Biological Resources Report

Noyo Center for Marine Sciences Laboneatory

Fort Bragg, Mendocino County, California

Prepared for:

Noyo Center for Marine Science
P.O. Box 1321
Fort Bragg, CA 95437

Attn: Sheila Semans
sheila@noyocenter.org

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WRA Project # 340124

Prepared by:

WRA, Inc.
5341 Old Redwood Highway
Petaluma, CA 95432

Attn: Rhiannon Korhummel
korhummel@wra-ca.com

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List of Preparers

Matt Richmond – Principal-in-Charge
Rhiannon Korhummel – Plant Biologist
Michael Rochelle – GIS Analyst

1.0 INTRODUCTION

On March 31, 2024, WRA, Inc. (WRA) performed an assessment of biological resources at APN 018-43-015 Jere Melo Lane, Fort Bragg, CA (hereafter Study Area) (Figure 1, Appendix A). The purpose of this study was to gather the information necessary to complete biological resources report under the City of Fort Bragg Coastal Use and Development Code Section 17.50.050(B).

This report provides detailed information on the presence, or potential presence of environmentally sensitive habitat area (ESHA) and other biological resources. This report describes the results of the site visit, which assessed the Study 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 California Coastal Act (CCA). If observed, 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.

This report is based on information available at the time of the assessment and on-site conditions that were observed on the date the site was visited.

1.1 Previous Biological Assessment

The Study Area has been included in many biological assessments across the years, including 2005, 2009, 2010, and 2013 (WRA 2005, WRA 2009, WRA 2010, WRA 2013). The most recent assessments were in support of the Fort Bragg Coastal Trail during 2010 and in 2013. Results of each of the assessments determined no ESHA, including special-status species or sensitive land cover types (i.e., native grassland or aquatic resources) to be present in the Study Area.

2.0 REGULATORY BACKGROUND

This report is intended to facilitate conformance with the standards outlined in the City of Fort Bragg CDP application filing requirements (Section 17.71.045(D)(4)) and 17.50.050). In addition to the requirements of the City of Fort Bragg, development may also be subject to several federal and state regulations designed to protect sensitive natural resources. Applicable regulations that may apply to development are described below.

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.

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 City Coastal Land Use and Development Code is provided in Section 2.2 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. Water of the US are also considered ESHA under the City Coastal Land Use and Development Code.

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. Waters of the State are also considered ESHA under the City Coastal Land Use and Development Code.

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. These features are also considered ESHA under the City Coastal Land Use and Development Code.

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). Such natural communities are also considered ESHA under the City Coastal Land Use and Development Code.

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, and 2 are also considered special-status plant species and must be considered under CEQA and the City Coastal Land Use and Development Code. Rank 3 and 4 species are typically only afforded protection under CEQA and the City Coastal Land Use and Development Code 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. As such, these species are typically not considered ESHA and not included in the assessment.

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 the City Coastal Land Use and Development Code 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; nesting birds are considered ESHA under the City Coastal Land Use and Development Code. 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 and are also considered ESHA under the City Coastal Land Use and Development Code.

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. Such areas are also considered ESHA under the City Coastal Land Use and Development Code.

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 and the City Coastal Land Use and Development Code.

2.2 City of Fort Bragg Regulatory Setting

City of Fort Bragg and 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.*

Additionally, the City Coastal Land Use and Development Code cites:

> *Protection of environmentally sensitive habitat areas is one of the essential aspects of the Coastal Act. Fort Bragg has several environmentally sensitive habitat areas including, but not limited to, portions of coastal bluffs, biologically rich tide pools, nesting grounds, kelp beds, wetlands, riparian habitats, and rare, threatened, or endangered plants or plant communities.*

The City Coastal Land Use and Development Code 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 City Coastal Land Use and Development Code.

The City Coastal Land Use and Development Code outlines the following when determining an ESHA:

Policy OS-1.2: Determination of ESHA. The determination of what constitutes ESHA shall not be limited by what is mapped and not all parcels that are mapped necessarily contain ESHA. Map 0S-1 serves to identify those general areas known to potentially contain ESHA and for which a biological report is required consistent with Policy OS-1.7 to substantiate the presence or absence of ESHA on any particular parcel. Any area not designated on LUP Map OS-1 that meets the ESHA definition is ESHA and shall be accorded all the protection provided for ESHA in the LCP. All habitat maps shall include a note that states that "the maps may be updated as appropriate and may not include all areas that constitute ESHA." The following areas shall be considered ESHA:

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

The following definitions guided the assessment of potential ESHA observed in the Study Area:

Wetlands: The CCA and City Coastal Land Use and Development Code 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 City Coastal Land Use and Development Code 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 City Coastal Land Use and Development Code 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.

Special-status Species: Special-status species and their habitats are defined as ESHA by the CCA and City Coastal Land Use and Development Code. Special-status species include those species as defined in Section 2.1 above.

Natural Communities and Other ESHA: The CCA and City Coastal Land Use and Development Code 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."

Natural communities include those species as defined in Section 2.1 above.

3.0 ENVIRONMENTAL SETTING

The 3.94-acre Study Area is a portion of a larger 11-acre parcel located on the former Georgia-Pacific Mill site in the City of Fort Bragg. Detailed descriptions of the local setting are below.

3.1 Topography and Soils

The Study Area is situated on an historic marine terrace; as such the topography is relatively flat, with a slight slope to the northwest. The *Soil Survey of Mendocino County, Western Part* (USDA 2006) indicates that the Study Area contains one mapping unit: Urban Land (Figure 2). This mapping unit is described below.

Urban Land: This mapping unit is on marine terraces where 50 percent of the land is covered by impervious surfaces and about 25 percent consists of soils that have been altered by cutting, filing, and grading for development. Native soils make up small portions of Urban Land. Drainage, permeability, surface runoff, and available water capacity are extremely variable (USDA 2006). Within the Study Area, Urban Land is mapped as 75 percent Urban Land and a mix of several native soils for the remaining 25 percent. (CSRL 2024).

3.2 Climate and Hydrology

The Study Area is located in the coastal fog belt of Mendocino County. Average annual precipitation for Fort Bragg is 41.25 inches, with the majority falling as rain and fog drip in the winter months (December through March). The mean daily low and high temperatures in degrees Fahrenheit range from 39.5 in December to 66.4 in August/September (USDA 2024b).

The Study Area is located in the Lower Noyo River local watershed (HUC 12: 180101080703) and the Big-Navarro-Garcia regional watershed (HUC 8: 18010108). There are no aquatic features mapped in the Study Area on the Fort Bragg 7.5-minute quadrangle (USGS 2018), in the National Wetland Inventory (NWI: USFWS 2024a), or in the California Aquatic Resource Inventory (CARI; SFEI 2024). Precipitation and overland sheet flows are the primary hydrologic sources. See Section 5.1.2 for details on aquatic features within the Study Area.

A hydrologic analysis using the Antecedent Precipitation Tool (Deuters 2024) was conducted to determine whether precipitation levels during the 3 months prior to the site visit were above, below, or within the 30-year average for the region as well as to determine if the region was experiencing long-term drought conditions. Long-term precipitation data were obtained from weather stations in the vicinity of the Study Area. Drought condition data were obtained from monthly Palmer Drought Severity Index dataset published by the National Ocean and Atmospheric Administration (NOAA 2024). The analysis indicates above normal rainfall has occurred in each of the three months prior to the site assessment and the region was experiencing mild wetness (Appendix E). Due to the excess rainfall, the Study Area was observed to be excessively wet during the March site assessment, indicated by areas of obvious uplands (as indicated by vegetation), having saturated soil conditions. In addition to the excessive rainfall, the majority (if not all) of the Study Area is underlain by fill soils that are compacted or cement; placement and grading of fill soils has occurred in the Study Area and parcel relatively regularly since 2010 (NETR 2024). These impervious layers prevent water from seeping into soils below and create an artificially saturated condition. The contemporary and historic land disturbance through grading has presumably created depressions and swales where water collects during high rainfall years. Waterfilled depressions in the Study Area exhibiting wetland conditions are presumed to only exist due to man-induced activities of the presence of the

impervious layer and/or regular site disturbance. Previous biological assessments of the Study Area resulted in no aquatic features present.

3.3 Land Cover and Land Use

The Study Area is dominated by non-native grassland with patches of coyote brush (*Baccharis pilularis*) and Himalayan blackberry (*Rubus armeniacus*). Plant species observed in the Study Area are included in Appendix B. Existing access roads of compacted gravel, as well as areas of compacted gravel from previous development are also present. The Study Area was used as a log deck during operations of the Georgia-Pacific Mill, up to approximately 2000, with the log deck empty by 2005 (NETR 2024). Since the mill ceased operations, the Study Area has been used by the City for placement of excavated/dredged soils, with soils placed or the area graded in 2010, 2013, 2016, and as recently as 2018 (NETR 2024). Following the completion of fill placement in 2018, the area of fill was seeded with native seeds, including coastal tufted hairgrass (*Deschampsia cespitosa* ssp. *holciformis*), coast buckwheat (*Eriogonum latifolium*), coyote brush (*Baccharis pilularis*) and other native plants (personal communication).

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, Western Part, California* (USDA 2006)
- Fort Bragg 7.5-minute quadrangle (USGS 2018)
- Contemporary aerial photographs (Google Earth 2024)
- Historical aerial photographs (NETR 2024)
- National Wetlands Inventory (USFWS 2024a)
- California Aquatic Resources Inventory (SFEI 2024)
- California Natural Diversity Database (CNDDB, CDFW 2024a)
- California Native Plant Society Electronic Inventory (CNPS 2024a)
- Consortium of California Herbaria (CCH 2024)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2024b)
- *eBird* Online Database (eBird 2024)
- 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)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- Various Mendocino County CDFW Vegetation Reports
- *Classification of the Vegetation Alliances and Associations of Sonoma County, California* (Klein et. al. 2015)
- *A Manual of California Vegetation Online* (CNPS 2024b)
- *Preliminary Descriptions of the Terrestrial Natural Communities* (Holland 1986)
- *California Natural Community List* (CDFW 2023a)

Database searches (i.e., CNDDB, CNPS) focused on the Noyo Hill, Dutchmans Knoll, Inglenook, Fort Bragg, Mathison Peak, and Mendocino USGS 7.5-minute quadrangles for special-status plants and wildlife.

Following the remote assessment, a botanist with 40-hour Corps wetland delineation 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

During the site visit, WRA evaluated the species composition and area occupied by distinct vegetation and other terrestrial land cover types. Mapping of these distinct areas utilized a combination of aerial imagery and ground surveys. In most instances, land cover types dominated by vegetation are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the *California Natural Community List* (CDFW 2023a), *A Manual of California Vegetation, Online Edition* (CNPS 2024b) or local CDFW Vegetation Reports (i.e., Keeler-Wolf 2019, Buck-Diaz 2020). These resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on best professional judgment of WRA biologists. When undescribed variants are used, it is 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]) (CDFW 2023a), were evaluated as ESHA for this assessment. If deemed applicable, vegetation data for sensitive natural communities was collected following the *CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment and Releve Field Form* (CDFW 2023b). Sensitive land cover types are considered ESHA under the City Code.

4.1.2 Aquatic Resources

Aquatic resources include Waters of the U.S., Waters of the State, CCC wetlands, and Streams, Lakes, and Riparian Habitat as defined in the CWA, Porter-Cologne Act, California Coastal Act, and CFGC, respectively.

This site assessment does not constitute a formal wetland delineation; however, the assessment 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: Western Mountains, Valleys, and Coast* (Corps 2010). This document uses several new wetland hydrology indicators not specified in the 1987 Corps Manual (Environmental Laboratory 1987). The Study

[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.

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 2018). 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 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 (Corps 2022). 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 (OHWM) 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 for special-status wildlife.

A preliminary site visit was made on March 31, 2024, to evaluate the presence of suitable habitat for special-status species and conduct a floristic survey. 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 5.2.2.

4.2.2 Special-status Plants

A special-status plant habitat assessment was performed on March 31, 2024. 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, a floristic survey was conducted within the Study Area on March 31. The survey corresponds to the period sufficient to observe and identify those special-status plants determined to have the potential to occur. The field survey was conducted by botanist familiar with the flora of Mendocino and surrounding counties. The survey was performed in accordance with those by several resource experts and agencies (CNPS 2001, CDFW 2018). Plants were identified using *The Jepson Manual, 2nd Edition* (Baldwin et. al. 2012) and Jepson Flora Project (eFlora 2024), to the taxonomic level necessary to determine whether or not they were sensitive. Plant names follow those of Jepson Flora Project (eFlora 2024), unless otherwise noted. If special-status plants were observed, information sufficient for a CNDDB form was collected for future database submittal once the Project becomes approved.

4.2.3 Special-status Wildlife

A general wildlife assessment was performed on March 31, 2024. 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.

4.2.4 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

Prior to the site visit the USFWS Critical Habitat Mapper (USFWS 2024c) and the NMFS Essential Fish Habitat Mapper (NMFS 2024) 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 2024b). Additionally, aerial imagery (Google Earth 2024) 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

Seven land cover types are present in the Study Area: developed, non-native grassland, Himalayan blackberry scrub, tufted hairgrass meadow, coyote brush scrub, drainage ditch, and artificial seasonal wetland. WRA mapped all land cover types within the Study Area (Figure 3). Appendix D includes photographs of the Study Area.

5.1.1 Terrestrial Land Cover Types

Developed. Developed areas include Jere Melo Lane and areas of compacted gravel with low vegetation cover. Vegetation is characterized by non-native species adapted to compacted soils, including cutleaf plantain (*Plantago coronopus*), sheep sorrel (*Rumex acetosella*), bur clover (*Medicago polymorpha*), subterranean clover (*Trifolium subterraneum*), birdsfoot trefoil (*Lotus corniculatus*), and rattail brome (*Festuca bromoides*).

