as well as preparing applications with state and federal natural resource agencies for avoiding, minimizing, and mitigating impacts to sensitive natural resources. Other services and products with which WRA has expertise include preparation of CEQA/NEPA documents, habitat mitigation and monitoring plans, natural resource management plans, mitigation and conservation bank enabling instruments, grazing management plans, and wetland and other natural resources restoration plans.

Matt Richmond, BS, Principal with WRA, has over fifteen years performing botanical assessments, rare plant surveys, environmentally sensitive habitat area surveys, wetland delineations, and vegetation mapping. He also has experience performing protocol-level surveys for California red-legged frog, Ridgeway's rail, marbled murrelet, northern spotted owl, Point Arena mountain beaver, and Behren's silverspot butterfly. His project focus is in conservation and mitigation banking, coastal development projects, vineyard development, and timber resources. Mr. Richmond regularly manages large-scale mitigation banking projects, as well as coastal development permits, coastal restoration projects, vineyard grading permits with a focus in Mendocino, Napa, Lake, and Sonoma counties. Mr. Richmond's technical training includes the flora of Northern California, plant ecology, and forest ecology. Additionally, he has completed the 40-hour Corps wetland delineation training. Mr. Richmond received his Bachelor of Science in Biology from Humboldt State University.

Aaron Arthur, MS, Associate Plant Biologist with WRA, has nearly fifteen years performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, and wetland delineations. His project focus is in vineyard development, timber resources, coastal development permits, habitat mitigation and monitoring plans, conservation and mitigation banking, and long-term management plans in Sonoma, Marin, Napa, and Mendocino counties. Mr. Arthur's technical training includes the flora of Northern California, the flora of the Pacific Northwest, agrostology, aquatic botany, plant ecology, forest ecology, and soil science. Additionally he has completed the 40-hour Corps wetland delineation course, holds 2081(a) Plant Voucher Permit, and is Certified California Consulting Botanist #0016 from the California Native Plant Society. Mr. Arthur received his Bachelor of Arts in Geography and received his Master of Science in Physical Geography from Oregon State University, where his research focused on forest floristics and vegetation change.