Non-Native Grassland:Velvet Grass-Sweet Vernal Grass Meadow (*Holcus lanatus-Anthoxanthum odoratum* Semi-Natural Alliance). CDFW Rank: None: Non-native grasslands are herbaceous stands dominated by non-native grass species and with less than a 10 percent cover of native herbaceous species (CDFW 2022). Within the Study Area, non-native grassland best fits the velvet grass-sweet vernal grass meadow semi-natural alliance due to dominance of velvet grass (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*)(CNPS 2024b). Within the Study Area, this association is the dominant land cover type, with interstitial areas of coyote brush scrub and Himalayan blackberry scrub.

Dominant herbs include sweet vernal grass (*Anthoxanthum odoratum*), common velvet grass (*Holcus lanatus*), ripgut brome (*Bromus diandrus*), cutleaf plantain (*Plantago coronopus*), bur clover (*Medicago polymorpha*), rattail brome (*Festuca bromoides*), Italian thistle (*Carduus pycnocephala*), field vetch (*Vicia sativa*), subterranean clover (*Trifolium subterraneum*), wild radish (*Raphanus sativus*), crane's bill geranium (*Geranium molle*), ice plant (*Carpobrotus edulis*), and pale starwort (*Stellaria pallida*). Native species are present but are not characteristic and do not comprise 10 percent cover. Native species include California poppy

(*Eschscholzia californica*) coastal tufted hairgrass (*Deschampsia cespitosa* ssp. *holciformis*), and coast buckwheat (*Eriogonum latifolium*). Scattered coyote bush (*Baccharis pilularis*) and Himalayan blackberry (*Rubus armeniacus*) are present.

Himalayan blackberry scrub (*Rubus armeniacus* Shrubland Semi-Natural Association). CDFW Rank: GNR SNR. This association is classified under the Himalayan blackberry-rattlebox-edible fig riparian scrub Shrubland Semi-Natural Alliance (CNPS 2024b). The alliance typically occurs in pastures, forest plantations, roadsides, streamsides, river flats, floodplains, fence lines, mesic disturbed areas and right-of-way corridors across cis-montane California (CNPS 2024b). The association typically occurs along riparian sites, mesic clearings, disturbed areas, and stock ponds (CNPS 2024b). In the Study Area, this association occurs in scattered stands in swales and along ditches. The plants are predominantly decadent and form monotypic stands.

Coastal tufted hairgrass meadow (*Deschampsia cespitosa* Herbaceous Association). CDFW Rank: GNR S3. This association is classified under the Coastal tufted hairgrass-Meadow barley-California oat grass meadow Herbaceous Alliance (CDFW 2024b). This alliance typically occurs on moist to wet meadows on coastal bluffs, coastal terrace prairies, swales, streams terraces, sand dunes and seasonally flooded areas along the California coast and Coast Range (CNPS 2024b). Coastal tufted hairgrass is an aggressive colonizer on disturbed sites and stands are maintained by disturbance in most environments (Walsh 1995a). Stands are mapped where coastal tufted hair grass is dominant or co-dominant in the herbaceous layer (CNPS 2024b). Within the Study Area, a stand is present along and adjacent to the large area of fill soil.

Personal communication to WRA disclosed that the area of fill and surrounding land was seeded with native seeds, including coastal tufted hairgrass and coyote bush, following placement of the fill soil. As the native grass is only present in the areas on and near the fill soil, the presence of the grass is presumably due to the seeding, and not from natural recruitment. Coastal tufted hairgrass is relatively tall (2 to 3 feet high) with 95 percent absolute cover on the slopes of the fill soil and short (4 to 6 inches) with 50 percent absolute cover on top of the fill soil. Associated species include velvet grass, yarrow (*Achillea millefolia*), lupine (*Lupinus* sp.), and scattered emergent coyote brush at 1 to 5 percent cover.

Coyote brush scrub (*Baccharis pilularis* Shrubland Association). CDFW Rank G4 S5. This association is classified under the Coyote brush scrub Shrubland Alliance (CNPS 2024b). This alliance typically occurs on coastal bluffs, terraces, stabilized dunes, spits, stream sides, open exposed slopes, ridges, and gaps in forest stands along the coast, Coast Range, valley, Sierra Nevada foothills (CNPS 2024b). Stands are mapped where coyote brush is dominant to co-dominant in the shrub layer (CNPS 2024b). Within the Study Area, stands occur in patches of slightly higher elevation areas. Coyote bush is decadent to mature with 15 to 50 percent absolute cover and 100 percent relative cover in the shrub layer. The understory is dominated by velvet grass.

5.1.2 Aquatic Resources

Drainage Ditch. A ditch excavated in uplands occurs along Jere Melo Lane. The top-of-bank (TOB) is 4 to 6 feet wide and the Ordinary High Water Mark (OHWM) is 3 to 4 feet wide. The feature is covered with a dense canopy of decadent Himalayan blackberry with emergent Pacific rush

(*Juncus effusus* ssp. *pacificus*) and velvet grass; in areas where the channel was visible, water was observed. The feature captures water from the local watershed and conveys flow west to a culvert and to the Pacific Ocean.

Seasonal Wetland (Artificial). Seasonal wetlands are topographic depressions or swales where hydrology from water saturation is sufficient to create anaerobic conditions and support dominance of hydrophytic vegetation and dry out each year. These areas exhibit all three parameters of wetlands: hydric soil, wetland hydrology, and dominance of hydrophytic vegetation. Within the Study Area, three seasonal wetlands are present. Each feature had surface water from 2 to 6 inches in depth at the time of the site visit in late March. Vegetation in each feature is dominated by hydrophytic plants including pennyroyal mint (*Mentha pulegium*), barley (*Hordeum marinum*), hyssop loosestrife (*Lythrum hyssopifolium*), and tall cyperus (*Cyperus eragrostis*). Two of the features (SW-1 and SW-2) occur in swales between areas of compacted gravel. Soils are fill soils with shovel refusal at 6 inches due to rocks and compacted fill; no indicators of hydric soils were observed; however, soils are presumed hydric due to dominance of hydrophytic species, and location within a topographic position likely to collect water. Seasonal wetland 3 (SW-3) occurs in a depression on compacted gravel. Each of these features has no hydrological connectivity to a traditional navigable waterway (TNW) and are considered isolated. The land surrounding the wetlands is dominated by non-native species and developed areas. Water enters the features from precipitation and runoff from surrounding paved watershed. No wetlands were previously documented in the Study Area (WRA 2005, WRA 2009, WRA 2010). The wetlands are presumed to have formed after land disturbance activities since 2010 and are considered to be recently formed due to human disturbances and two consecutive years of above normal rainfall. As the features are recent, man-induced features, they are considered to be artificial. However, these features will be avoided to the greatest extent feasible. Appendix F includes Wetland Data Forms with information from the four sample points.

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, 75 special-status plant species have been documented in the vicinity of the Study Area (Appendix C). Two of these plants have the potential to occur in the Study Area. The remaining 73 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, marsh) necessary to support the special-status plant species are not present in the Study Area
- Edaphic (soil) conditions (e.g., acidic sand, sand) 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., acidic bogs) necessary to support the special-status plant species are not present in the Study Area
- Associated natural communities (e.g., conifer forest, 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, inland environ) from the documented range of the special-status plant species
- Land use history and contemporary management (e.g., absence of mowing or recent placement of fill) has degraded the localized habitat necessary to support the special-status plant species.
- Previous surveys did not identify populations.

Two species, johnny-nip (*Castilleja ambigua* var. *ambigua*; Rank 4), harlequin lotus (*Hosackia gracilis*; Rank 4) were determined to have a moderate potential to occur within the Study Area due to potential habitat and tolerance to low quality habitats.

Johnny-nip (*Castilleja ambigua* var. *ambigua*). Rank 4.2. Moderate Potential (Not Observed): Johnny-nip is an annual hemi-parasitic forb in broomrape family (Orobanchaceae) that blooms from March through August. It typically occurs in coastal bluff scrub, coastal scrub, coastal prairie, marshes and swamps, valley and foothill grassland, and vernal pool habitat at elevations ranging from 0 to 1,425 feet. Associated species include blue-eyed grass (*Sisyrinchium bellum*), meadow barley (*Hordeum brachyantherum*), Italian rye grass, sea thrift (*Armeria maritima*), California oatgrass (*Danthonia californica*), and harlequin lotus (CCH 2024). The Study Area includes grassland habitat that may support this species. Additionally, this species is disturbance tolerant. Documented occurrences are located within 5-miles of the Study Area (Calflora 2024).

Harlequin lotus (*Hosackia gracilis*). CRPR 4. Moderate Potential. (Not Observed). Harlequin lotus is a perennial forb in the pea family (Fabaceae) that blooms from March to July. It typically occurs in wetlands or ditches in broadleaf upland forest, coastal bluff scrub, coastal scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, meadow and seep, marsh and swamp, North Coast coniferous forest, and valley and foothill grassland habitats at elevations ranging from 0 to 2,295 feet (CNPS 2024a). Known associated species include coyote brush (*Baccharis pilularis*), little rattlesnake grass (*Briza minor*), blue-eyed grass (*Sisyrinchium bellum*), western rush (*Juncus occidentalis*), sky lupine (*Lupinus nanus*), big heron bill (*Erodium botrys*), scarlet pimpernel (*Lysimachia arvensis*), and common velvet grass (*Holcus lanatus*) (CCH 2024). The Study Area includes mesic habitat that may support this species. Additionally, this species is disturbance tolerant. Documented occurrences are located within 5-miles of the Study Area (Calflora 2024).

WRA biologists conducted site visits during a period sufficient to identify the two special-status plant species with the potential to occur within the Study Area; none were observed within the Study Area. Botanical surveys conducted by WRA in 2010 and 2013 did not observe special-status plants in the Study Area (WRA 2010, WRA 2013).

Western dog violet (*Viola adunca*) was also considered, as it is the known larval food plant for the federal endangered Behren's silverspot butterfly (*Speyeria zerene behrensii*). The plant is unlikely to occur in the Study Area due to reasons identified above. Additionally, the species was observed blooming at reference sites and would have been identifiable during the site assessment, if present.

5.2.2 Special-status Wildlife Species

A total of 58 special-status wildlife species have been documented in the vicinity of the Study Area (CDFW 2024a)(Appendix C). Two special-status species have the potential to occur in the Study Area. The remaining species are unlikely or have no potential to occur in the Study Area for one or more of the following:

- Aquatic habitats (e.g., rivers, ponds) necessary to support the special-status wildlife species are not present in the Study Area
- Vegetation habitats (e.g., coast redwood forest, riparian scrub) 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

Species with Potential to Occur

Grasshopper sparrow (*Ammodramus savannarum*). CDFW Species of Special Concern. The grasshopper sparrow is a summer resident in California, wintering in Mexico and Central America. This species occurs in open grassland and prairie-like habitats with short- to moderate-height vegetation, and often scattered shrubs (Shuford and Gardali 2008). Both perennial and annual (non-native) grasslands are used. Nests are placed on the ground and well concealed, often adjacent to grass clumps (Shuford and Gardali 2008). Grasshopper sparrows are secretive and generally detected by voice. Insects comprise the majority of the diet. The Study Area includes suitable low to moderate grass and scattered shrubs suitable for nesting. The species was observed near the Study Area in 2019 (eBird 2024).

Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*). CDFW Species of Special Concern. 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 vegetable matter (e.g., seeds). The Study Area is located along the coast and includes grasslands suitable for nesting. Individuals have been observed nearby (eBird 2024).

Additionally, various non-status bird species with baseline protections under the MBTA and CFGC may use vegetation within the Study Area for nesting. Both non-status and special-status birds may forage in the Study Area.

5.2.3 Critical Habitat, Essential Fish Habitat, and Wildlife Corridors

The Study Area does not contain any designated Critical Habitat (USFWS 2024c) or Essential Fish Habitat (NMFS 2024). The Study Area does not contain perennial stream or riverine habitat; therefore, anadromous fish will not utilize these streams. The Study Area is not within a designated wildlife corridor (CalTrans 2010). The site is located on the bluff of the former GP Mill Site. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar partial open lands in the vicinity.

6.0 PROJECT ANALYSIS

6.1 Proposed Project

The La-bone-atory will be located near the southeast corner of the 11.64-acre parcel. This remote location will allow for storage and processing of marine mammal bones in an area where occasional odors will not impact visitors to the Ocean Science Center or Noyo Headlands Park.

The proposed La-bone-atory is a simple warehouse structure that will be used for preserving, restoring, and archiving the Noyo Center's marine mammal skeleton collection. It will provide a dedicated space for the Noyo Center to securely store its 73-foot blue whale skeleton while continuing work on its restoration and articulation for eventual display at the Ocean Science Center. The La-bone-atory will allow the Noyo Center to stage more exhibits in its existing museum spaces (i.e., the Discovery Center and the Crow's Nest Visitor's Center) by providing space for storage of exhibits that are rotated out of the museum spaces as well as space to construct and assemble new exhibits. The building will also store equipment (remote operated vehicles, boats, etc.) associated with the Noyo Center's marine research activities.

The La-bone-atory is a 2,400 square foot building (80' x 28') that is one-story in height (19' 8" at the ridge). It will be sided with cement fiber panels (Hardi-plank) with wood battons and roofed with composition shingle roofing. The building will be constructed on a concrete slab with an uncovered 8,700 square foot asphalt apron for parking. A 7957 square foot stormwater retention area will be developed adjacent to the parking lot and building to capture surface water from the impervious surfaces. The retention area will be vegetated with native or non-invasive plant species suitable for filtering water.

The La-bone-atory will be clad with earth-toned siding and roofing and shore pines will be planted in clusters around its perimeter to help it blend with the surroundings. The design is a simple, low-profile structure similar to storage structures at the nearby WWTF. Exterior lighting for the La-bone-atory project will be minimal and downcast and shielded.

Vehicular traffic to the La-bone-atory will be minimal as it is not intended for public access except for infrequent educational events associated with the articulation of marine mammal skeletons.

The proposed Project will utilize existing gravel roads for access and areas most recently disturbed through the placement of fill soils in 2018. Development is proposed within 100 feet of artificial seasonal wetlands and coastal tufted hairgrass meadow (Figure 4). As described in Section 5.1.1

above, the wetlands are presumed to be artificial, and the coastal tufted hairgrass meadow is present due to seeding following fill soil placemen; as such, these areas do not meet the criteria of ESHA and are not considered as ESHA. However, as the designation of non-ESHA of those areas is in the professional opinion of WRA, a reduced buffer analysis and alternatives analysis are included in the following sections to identify potential impacts to these areas and identify appropriate avoidance measures to reduce potential impacts should regulators disagree with the non-ESHA designation and consider the areas as ESHA. Additionally, avoidance measures are provided for nesting special-status and resident/migratory nesting birds.

6.2 Alternatives Analysis

As the driveway of the Project is proposed within 100-feet of artificial seasonal wetlands, which could potentially be considered ESHA, an alternatives analysis is provided to review potential alternatives to the Project. Two alternatives to the proposed Project were identified and are discussed in this section. These alternatives (Alternatives 1 and 3), along with the preferred alternative (Alternative 2), are compared to identify the least damaging alternative feasible. Figure 5 illustrates the two alternatives and the preferred alternative in relation to aquatic areas. Table 1 provides a summary of each alternative.

Alternative 1

This alternative utilizes the existing compacted gravel road to the northeast of the proposed Project. This alternative was chosen due to the presence of an existing road, and close proximity to existing utility lines that will be used to provide utilities to the proposed structure. This alternative would encroach into the 50-foot buffer of two artificial seasonal wetlands (SW-2, SW-3; Figure 4), occurring as close as 15 feet, and partially fill one artificial seasonal wetland (SW-1) that is located on the compacted gravel. Functional capacity of the artificial wetland within the road alignment would be reduced due to the filling of the feature. The reduced buffer to the other artificial wetlands is unlikely to reduce functional capacity as the existing buffer is of low quality, and development within the buffers would be similar to existing conditions and not significantly change existing capacity.

Alternative 2 (preferred alternative)

This alternative utilizes one of the existing compacted gravel roads and is in close proximity to existing utility lines under Jere Melo Lane. This alternative would avoid aquatic resources, providing at least a 7-foot buffer of one artificial seasonal wetland (SW-1) and 16-foot buffer of another artificial seasonal wetland (SW-2). No filling of artificial wetlands would be necessary. The reduced buffer to the artificial wetlands is unlikely to reduce functional capacity as the existing buffer is of low quality, and development within the buffers would be similar to existing conditions and not significantly change existing capacity.

Alternative 3

This alternative utilizes a portion of a prior compacted gravel road for access; however, due to the presence of the drainage ditch along Jere Melo Lane, a road crossing, approximately 18-feet in width, would have to be constructed across the drainage ditch for access. This Alternative would

avoid the 50 foot buffer of two artificial seasonal wetlands (SW-1, SW-3) and would be immediately adjacent to one artificial seasonal wetland (SW-2) (no buffer). Functional capacity of the drainage ditch would be reduced due to the infrastructure required to be placed in the ditch. Functional capacity of the artificial wetland immediately adjacent to the proposed alignment would be reduced due to a loss of buffer along one side of the feature. The reduced buffer to the other artificial wetlands is unlikely to reduce functional capacity as the existing buffer is of low quality, and development within the buffers would be similar to existing conditions and not significantly change existing capacity.

Table 1. Alternatives Analysis Summary

Alternative	Wetland Impacts	Drainage Ditch Impacts
1	Partial fill of one artificial seasonal wetland and encroachment up to 15 feet of artificial seasonal wetland	No impacts
2 (preferred alternative)	No fill of artificial seasonal wetlands and encroachment up to 7-feet of one artificial seasonal wetland	No impacts
3	Avoidance of 50-foot buffer of two artificial seasonal wetlands and no buffer for one artificial seasonal wetland	Fill portion of the ditch to cross

Based on the analysis above, the preferred alternative is the least damaging feasible alternative as no aquatic resources will be directly impacted and all will be avoided with sufficient distance to employ erosion and water quality Best Management Practices (BMP's) to prevent potential impacts, while maintaining existing buffer quality and functional capacity.

6.3 Buffer Analysis

Projects that propose construction with a buffer of less than 100 feet from an ESHA must provide information that indicates a lesser buffer distance will not have a significant adverse impact on the habitat. As noted above, the designation of non-ESHA of the artificial seasonal wetlands and coastal tufted hairgrass meadow is in the professional opinion of WRA; however, should regulators disagree with the non-ESHA designation and consider the areas as ESHA, a buffer analysis is provided. This assessment is presented below in Table 3. The assessment utilizes guidelines outlined in the City of Fort Bragg LCP to assess the impacts of a reduced buffer zone on the artificial seasonal wetland, drainage ditch, and grassland present within 100 feet of the Project. The impacts to the 100-foot buffer of these areas by the proposed Project is summarized in Table 2 below.

Table 2. Buffer Impacts

Area	Total Buffer in Study Area (acres)	Impacted Buffer (acres)	Percent Buffer To Remain
Artificial Seasonal Wetlands	1.52	0.20	87
Drainage Ditch	0.61	0.06	91
Tufted Hairgrass Meadow	1.43	0.10	94

As proposed, the access road will be located within 7-feet of one artificial seasonal wetland (SW-1), 16-feet of a second artificial seasonal wetland (SW-2), 50-feet of a third artificial seasonal wetland (SW-3), and 70-feet of a drainage ditch. Additionally, the parking area is proposed 39-feet from the tufted hairgrass meadow, which is likely present due to seeding and not natural recruitment (Figure 5).

Table 3. Reduced Buffer Analysis

Criteria for Establishing Buffer Areas (Policy OS-1.9)	
Policy	**Assessment**
Width. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation with the California Department of Fish and Wildlife, other relevant resource agencies, and the City, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer areas shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas (ESHAs) and in no event shall be less than 30 feet in width.	As described in Section 5.1.1, the wetlands are presumed artificial, and the grassland dominated by native grass is present due to seeding and not natural recruitment. As such, these areas do not meet the criteria of ESHA and are not considered as such in this report. However, as the non-ESHA designation is in the professional opinion of WRA and not necessarily of the regulators, a reduced buffer analysis is provided should these areas be considered ESHA. The proposed Project is situated within 100-feet of these areas. An alternatives analysis was conducted that considered two other alternatives along with the proposed Project, and the proposed Project (preferred alternative) is determined to be least damaging feasible alternative as it fully avoids the artificial seasonal wetlands. Recommendations in Section 7 below are provided to reduce potential impacts and to allow for continued functional capacity and biological continuance. The proposed Project has been designed to be the minimal extent practical while still serving the purpose of providing a space for marine science activities. With implementation of the recommendations, a reduced buffer is anticipated to allow for the continuance and function of the artificial wetlands, drainage ditch, and coastal tufted hairgrass meadow.
a. Biological Significance of Adjacent Lands	
Lands adjacent to a wetland, stream, or riparian habitat area vary in the degree to which they are functionally related to these habitat areas. Functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance depends upon the habitat requirements of the species in the habitat area (e.g., nesting, feeding, breeding, or resting). Where a significant functional relationship exists, the land supporting this relationship shall also be considered to be part of the	Aquatic areas and coastal tufted hairgrass meadow include the literal extent of the resource (i.e., the edge of the wetland or edge of habitat) as the buffer surrounding each is unlikely to provide a significant functional relationship when compared to areas outside the buffer due to similar conditions present within and outside the buffer area. Existing conditions of aquatic 100-foot buffers will not significantly change as the proposed development within the 100-foot buffer is an access road, and the existing 100-foot buffer already includes compacted gravel roads. Existing conditions of the grassland 100-foot buffer is non-native grassland or planted grassland on fill soils. The grassland will be avoided by at least 39-feet and that

Criteria for Establishing Buffer Areas (Policy OS-1.9)	
Policy	**Assessment**
ESHA, and the buffer area shall be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationships exist, the buffer shall be measured from the edge of the ESHA that is adjacent to the proposed development.	buffer will remain in similar condition following the completion of the proposed development. The proposed Project will develop a relatively small portion of the 100-foot buffer of the grassland, while the majority of the 100-foot buffer will be avoided. The functional relationship between the artificial wetlands and grassland and associated buffer, upon completion of the Project, will be similar to current conditions. Therefore, the buffer widths for those areas to the proposed development is sufficiently wide to protect the existing functional relationships. Standard Best Management Practices (BMP's) as recommended in Section 7 will ensure protection of the artificial seasonal wetlands, drainage ditch, and coastal tufted hairgrass meadow during construction.
b. Sensitivity of Species to Disturbance	
The width of the buffer zone shall be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination shall be based on the following after consultation with CDFW or others with similar expertise: (a) Nesting, feeding, breeding, resting, or other habitat requirements of both resident and migratory fish and wildlife species (b) An assessment of the short-term and long-term adaptability of various species to human disturbance. (c) An assessment of the impact and activity levels of the proposed development on the resource	Two special-status birds and non-listed birds have the potential to nest within the 100-foot buffer of the proposed Project. No special-status species are determined to utilize the seasonal wetlands. Special-status plants are presumed absent. (a) The artificial seasonal wetlands are very small and do not provide unique or special values to wildlife. In general, the Study Area provides some habitat value for nesting, foraging, and cover for special-status birds and non-status birds considered under the MBTA and CFGC; pre-construction surveys will determine the presence of such species and provide recommendations to avoid impacts (See Section 7 below). (b) The Study Area is situated between two developed areas, including a recreational trail that is regularly visited by humans. Localized wildlife is ostensibly tolerant of the current degree of human activity. The proposed Project will reduce potential wildlife habitat; however, the reduction in habitat is not significant and similar habitat is present in the vicinity of the Study Area and can be used by wildlife.

Criteria for Establishing Buffer Areas (Policy OS-1.9)	
Policy	**Assessment**
	(c) With the implementation of Recommendation 3, pre-construction surveys will be performed to ensure that the implementation of the proposed Project will not impact special-status or nesting birds.
c. Erosion Susceptibility	
The width of the buffer zone shall be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel proposed for development and adjacent lands. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development shall be provided	The Project Area is gently-sloped with a slight slope toward the north. The proposed Project will be designed to reduce erosion of the surrounding land. BMP's (see Section 7 below) will prevent soil migration toward/into the seasonal wetland during construction.
d. Use of Natural Topography	
Where feasible, use hills and bluffs adjacent to ESHA to buffer these habitat areas. Where otherwise permitted, locate development on the sides of hills away from ESHA. Include bluff faces in the buffer area.	There are no natural topographic features that can be used as areas of buffer for the proposed Project. One artificial seasonal wetland is located in a topographic swale and the proposed Project utilizes the flat land above the swale for development.
e. Use Existing Man-Made Features	
Where feasible, use man-made features such as roads and dikes to buffer ESHA	The proposed Project utilizes existing developed areas, including the compacted gravel roads. Additionally, the proposed Project is located immediately adjacent to a large area of recently placed fill soils.
f. Lot Configuration and Location of Existing Development	

Criteria for Establishing Buffer Areas (Policy OS-1.9)	
Policy	**Assessment**
Where an existing subdivision or other development is largely built-out and the buildings are a uniform distance from a habitat area, at least that same distance shall be required as a buffer zone for any new development permitted. However, if that distance is less than 100 feet, additional mitigation measures (e.g., planting of native vegetation) shall be provided to ensure additional protection.	The proposed Project is located on a parcel formerly of the Georgia-Pacific Mill. Adjacent development includes abandoned lots covered in concrete to the east, the City Wastewater Treatment Plant to the north, and is located on a former log deck. Recommendations provided in Section 7 will protect artificial wetlands, drainage ditch, and coastal tufted hairgrass meadow areas.
g. Type and Scale of Development Proposed	
The type and scale of the proposed development will, to a large degree, determine the size of the buffer zone necessary to protect the ESHA. Such evaluations will be made on a case-by-case basis depending upon the resources involved, the degree to which adjacent lands have been developed, and the type of development already existing in the area.	The proposed Project is a simple, low-profile structure similar to storage structures at the nearby Wastewater Treatment Facility. The proposed Project has been adjusted from original plans to avoid the artificial wetlands, drainage ditch, and coastal tufted hairgrass meadow and maximize use of non-ESHA areas (i.e., existing roads and non-native grassland).

7.0 RECOMMENDATIONS

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

7.1 Land Cover Types

7.1.1 Terrestrial Land Cover Types

The Study Area includes five terrestrial land cover types: developed areas, non-native grassland, Himalayan blackberry scrub, coyote brush scrub, and coastal tufted hairgrass meadow. Of these, only coastal tufted hairgrass meadow may be considered a potential ESHA; as the grassland is presumably only present due to seeding that occurred following placement of fill soil and not from natural recruitment, the grassland is not considered an ESHA in this report. However, the proposed Project has been intentionally sited 39-feet from the grassland to provide a buffer and development will not encroach into the buffer. The following recommendation is provided to avoid accidental impacts to the grassland during construction:

Recommendation 1: The literal extent of the grassland within the vicinity of the Project will be demarcated with high visibility flagging or fencing. All construction staff will be made aware of

the grassland and the status as a protected area. No staging or staff will enter the grassland habitat.

7.1.2 Aquatic Resources

The Study Area includes three seasonal wetlands which are all considered to be artificial, as discussed in Section 5.1.1, and a drainage ditch. As the wetlands are considered artificial, they are determined to not be ESHA. However, as the wetlands may be considered ESHA by regulators, potential impacts are considered in this report and recommendations for avoidance are provided. The proposed Project will avoid the literal extent of the artificial wetlands but is within 100-feet (see reduced buffer analysis above), avoiding at least 7-feet and up to 50-feet of the artificial wetlands. The drainage ditch will be avoided by at least 20 feet. As existing conditions and function and value of the aquatic resources are low, and the wetlands are likely artificial, the reduced buffer is determined unlikely to reduce the value and function of the artificial wetlands. Project construction may potentially impact the features through accidental encroachment or sediment deposition. However, the following recommendations are provided to protect the artificial wetlands during construction:

> Recommendation 2: The literal extent of the aquatic resources will be demarcated with silt fencing. All construction staff will be made aware of the aquatic resources and their status as a protected habitat.
>
> No equipment or materials will be laid down within the fencing barrier. All materials will be stored on existing hardscaped areas or, if laid down on existing vegetation, will only be laid down in those areas scheduled for development. Spill prevention devices will be readily available during construction and utilized for all toxic liquids/materials including but not limited to gasoline, diesel, motor oil, solvents, paints, and herbicides. These materials should be stored 100 feet or greater from the aquatic resources though they may necessarily require use within 100 feet.
>
> Sediment migration and erosion control measures will be deployed to protect the aquatic resources. Such barriers may include weed-free hay bales, weed-free straw waddles, silt fencing, and/or a combination of these materials. Regular inspection of the barriers will be deployed and immediate remedies of damaged or compromised areas of the barriers. The barriers will be installed between areas of land disturbance and the aquatic resources, located as far from the resources as feasible.
>
> All land disturbance activities will occur during the dry season (May 15 through October 15) and will be suspended during rainfalls of greater than one-half inch over a 24-hour period, all activities will cease for 24 hours after perceptible rain ceases.
>
> Recommendation 3: The proposed Project should include a stormwater swale between paved areas and the aquatic resources to enhance the buffer.

7.2 Special-status Species

7.2.1 Special-status Plants

The Study Area does not support special-status plants; therefore, no further actions are recommended for such.

7.2.2 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*). The following recommendations are to protect these special-status species as well as non-status nesting birds.

> Recommendation 4: Vegetation alteration/removal and initial ground disturbance should occur from August 16 to January 31, outside of the general bird nesting season. If activities during this time are not feasible, a pre-construction nesting bird survey should be performed by a qualified biologist no more than 7 days prior to the initiation of ground disturbance. The survey should cover the Project Area 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. If more than 14 days of no work occurs during the nesting season, birds may begin nesting; therefore, if more than 14 days of no work occurs during the nesting season, an additional nesting survey is recommended.

7.2.3 Wildlife Movement

There is no Critical Habitat, Essential Fish Habitat, or regional migratory corridors that will be impacted from the proposed Project. The existing redevelopment within and adjacent to the Study Area is in and of itself unlikely to result in any significant impacts to local wildlife movement. Preservation of portions of the Study Area's open habitats will also allow for continued localized movement of wildlife. No further actions are recommended for Critical Habitat, Essential Fish Habitat, or wildlife corridors.

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Appendix A

Figures

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Sources: National Geographic, WRA | Prepared By: rochelle, 4/11/2024

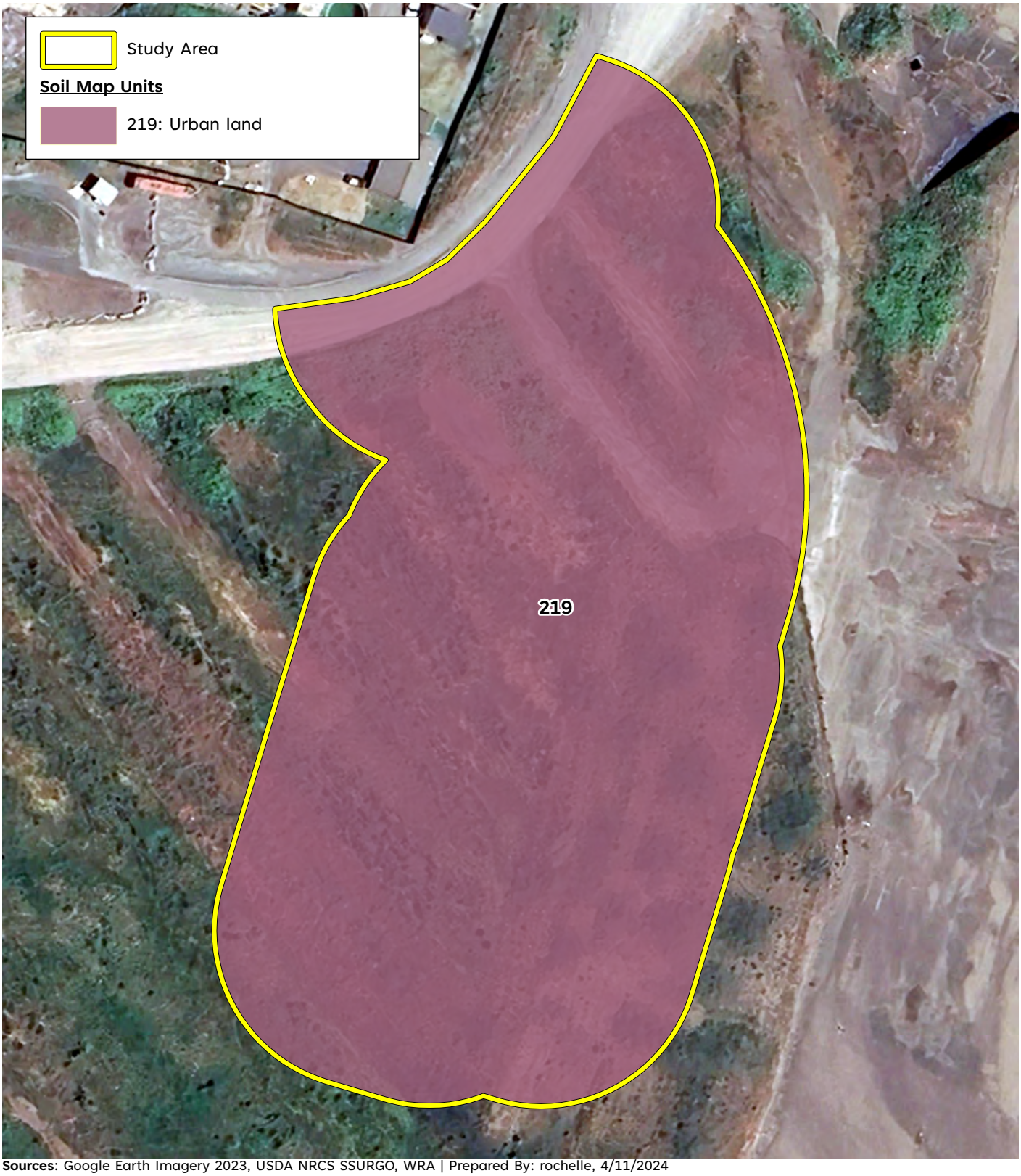
Figure 1. Study Area Regional Location Map

Noyo Center for Marine Science
Fort Bragg, California

0 1 2 Miles

N

wra Environmental Consultants



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Sources: Google Earth Imagery 2023, USDA NRCS SSURGO, WRA | Prepared By: rochelle, 4/11/2024

Figure 2. Soil Types within the Study Area

Noyo Center for Marine Science
Fort Bragg, California

0 50 100 US Feet

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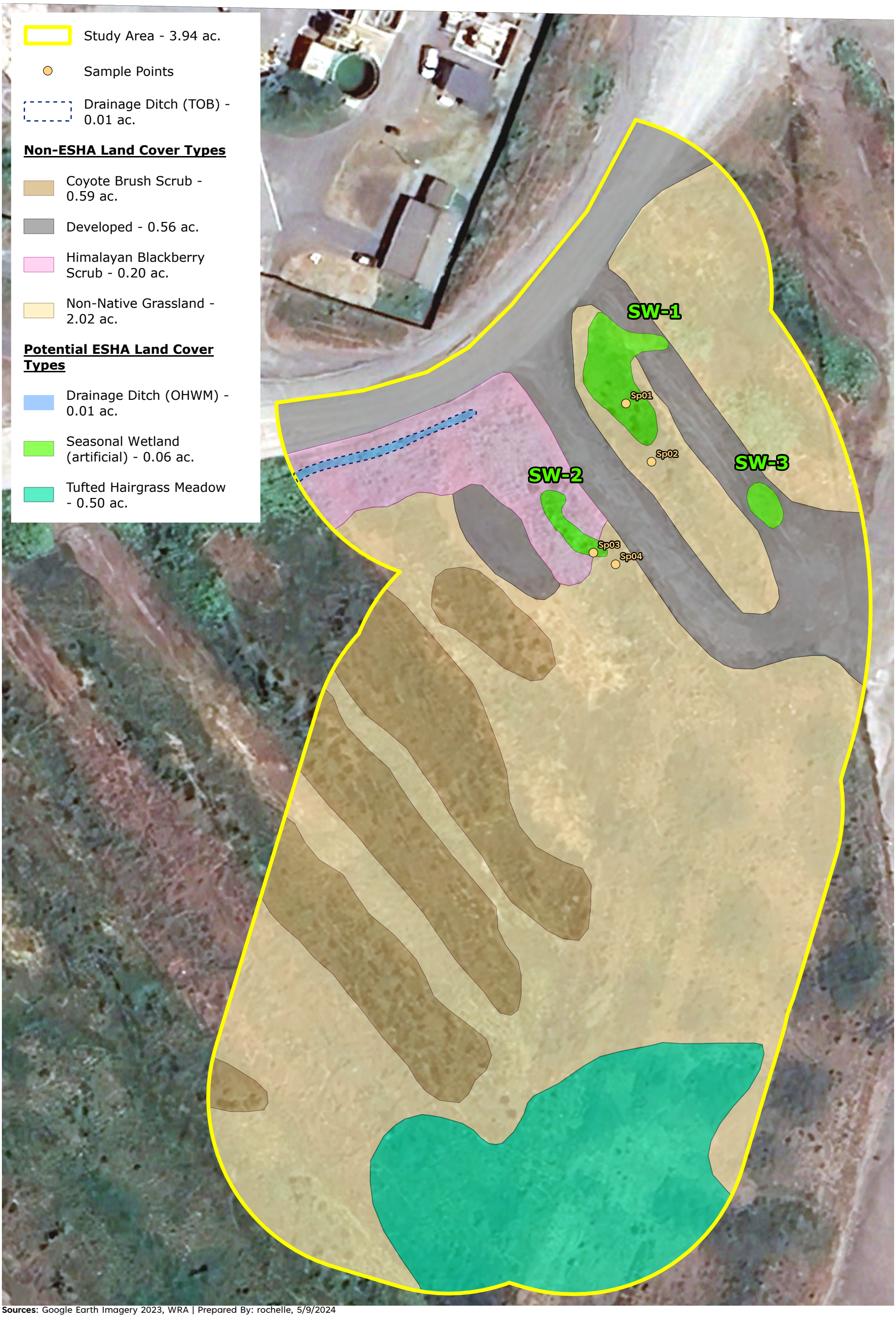
wra Environmental Consultants



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Sources: Google Earth Imagery 2023, WRA | Prepared By: rochelle, 5/9/2024

Figure 3. Land Cover Types

Noyo Center for Marine Science
Fort Bragg, California

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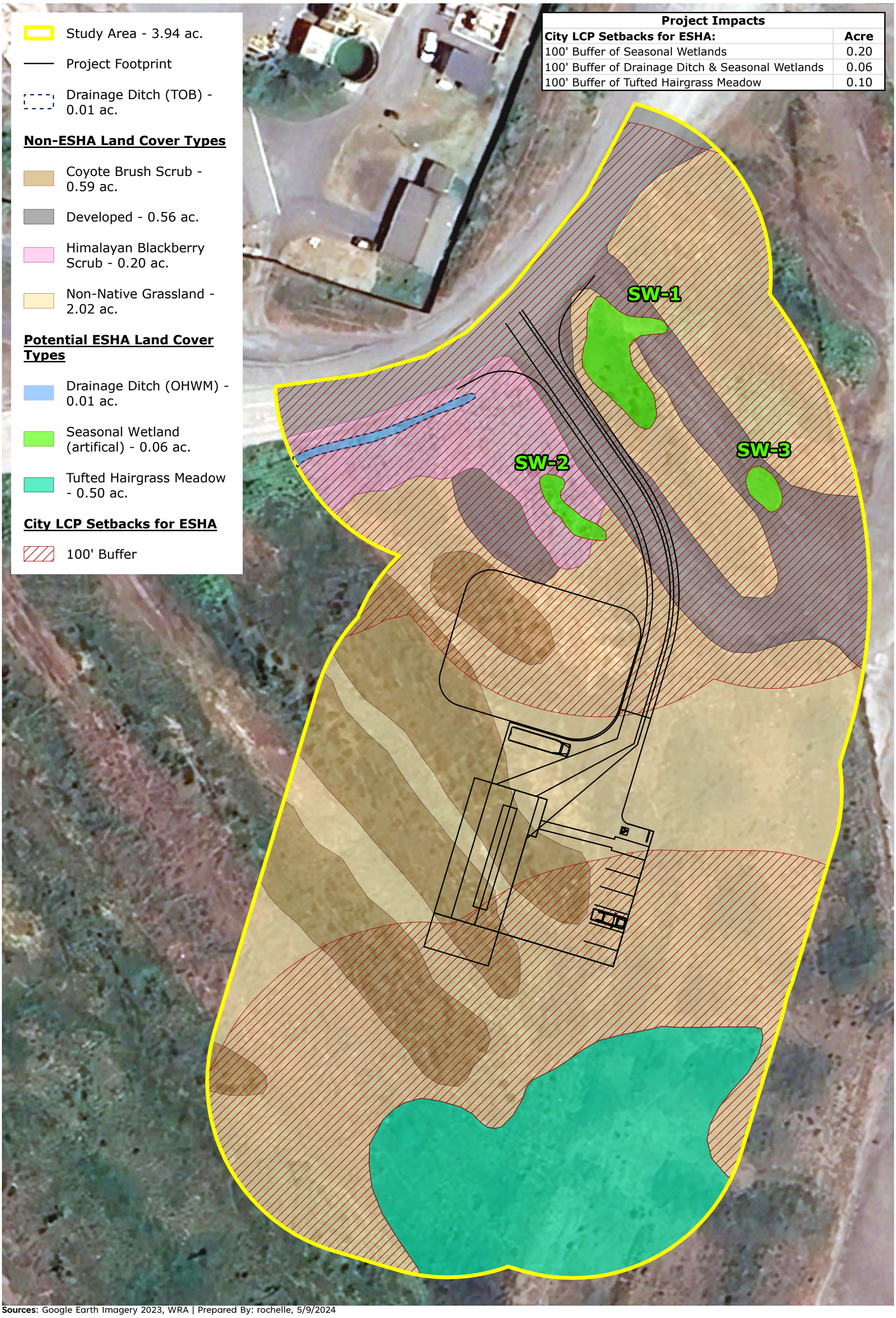

Sources: Google Earth Imagery 2023, WRA | Prepared By: rochelle, 5/9/2024

Figure 4. Project Impacts

Noyo Center for Marine Science
Fort Bragg, California

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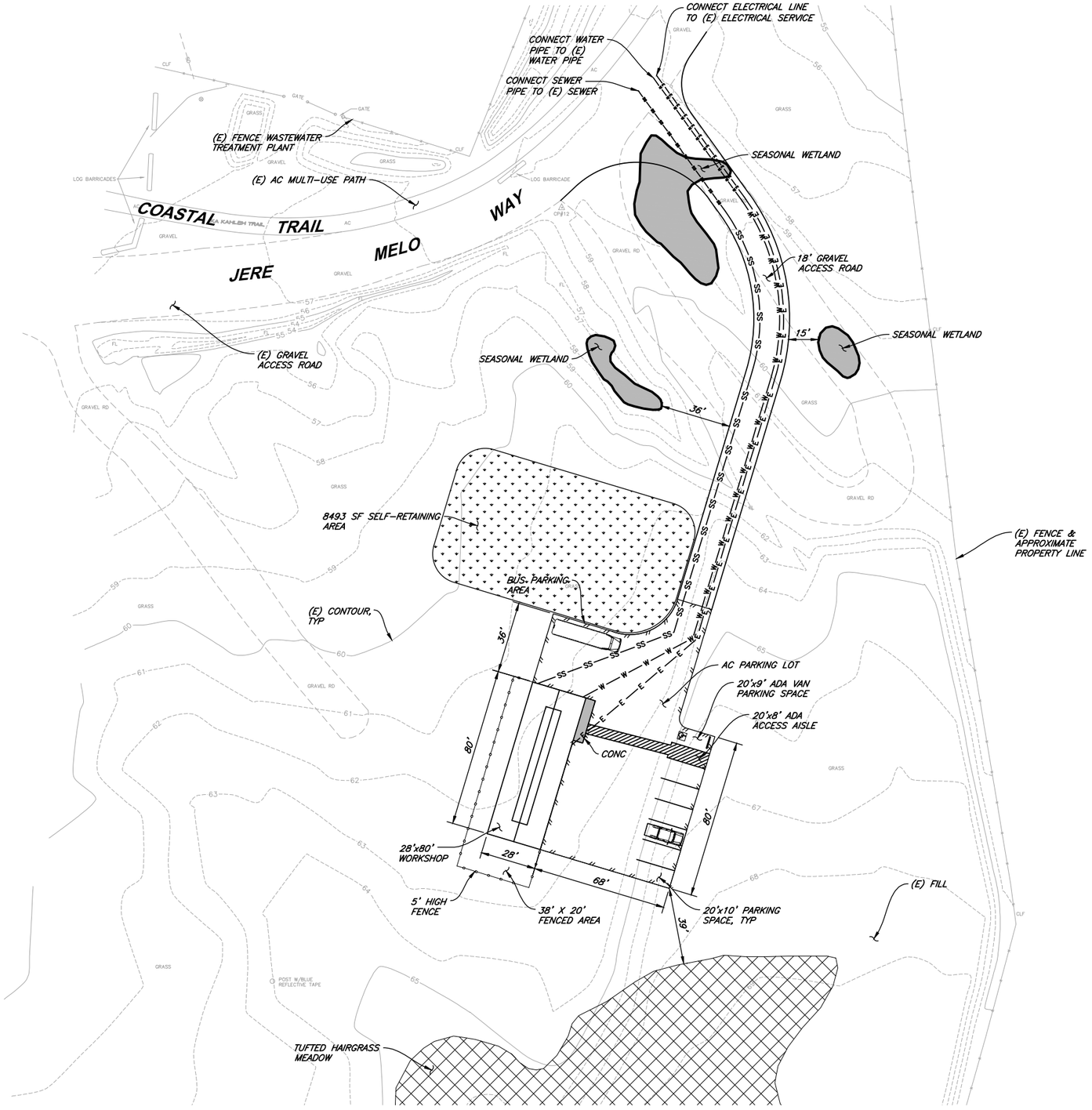
wra Environmental Consultants

Figure 5. Alternatives



Alternative 1.

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VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHN
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

NO.	REVISION	BY	DATE

DSGN JN
DR CDN/JWF
CHK CHKR
APVD

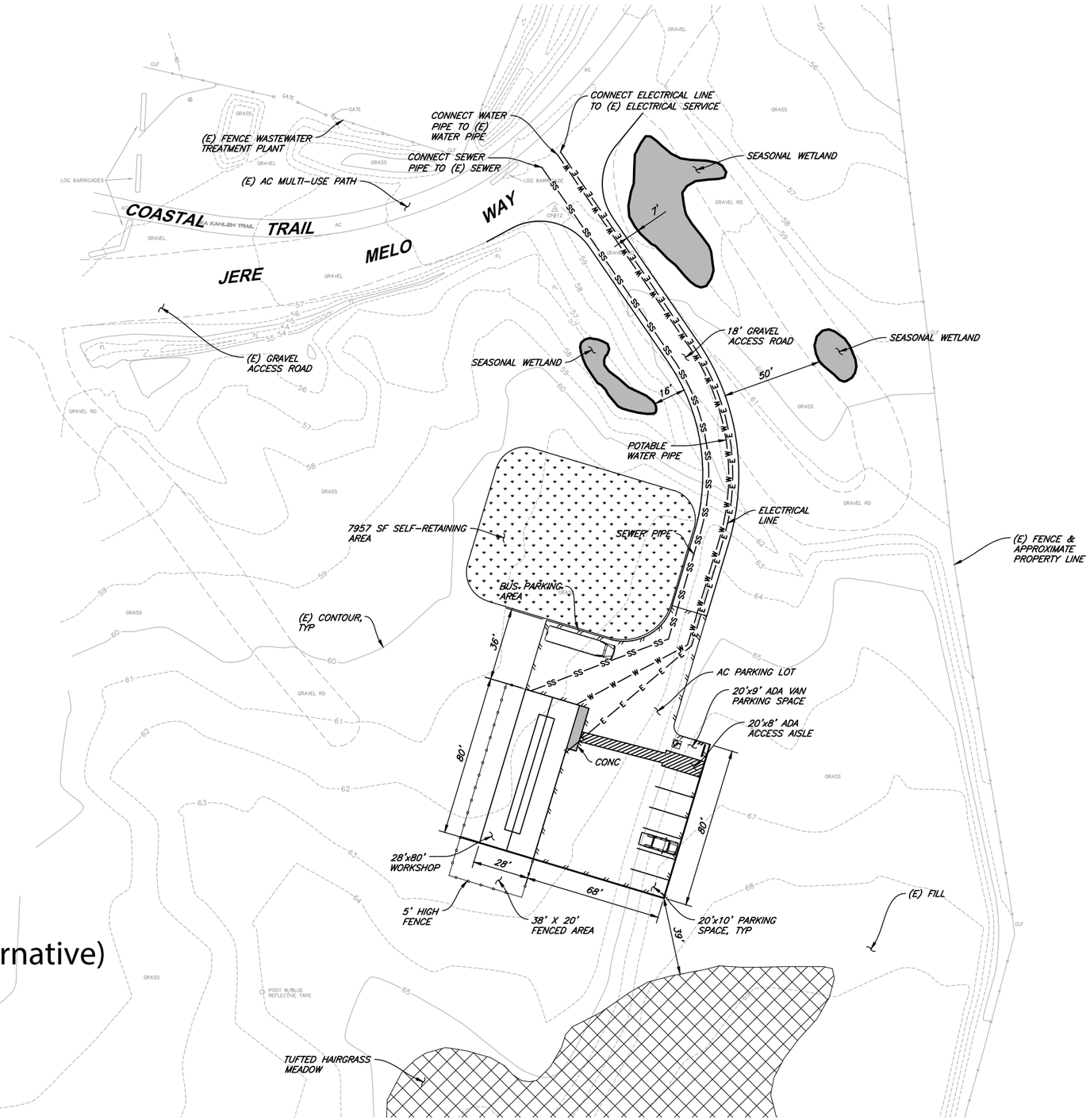
NOYO CENTER FOR MARINE SCIENCE
LA-BONE-ATORY
FORT BRAGG, CALIFORNIA

SITE PLAN- ALT 1

SHEET C1.1
SEQ
DATE 05/2024
PROJ. NO. 423065

PRELIMINARY

Figure 5. Alternatives



SITE PLAN
1"=30'

Alternative 2. (Preferred Alternative)

PRELIMINARY

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NOYO CENTER FOR MARINE SCIENCE
LA-BONE-ATORY
FORT BRAGG, CALIFORNIA

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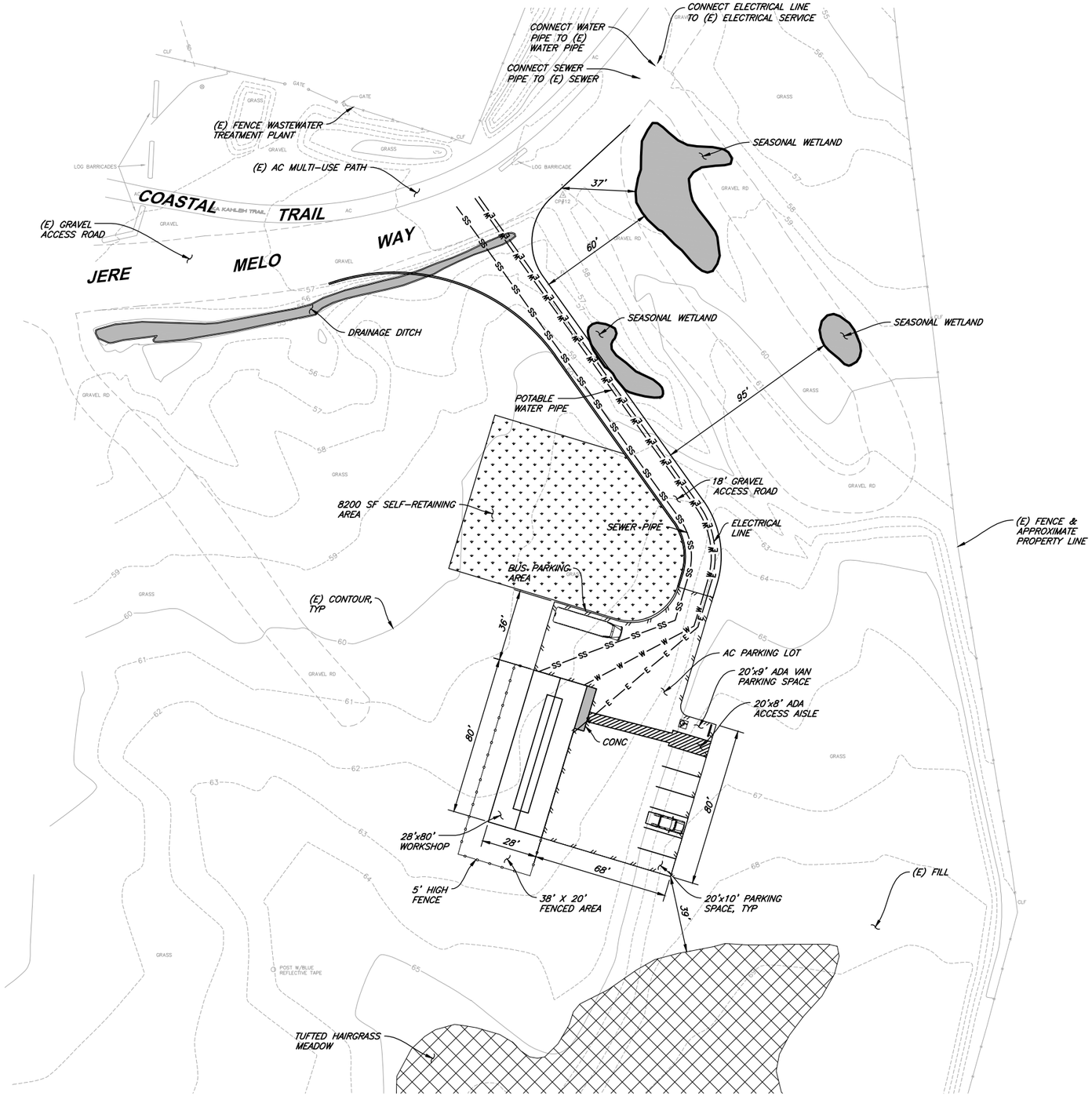
Figure 5. Alternatives



SITE PLAN
1"=30'

Alternative 3.

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WILLITS, CA. 95490
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707-459-4518

NO.	REVISION	BY

NO.	DATE

DSGN JN
DR CDN/JWF
CHK CHKR
APVD

NOYO CENTER FOR MARINE SCIENCE
LA-BONE-ATORY
FORT BRAGG, CALIFORNIA

SITE PLAN- ALT 2

SHEET C1.2
SEQ
DATE 05/2024
PROJ. NO. 423065

PRELIMINARY

Appendix B

Observed Species List

Appendix B. Plant Species Observed within the Study Area on March 31, 2024

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Achillea millefolium	Yarrow	native	perennial herb	-	-	FACU
Anthoxanthum odoratum	Sweet vernal grass	non-native (invasive)	annual, perennial grass	-	Moderate	FACU
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Callitriche sp.	-	-	-	-	-	-
Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
Carpobrotus edulis	Iceplant	non-native (invasive)	perennial herb	-	High	-
Cortaderia jubata	Andean pampas grass	non-native (invasive)	perennial grass	-	High	FACU
Cotula coronopifolia	Brass buttons	non-native (invasive)	perennial herb	-	Limited	OBL
Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-	-	FACW
Deschampsia cespitosa ssp. *holciformis*	Coastal tufted hair grass	native	perennial grass	-	-	FACW
Eriogonum latifolium	Coast buckwheat	native	perennial herb	-	-	-
Eschscholzia californica	California poppy	native	annual, perennial herb	-	-	-
Festuca bromoides	Brome fescue	non-native	annual grass	-	-	FAC
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	-	Limited	-
Geranium molle	Crane's bill geranium	non-native	annual, perennial herb	-	-	-
Holcus lanatus	Common velvetgrass	non-native (invasive)	perennial grass	-	Moderate	FAC
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC

Appendix B. Plant Species Observed within the Study Area on March 31, 2024

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Isolepis cernua	Low bulrush	native	annual grasslike herb	-	-	OBL
Juncus effusus ssp. *pacificus*	Pacific rush	native	perennial grasslike herb	-	-	FACW
Juncus patens	Common rush	native	perennial grasslike herb	-	-	FACW
Lotus corniculatus	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
Lupinus sp.	-	-	-	-	-	-
Lythrum hyssopifolia	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL
Medicago polymorpha	Bur clover	non-native (invasive)	annual herb	-	Limited	FACU
Mentha pulegium	Pennyroyal	non-native (invasive)	perennial herb	-	Moderate	OBL
Plantago coronopus	Cut leaf plantain	non-native	annual herb	-	-	FAC
Raphanus sativus	Wild radish	non-native (invasive)	annual, biennial herb	-	Limited	-
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC
Sisyrinchium bellum	Blue eyed grass	native	perennial herb	-	-	FACW
Stellaria pallida	Pale starwort	non-native	annual herb	-	-	-
Trifolium subterraneum	Subterranean clover	non-native	annual herb	-	-	-
Vicia sativa	Spring vetch	non-native	annual herb, vine	-	-	UPL

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2024]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2024] or Inventory of Rare and Endangered Plants (CNPS 2024a). Sp.: "species," intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2024a. Inventory of Rare and Endangered Plants (online edition). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: April 2024.**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California

Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2024. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf/; most recently accessed: April 2024.**

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] **U.S. Army Corps of Engineers. 2022. National Wetland Plant List, version 3.6. Online at: http://wetland-plants.sec.usace.army.mil/**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation

Appendix C

Special-status Species Potentials Table

Appendix C. Potential for Special-status Species to Occur in the Study Area. List compiled from the CDFW BIOS database (CDFW 2024a), USFWS IPaC Report (USFWS 2024b), and CNPS Electronic Inventory (CNPS 2024a) searches. The Noyo Hill, Dutchmans Knoll, Inglenook, Fort Bragg, Mathison Peak, and Mendocino USGS 7.5' quadrangles were included in the search.

Table C-1. Potential Special-Status Plants

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Plants				
pink sand-verbena *Abronia umbellata var. breviflora*	Rank 1B.1	Coastal dunes. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.	**Unlikely.** The Study Area does not include dune habitat.	**Not Present**. No further recommendations.
Blasdale's bent grass *Agrostis blasdalei*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms May-Jul.	**Unlikely.** The Study Area is relatively disturbed and is dominated by dense non-native grasses that likely preclude this species.	**Not Present**. No further recommendations.
sea-watch *Angelica lucida*	Rank 4.2	Coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps (coastal salt). Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Apr-Sep.	**Unlikely.** The Study Area is relatively disturbed. No vegetation of any Angelica species was observed during the March 31 floristic survey.	**Not Present**. No further recommendations.
pygmy manzanita *Arctostaphylos nummularia ssp. mendocinoensis*	Rank 1B.2	Closed-cone coniferous forest (acidic sandy clay). Elevation ranges from 295 to 655 feet (90 to 200 meters). Blooms Jan.	**No Potential.** The Study Area does not include acidic sandy clay soils.	**Not Present**. No further recommendations.
Humboldt County milk-vetch *Astragalus agnicidus*	SE, Rank 1B.1	Broadleafed upland forest, north coast coniferous forest. Elevation ranges from 395 to 2625 feet (120 to 800 meters). Blooms (Mar)Apr-Sep.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Point Reyes blennosperma *Blennosperma nanum var. robustum*	SR, Rank 1B.2	Coastal prairie, coastal scrub. Elevation ranges from 35 to 475 feet (10 to 145 meters). Blooms Feb-Apr.	**Unlikely.** The Study Area is relatively disturbed and underlain by fill soils.	**Not Present**. No further recommendations.
Bolander's reed grass *Calamagrostis bolanderi*	Rank 4.2	Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, marshes and swamps (freshwater), meadows and seeps (mesic), north coast coniferous forest. Elevation ranges from 0 to 1495 feet (0 to 455 meters). Blooms May-Aug.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
Thurber's reed grass *Calamagrostis crassiglumis*	Rank 2B.1	Coastal scrub (mesic), marshes and swamps (freshwater). Elevation ranges from 35 to 195 feet (10 to 60 meters). Blooms May-Aug.	**No Potential.** The Study Area does not include mesic scrub or marsh habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, north coast coniferous forest. Elevation ranges from 0 to 345 feet (0 to 105 meters). Blooms (Mar)Apr-Sep.	**Unlikely.** The Study Area is historically and contemporarily disturbed. No vegetation of Calystegia was observed during the March 31 floristic survey. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
California sedge *Carex californica*	Rank 2B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, marshes and swamps (margins), meadows and seeps. Elevation ranges from 295 to 1100 feet (90 to 335 meters). Blooms May-Aug.	**Unlikely.** The Study Area does not include mesic suitable habitat for the species. No special-status plants have been documented in the Study Area in previous assessments. No vegetation of Carex was observed during the March 31 floristic survey.	**Not Present**. No further recommendations.
lagoon sedge *Carex lenticularis var. limnophila*	Rank 2B.2	Bogs and fens, marshes and swamps, north coast coniferous forest. Elevation ranges from 0 to 20 feet (0 to 6 meters). Blooms Jun-Aug.	**No Potential.** The Study Area does not include forest or marsh habitat.	**Not Present**. No further recommendations.
livid sedge *Carex livida*	Rank 2A	Bogs and fens. Elevation ranges from 0 to 0 feet (0 to 0 meters). Blooms Jun.	**No Potential.** The Study Area does not include bogs or fens.	**Not Present**. No further recommendations.
Lyngbye's sedge *Carex lyngbyei*	Rank 2B.2	Marshes and swamps (brackish, freshwater). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Apr-Aug.	**No Potential.** The Study Area does not include marsh or swamp habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
deceiving sedge *Carex saliniformis*	Rank 1B.2	Coastal prairie, coastal scrub, marshes and swamps (coastal salt), meadows and seeps. Elevation ranges from 10 to 755 feet (3 to 230 meters). Blooms (May)Jun(Jul).	**Unlikely.** The Study Area does not include mesic suitable habitat for the species. No special-status plants have been documented in the Study Area in previous assessments. No vegetation of Carex was observed during the March 31 floristic survey.	**Not Present**. No further recommendations.
green yellow sedge *Carex viridula ssp. viridula*	Rank 2B.3	Bogs and fens, marshes and swamps (freshwater), north coast coniferous forest (mesic). Elevation ranges from 0 to 5250 feet (0 to 1600 meters). Blooms (Jun)Jul-Sep(Nov).	**No Potential.** The Study Area does not include forest or marsh habitat.	**Not Present**. No further recommendations.
johnny-nip *Castilleja ambigua var. ambigua*	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools (margins). Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.	**Moderate Potential.** The Study Area includes grassland habitat and the species is relatively adapted to disturbance. There are documented occurrences within 5-miles of the Study Area.	Not Observed. This species was not observed during the March 31 floristic survey. No further recommendations.
Humboldt Bay owl's-clover *Castilleja ambigua var. humboldtiensis*	Rank 1B.2	Marshes and swamps (coastal salt). Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms Apr-Aug.	**No Potential.** The Study Area does not include marsh or swamp habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Monterey Coast paintbrush *Castilleja latifolia*	Rank 4.3	Cismontane woodland (openings), closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 0 to 605 feet (0 to 185 meters). Blooms Feb-Sep.	**Unlikely.** The Study Area does not include dune or forest habitat. The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Castilleja was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
Oregon coast paintbrush *Castilleja litoralis*	Rank 2B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 50 to 330 feet (15 to 100 meters). Blooms Jun.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. . No vegetation of Castilleja was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Mendocino Coast paintbrush *Castilleja mendocinensis*	Rank 1B.2	Closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 0 to 525 feet (0 to 160 meters). Blooms Apr-Aug.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Castilleja was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	No special-status plants have been documented in the Study Area in previous assessments. **Not Present**. No further recommendations.
glory brush *Ceanothus gloriosus var. exaltatus*	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet (30 to 610 meters). Blooms Mar-Jun(Aug).	**No Potential.** The Study Area does not include chaparral or closed-cone pine forest habitat.	**Not Present**. No further recommendations.
Point Reyes ceanothus *Ceanothus gloriosus var. gloriosus*	Rank 4.3	Closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Mar-May.	**No Potential.** The Study Area does not include chaparral or closed-cone pine forest habitat. The Study Area has historic and contemporary disturbance and is underlain by fill soils.	**Not Present**. No further recommendations.
Howell's spineflower *Chorizanthe howellii*	FE, ST, Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 0 to 150 feet (0 to 45 meters). Blooms May-Jul.	**No Potential.** The Study Area does not include dune habitat, has historic and contemporary disturbance and is underlain by fill soils.	**Not Present**. No further recommendations.
Pacific golden saxifrage *Chrysosplenium glechomifolium*	Rank 4.3	North coast coniferous forest, riparian forest. Elevation ranges from 35 to 1770 feet (10 to 540 meters). Blooms Feb-Jun.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Whitney's farewell-to-spring *Clarkia amoena ssp. whitneyi*	Rank 1B.1	Coastal bluff scrub, coastal scrub. Elevation ranges from 35 to 330 feet (10 to 100 meters). Blooms Jun-Aug.	**No Potential.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Clarkia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
round-headed collinsia *Collinsia corymbosa*	Rank 1B.2	Coastal dunes. Elevation ranges from 0 to 65 feet (0 to 20 meters). Blooms Apr-Jun.	**No Potential.** The Study Area does not include dune habitat.	**Not Present**. No further recommendations.
Oregon goldthread *Coptis laciniata*	Rank 4.2	Meadows and seeps, north coast coniferous forest (streambanks). Elevation ranges from 0 to 3280 feet (0 to 1000 meters). Blooms (Feb)Mar-May(Sep-Nov).	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
bunchberry *Cornus unalaschkensis*	Rank 2B.2	Bogs and fens, meadows and seeps, north coast coniferous forest. Elevation ranges from 195 to 6300 feet (60 to 1920 meters). Blooms May-Jul.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
Mendocino dodder *Cuscuta pacifica var. papillata*	Rank 1B.2	Coastal dunes (interdune depressions). Elevation ranges from 0 to 165 feet (0 to 50 meters). Blooms (Jun)Jul-Oct.	**No Potential.** The Study Area does not include coastal dune habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
California pitcherplant *Darlingtonia californica*	Rank 4.2	Bogs and fens, meadows and seeps. Elevation ranges from 0 to 8480 feet (0 to 2585 meters). Blooms Apr-Aug.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
swamp harebell *Eastwoodiella californica*	Rank 1B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, marshes and swamps (freshwater), meadows and seeps, north coast coniferous forest. Elevation ranges from 5 to 1330 feet (1 to 405 meters). Blooms Jun-Oct.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
supple daisy *Erigeron supplex*	Rank 1B.2	Coastal bluff scrub, coastal prairie. Elevation ranges from 35 to 165 feet (10 to 50 meters). Blooms May-Jul.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Erigeron was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
bluff wallflower *Erysimum concinnum*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 605 feet (0 to 185 meters). Blooms Feb-Jul.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Erysimum was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
Menzies' wallflower *Erysimum menziesii*	FE, SE, Rank 1B.1	Coastal dunes. Elevation ranges from 0 to 115 feet (0 to 35 meters). Blooms Mar-Sep.	**Unlikely.** The Study Area does not include coastal dune habitat.	**Not Present**. No further recommendations.
Pacific gilia *Gilia capitata ssp. pacifica*	Rank 1B.2	Chaparral (openings), coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation ranges from 15 to 5465 feet (5 to 1665 meters). Blooms Apr-Aug.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Gilia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
dark-eyed gilia *Gilia millefoliata*	Rank 1B.2	Coastal dunes. Elevation ranges from 5 to 100 feet (2 to 30 meters). Blooms Apr-Jul.	**No Potential.** The Study Area does not include coastal dune habitat.	**Not Present**. No further recommendations.
American glehnia *Glehnia littoralis ssp. leiocarpa*	Rank 4.2	Coastal dunes. Elevation ranges from 0 to 65 feet (0 to 20 meters). Blooms May-Aug.	**No Potential.** The Study Area does not include coastal dune habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	Rank 1B.2	Valley and foothill grassland. Elevation ranges from 65 to 1835 feet (20 to 560 meters). Blooms Apr-Nov.	**No Potential.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Hemizonia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
Tracy's tarplant *Hemizonia congesta ssp. tracyi*	Rank 4.3	Coastal prairie, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 395 to 3935 feet (120 to 1200 meters). Blooms (Mar-Apr)May-Oct.	**No Potential.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Hemizonia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
short-leaved evax *Hesperevax sparsiflora var. brevifolia*	Rank 1B.2	Coastal bluff scrub (sandy), coastal dunes, coastal prairie. Elevation ranges from 0 to 705 feet (0 to 215 meters). Blooms Mar-Jun.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Hesperevax was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
pygmy cypress *Hesperocyparis pygmaea*	Rank 1B.2	Closed-cone coniferous forest (usually podzol-like soil). Elevation ranges from 100 to 1970 feet (30 to 600 meters). Blooms .	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
Point Reyes horkelia *Horkelia marinensis*	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 15 to 2475 feet (5 to 755 meters). Blooms May-Sep.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Horkelia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
harlequin lotus *Hosackia gracilis*	Rank 4.2	Broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.	**Moderate Potential.** The Study Area includes suitable mesic habitat of this species; additionally this species is disturbance tolerant.	**Not Observed**. This species was not observed during the March 31 floristic survey. No further recommendations.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun).	**No Potential.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Iris was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
hair-leaved rush *Juncus supiniformis*	Rank 2B.2	Bogs and fens, marshes and swamps (freshwater). Elevation ranges from 65 to 330 feet (20 to 100 meters). Blooms Apr-May(Jun-Jul).	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Baker's goldfields *Lasthenia californica ssp. bakeri*	Rank 1B.2	Closed-cone coniferous forest (openings), coastal scrub, marshes and swamps, meadows and seeps. Elevation ranges from 195 to 1705 feet (60 to 520 meters). Blooms Apr-Oct.	**Unlikely.** The Study Area does not include mesic areas in suitable habitat.	**Not Present**. No further recommendations.
perennial goldfields *Lasthenia californica ssp. macrantha*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Jan-Nov.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Lasthenia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
marsh pea *Lathyrus palustris*	Rank 2B.2	Bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marshes and swamps, north coast coniferous forest. Elevation ranges from 5 to 330 feet (1 to 100 meters). Blooms Mar-Aug.	**No Potential.** The Study Area does not include mesic areas in suitable habitat.	**Not Present**. No further recommendations.
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	**No Potential.** The Study Area does not include forest or woodland habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
coast lily *Lilium maritimum*	Rank 1B.1	Broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), north coast coniferous forest. Elevation ranges from 15 to 1560 feet (5 to 475 meters). Blooms May-Aug.	**No Potential.** The Study Area does not include mesic areas in suitable habitat.	**Not Present**. No further recommendations.
redwood lily *Lilium rubescens*	Rank 4.2	Broadleafed upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest. Elevation ranges from 100 to 6265 feet (30 to 1910 meters). Blooms (Mar)Apr-Aug(Sep).	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
heart-leaved twayblade *Listera cordata*	Rank 4.2	Bogs and fens, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 15 to 4495 feet (5 to 1370 meters). Blooms Feb-Jul.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
running-pine *Lycopodium clavatum*	Rank 4.1	Lower montane coniferous forest (mesic), marshes and swamps, north coast coniferous forest (mesic). Elevation ranges from 150 to 4020 feet (45 to 1225 meters). Blooms Jun-Aug(Sep).	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
northern microseris *Microseris borealis*	Rank 2B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps. Elevation ranges from 3280 to 6560 feet (1000 to 2000 meters). Blooms Jun-Sep.	**No Potential.** The Study Area does not include perennially mesic or forest habitat and is below the elevation range of the species.	**Not Present**. No further recommendations.
leafy-stemmed mitrewort *Mitellastra caulescens*	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, meadows and seeps, north coast coniferous forest. Elevation ranges from 15 to 5580 feet (5 to 1700 meters). Blooms (Mar)Apr-Oct.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
Wolf's evening-primrose *Oenothera wolfii*	Rank 1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Elevation ranges from 10 to 2625 feet (3 to 800 meters). Blooms May-Oct.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Oenothera was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
seacoast ragwort *Packera bolanderi var. bolanderi*	Rank 2B.2	Coastal scrub, north coast coniferous forest. Elevation ranges from 100 to 2135 feet (30 to 650 meters). Blooms (Jan-Apr)May-Jul(Aug).	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
North Coast phacelia *Phacelia insularis var. continentis*	Rank 1B.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 35 to 560 feet (10 to 170 meters). Blooms Mar-May.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Phacelia was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
white-flowered rein orchid *Piperia candida*	Rank 1B.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 100 to 4300 feet (30 to 1310 meters). Blooms (Mar-Apr)May-Sep.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
California pinefoot *Pityopus californicus*	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest. Elevation ranges from 50 to 7300 feet (15 to 2225 meters). Blooms (Mar-Apr)May-Aug.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
nodding semaphore grass *Pleuropogon refractus*	Rank 4.2	Lower montane coniferous forest, meadows and seeps, north coast coniferous forest, riparian forest. Elevation ranges from 0 to 5250 feet (0 to 1600 meters). Blooms (Feb-Mar)Apr-Aug.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
dwarf alkali grass *Puccinellia pumila*	Rank 2B.2	Marshes and swamps (coastal salt). Elevation ranges from 5 to 35 feet (1 to 10 meters). Blooms Jul.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
angel's hair lichen *Ramalina thrausta*	Rank 2B.1	North coast coniferous forest. Elevation ranges from 245 to 1410 feet (75 to 430 meters). Blooms .	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
white beaked-rush *Rhynchospora alba*	Rank 2B.2	Bogs and fens, marshes and swamps (freshwater), meadows and seeps. Elevation ranges from 195 to 6695 feet (60 to 2040 meters). Blooms Jun-Aug.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
round-headed beaked-rush *Rhynchospora globularis*	Rank 2B.1	Marshes and swamps (freshwater). Elevation ranges from 150 to 195 feet (45 to 60 meters). Blooms Jul-Aug.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
great burnet *Sanguisorba officinalis*	Rank 2B.2	Bogs and fens, broadleafed upland forest, marshes and swamps, meadows and seeps, north coast coniferous forest, riparian forest. Elevation ranges from 195 to 4595 feet (60 to 1400 meters). Blooms Jul-Oct.	**Unlikely.** The Study Area does not include mesic areas in typical habitat.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
maple-leaved checkerbloom *Sidalcea malachroides*	Rank 4.2	Broadleafed upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian woodland. Elevation ranges from 0 to 2395 feet (0 to 730 meters). Blooms (Mar)Apr-Aug.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
purple-stemmed checkerbloom *Sidalcea malviflora ssp. purpurea*	Rank 1B.2	Broadleafed upland forest, coastal prairie. Elevation ranges from 50 to 280 feet (15 to 85 meters). Blooms May-Jun.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Sidalcea was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
trifoliate laceflower *Tiarella trifoliata var. trifoliata*	Rank 3.2	Lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms (May)Jun-Aug.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
Monterey clover *Trifolium trichocalyx*	FE, SE, Rank 1B.1	Closed-cone coniferous forest (burned areas, openings, sandy). Elevation ranges from 100 to 1000 feet (30 to 305 meters). Blooms Apr-Jun.	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub. Elevation ranges from 35 to 330 feet (10 to 100 meters). Blooms .	**Unlikely.** The Study Area does not include rock outcrops.	**Not Present**. No further recommendations.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Methuselah's beard lichen *Usnea longissima*	Rank 4.2	Broadleafed upland forest, north coast coniferous forest. Elevation ranges from 165 to 4790 feet (50 to 1460 meters). Blooms .	**No Potential.** The Study Area does not include forest habitat.	**Not Present**. No further recommendations.
fringed false-hellebore *Veratrum fimbriatum*	Rank 4.3	Bogs and fens, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Jul-Sep.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.
Western dog violet *Viola adunca*	No Rank; this plant is considered an important larval food plant for the federal endangered Behrens silver spot butterfly.	Coastal prairie, coastal scrub, coastal bluff scrub, lower montane coniferous forest, North Coast conifer forest, meadows. Elevation ranges from 3 to 11,600 feet. Blooms Apr-Aug.	**Unlikely.** The Study Area has historic and contemporary disturbance and is underlain by fill soils. No vegetation of Viola was observed during the floristic survey on March 31. No special-status plants have been documented in the Study Area in previous assessments.	**Not Present**. No further recommendations.
alpine marsh violet *Viola palustris*	Rank 2B.2	Bogs and fens (coastal), coastal scrub (mesic). Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Aug.	**No Potential.** The Study Area does not include perennially mesic habitat.	**Not Present**. No further recommendations.

Table C-2. Potential for Special-status wildlife species to Occur in the Study Area.

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.	**Unlikely**. This species is not known to occur along the coast.	**Presumed Absent.** No further recommendations 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.	**No Potential**. The Study Area is outside the documented range of the species.	**Not Present.** No further recommendations for this species.
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 Bishop pine stands.	**No Potential**. The Study Area does not include forest habitat.	**Not Present.** No further recommendations 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 include suitable roosting or foraging habitat.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
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; suitable roosting site limited. Extremely sensitive to disturbance	**No Potential**. The Study Area does not include suitable roosting habitat. This species may forage over the Study Area.	**Not Present.** No further recommendations for this species.
Steller (=Northern) sea lion *Eumetopias jubatus*	FD, MMC_SSC	Breeds on Año Nuevo, San Miguel and Farallon islands, Point Saint George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	**No Potential**. The Study Area does not include beach or sea rock habitat.	**Not Present.** No further recommendations 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 include suitable forest habitat.	**Not Present.** No further recommendations for this species.
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**. While suitable habitat is present, this species has not been documented along the Mendocino coast.	**Presumed Absent.** No further recommendations for this species.
Birds				

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
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.	**Unlikely**. The Study Area does not include older conifer forest or large trees.	**Presumed Absent.** No further recommendations 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 includes suitable nesting and foraging habitat. The species was observed near the Study Area in 2019 (eBird 2024).	**Presence Unknown.** Tree/vegetation removal and initial ground disturbance should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found. See Section 6.0 for details.
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 and on taller, manmade structures, usually within otherwise open areas.	**No Potential.** The Study Area does not provide large cliffs, and lacks typical large, isolated nest trees. This species does not typically occur along the coast.	**Not Present.** No further recommendations for this species.
Ardea alba great egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially, usually in trees, occasionally on the ground or elevated platforms. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**Unlikely to Nest.** The Study Area is not within close proximity to suitable waters to support a breeding colony. This species may forage in the Study Area.	**Nests Presumed Absent.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Ardea herodias great blue heron	LR (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and cliffs, also sequested terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	**Unlikely to Nest.** The Study Area is not within close proximity to suitable waters to support a breeding colony. This species may forage in the Study Area.	**Nests Presumed Absent.** No further recommendations 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.** Species is a winter visitor to California but has not been observed on coast of Mendocino County (ebird 2024) and unlikely to nest in the Study Area.	**Presumed Absent.** No further recommendations for this species.
Brachyramphus marmoratus marbled murrelet	FT, SE	Primarily coastal marine forager, but breeds/nests in interior old-growth coast redwood and/or Douglas fir stands containing platform-like branches along the coast. Migrates daily from inland nests and roosts to forage in the Pacific Ocean.	**No Potential to Nest**. The Study Area does not include suitable forest habitat.	**Not Present.** No further recommendations 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 include suitable offshore islands or rocks.	**Not Present.** No further recommendations 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**. The Study Area does not include large trees and suitable foraging habitat is not close.	**Not Present.** No further recommendations 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 recommendations for this species.
Circus cyaneus 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 to Nest.** The Study Area is small and does not include dense vegetation suitable for this species to nest. However, the species may forage over the Study Area.	**Not Present.** No further recommendations 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.	**Unlikely.** The Study Area does not include forest or woodland habitat suitable for nesting; the species may forage over the Study Area.	**Not Present.** No further recommendations 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 include seastacks.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Egretta thula snowy egret	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense emergent vegetation (e.g., tules). Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	**Unlikely to Nest.** The Study Area is not within close proximity to suitable waters to support a breeding colony.	**Presumed Absent.** No further recommendations for this species.
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 to Nest.** Forested areas are absent. The species may be observed foraging over the Study Area.	**Presumed Absent.** No further recommendations 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.	**Unlikely to Nest.** The Study Area does not include cliffs. Individuals may forage over the Study Area.	**Presumed Absent.** No further recommendations 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.	**Unlikely**. The Study Area does not include coastal islands or islets.	**Presumed Absent.** No further recommendations for this species.
Gavia immer common loon	SSC	Winter visitor to coastal marine, estuarine, and some expansive coastal freshwater habitats.	**No Potential to Nest**. The Study Area does not include marine habitat.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
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.	**Unlikely to Nest.** The Study Area does not include suitable trees for nesting.	**Presumed Absent.** No further recommendations for this species.
Histrionicus histrionicus harlequin duck	SSC	Winter visitor to coastal habitats, usually along turbulent, rocky shores. Breeds in inland streams.	**No Potential to Nest.** The Study Area does not include suitable nesting habitat.	**Not Present.** No further recommendations for this species.
Icteria virens yellow-breasted chat	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow (*Salix* ssp.), blackberry (*Rubus* spp.), and wild grape (*Vitis californicus*).	**No Potential to Nest.** The Study Area does not contain stands of dense riparian understory favored by this species for nesting.	**Not Present.** No further recommendations for this species.
Lanius ludovicianus loggerhead shrike	SSC	Year-round resident in open woodland, grasslands, savannah, and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Unlikely to Nest.** The Study Area provides some suitable habitat elements, i.e., open areas with scattered shrubbery. However, there are no observations in the area (eBird 2024), and this usually conspicuous species was not observed during site visits.	**Presumed Absent.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
Nycticorax nycticorax black-crowned night heron	no status (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays.	**No Potential to Nest.** The Study Area and adjacent lands lack aquatic foraging habitat; no indication of presence observed during site visits.	**Not Present.** No further recommendations 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.	**Unlikely.** The Study Area lacks offshore islands and rock.	**Presumed Absent.** No further recommendations 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 is located along the coast and includes suitable nesting habitat. Individuals have been observed nearby (eBird 2024).	**Presence Unknown.** Tree/vegetation removal and initial ground disturbance should occur outside of nesting season, or conduct pre-construction surveys and avoid any active nests found. See Section 6.0 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.	**Unlikely.** The Study Area does not include snags or suitable nesting habitat.	**Presumed Absent.** No further recommendations 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. 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 includes vertical cliffs of loam.	**Not Present.** No further recommendations 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.	**Unlikely.** The Study Area does not contain perennial streams and associated dense willow cover favored by this species for breeding. Individuals presumably occur during migration.	**Presumed Absent.** No further recommendations 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 dense/mature coniferous or mixed forest.	**Not Present.** No further recommendations 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 does not include suitable stream habitat for this species.	**Not Present.** No further recommendations 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.	**Unlikely**. The Study Area lacks suitable aquatic habitat.	**Presumed Absent.** No further recommendations for this species.
Emys marmorata western pond turtle	SSC, FP	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 does not include suitable aquatic habitat.	**Not Present.** No further recommendations 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 does not include talus slopes with conifer forest.	**Not Present.** No further recommendations 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.	**Unlikely**. The Study Area does not include suitable aquatic habitat.	**Presumed Absent.** No further recommendations 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 does not include suitable aquatic habitat.	**Not Present.** No further recommendations 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 does not include suitable aquatic habitat. This species does not occur north of Navarro River.	**Not Present.** No further recommendations 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 does not include suitable aquatic habitat.	**Not Present.** No further recommendations 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 does not include suitable aquatic habitat.	**Not Present.** No further recommendations 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.** No further recommendations for this species.
Pacific lamprey *Entosphenus (=Lampetra) tridentatus*	SSC	Spawns between March and July in gravel bottomed streams in riffle habitat. Larvae drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrates.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further recommendations 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 anadromous or estuarine waters.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
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 anadromous or estuarine waters.	**Not Present.** No further recommendations for this species.
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 anadromous or estuarine waters.	**Not Present.** No further recommendations for this species.
Oncorhynchus mykiss irideus steelhead - northern CA 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.** No further recommendations for this species.
Coho salmon - central CA coast ESU *Oncorhynchus kisutch*	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further recommendations 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 >27 degrees C lethal to adults.	**No Potential.** The Study Area does not contain suitable anadromous or estuarine waters.	**Not Present.** No further recommendations for this species.
Invertebrates				
western bumble bee *Bombus occidentalis*	SC	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Hatfield 2015). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	**Unlikely**. All documented occurrences in Mendocino County are historic (1949 to 1984)(CDFW 2024a). The current range of the species is identified much further north and east (CDFW 2023) and is likely extirpated from coastal Mendocino.	**Presumed Absent.** No further recommendations for this species.
monarch butterfly *Danaus plexippus*	none (winter roosts protected by CDFW), FC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	**No Potential**. The Study Area does not include known roosting tree species.	**Not Present.** No further recommendations for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
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 include larval food plants or known habitat. The species may forage in the Study Area.	**Not Present.** No further recommendations 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 include larval food plants. The species may forage in the Study Area.	**Not Present.** No further recommendations 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
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
Rank 1A	CNPS CRPR 1A: Plants presumed extinct in California
Rank 1B	CNPS CRPR 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2A	CNPS CRPR 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B	CNPS CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CNPS CRPR 3: Plants about which CNPS needs more information (a review list)
Rank 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

Photo 1. Seasonal wetland (SW-1).

Photo 2. Seasonal wetland (SW-2).

Photo 3. Seasonal wetland (SW-3).

Photo 4. Coastal tufted hairgrass meadow.

Photo 5. Coyote brush scrub.

Photo 6. Non-native grassland.

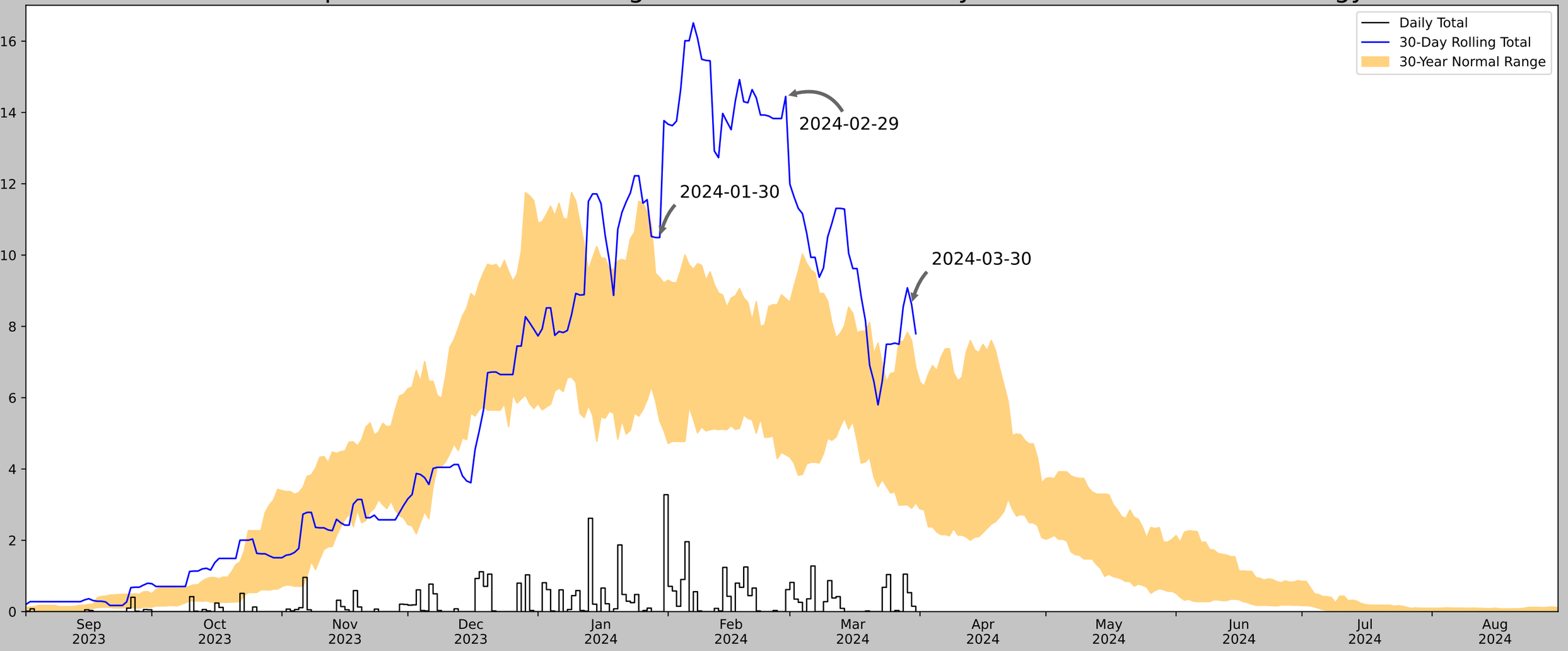
Photo 7. Drainage ditch.

Photo 8. Vegetation on the recently placed fill pile in the west portion of the Study Area.

Appendix E

Antecedent Precipitation Tool Analysis

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	39.437819, -123.813722
Observation Date	2024-03-30
Elevation (ft)	61.627
Drought Index (PDSI)	Mild wetness (2024-02)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-30	2.897638	7.601969	8.614174	Wet	3	3	9
2024-02-29	4.398819	8.782677	14.448819	Wet	3	2	6
2024-01-30	5.346457	9.368898	10.492126	Wet	3	1	3
Result							Wetter than Normal - 18

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
FT BRAGG 5 N	39.51, -123.7564	123.031	5.85	61.404	2.992	11011	75
FORT BRAGG 4.0 NNE	39.4985, -123.7854	84.974	1.738	38.057	0.848	77	8
FORT BRAGG 3.5 S	39.3914, -123.802	210.958	8.548	87.927	4.598	7	4
FORT BRAGG 4.5 S	39.3769, -123.801	190.945	9.499	67.914	4.92	34	0
CASPAR 1.4 ESE	39.361, -123.789	323.163	10.441	200.132	6.788	45	3
MENDOCINO 1.3 NNE	39.3257, -123.7942	323.163	12.893	200.132	8.382	12	0
WESTPORT 1.6 NNE	39.6567, -123.7698	722.113	10.161	599.082	10.66	8	0
ELK 1.8 NNE	39.1054, -123.7062	146.982	28.084	23.951	13.31	45	0
ALBION 4.0 SE	39.1878, -123.7096	636.155	22.402	513.124	21.576	6	0
STANDISH HICKEY SP	39.8778, -123.7275	853.018	25.459	729.987	30.041	81	0
LAYTONVILLE 1.1 SW	39.6724, -123.4898	1646.982	18.094	1523.951	35.717	2	0
UKIAH MUNI AP	39.1278, -123.2003	603.018	39.761	479.987	36.977	24	0

Appendix F

Wetland Data Forms

Wetland Determination Data Form - Western Mountains, Valleys and Coast Region

Project/Site: Noyo Center Laboneatory | City: Fort Bragg | County: Mendocino | Sampling Date: 3/31/2024

Applicant/Owner: Noyo Center for Marine Sciences | State: CA | Sampling Point: **SP-01**

Investigator(s): WRA, Inc., Rhiannon Korhummel | Section,Township,Range:

Landform (hillslope, terrace, etc.): coastal terrace | Local Relief (concave, convex, none): concave | Slope(%): 3

Subregion(LRR): LRR A | Lat: | Long: | Datum: WGS 84

Soil Map Unit Name: Urban Land | NWI classification: n/a

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☒ Soil ☒ Hydrology | (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: Sample point located in a topographic depression. Vegetation is dominated by non-native FAC species. Hydrology indicators observed. Hydric soils are presumed due to presence of hydrophytic vegetation and hydrology along with topographic position. Climatic conditions are wetter than normal and hydrology indicators are considered naturally problematic.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** -	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** -			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM **Plot Size:** 5'x5'			
1. *Hordeum marinum*	60	x	FAC
2. *Holcus lanatus*	10		FAC
3. *Juncus patens*	10		FACW
4. *Festuca pratensis*	5		FAC
5. *Isolepis cernua*	2		OBL
6.			
7.			
8.			
Herb Stratum Total Cover:	**87**		
WOODY VINES **Plot Size:** -			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☒ 3 - Prevalence Index is </= 3.0[1]
- ☐ 4 - Morphological adaptations[1] (provide supporting data in remarks)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Vegetation dominated by non-native facultative (FAC) plants. However, overall species are FAC or wetter.

SOIL

Sampling Point SP-01

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[1]	Texture	Remarks
0-2	10YR 2/1	100					sandy loam	
2-4	2.5Y 4/1	80					sandy clay loam	
	7.5YR 5/4	10					rock	rocks/sand of native soil
	5YR 3/4	10					rock	rocks/sand of native soil
4-6	2.5Y 3/1	100					sandy clay loam	
6+								refusal due to fill rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☒ Other (explain in remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: rocks

Depth (inches): 6 inches

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: No indicators of hydric soils. Shovel refusal at 6 inches due to abundant rocks from fill soils. Soils are presumed hydric due to presence of hydrophytic vegetation and hydrology and topographic position which is likely to concentrate and hold precipitation and sheetflow.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1)(LRR AA)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9)(NW coast)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6)(LRR A)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface water present? ☒ Yes ☐ No Depth (inches): 2 inches

Water table present? ☐ Yes ☐ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☐ No Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Primary indicator Surface Water up to 2 inches observed and algal matting observed in dried out areas. Secondary indicator FAC-Neutral Test (D5) is met.

Wetland Determination Data Form - Western Mountains, Valleys and Coast Region

Project/Site: Noyo Center Laboneatory | City: Fort Bragg | County: Mendocino | Sampling Date: 3/31/2024

Applicant/Owner: Noyo Center for Marine Sciences | State: CA | Sampling Point: **SP-02**

Investigator(s): WRA, Inc., Rhiannon Korhummel | Section,Township,Range:

Landform (hillslope, terrace, etc.): coastal terrace | Local Relief (concave, convex, none): flat | Slope(%): 3

Subregion(LRR): LRR A | Lat: | Long: | Datum: WGS 84

Soil Map Unit Name: Urban Land | NWI classification: n/a

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☒ Hydrology | (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: Sample point located in uplands adjacent to a seasonal wetland. paired point with SP-02. Vegetation is dominated by non-native FAC species. Climatic conditions are considered wetter than normal and therefore hydrology is considered naturally problematic. No hydric soils observed and hydric soils are not presumed present as the local relief is unlikely to concentrate precipitation or sheetflow.

VEGETATION (use scientific names)

TREE STRATUM Plot Size: -	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM Plot Size: -			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			
HERB STRATUM Plot Size: 5'x5'			
1. *Hordeum marinum*	65	x	FAC
2. *Holcus lantatus*	15		FAC
3. *Festuca perennis*	5		FAC
4. *Geranium sp.*	2		?
5. *Bromus diandrus*	2		UPL
6. *Vicia sativa*	2		FACU
7. *Isolepis cernua*	1		OBL
8.			
Herb Stratum Total Cover:	**92**		
WOODY VINES Plot Size: -			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 1 (A)

Total number of dominant species across all strata? 1 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☒ 3 - Prevalence Index is </= 3.0[1]
- ☐ 4 - Morphological adaptations[1] (provide supporting data in remarks)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Vegetation dominated by FAC non-native species.

SOIL

Sampling Point SP-02

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[1]	Texture	Remarks
0-6	10YR 2/1	100						rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: rocks

Depth (inches): 6 inches

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: No indicators of hydric soils observed. Shovel refusal at 6-inches due to high amount of fill rocks. Soils are not presumed hydric as local relief is unlikely to collect precipitation or surface flow.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1)(LRR AA)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9)(NW coast)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6)(LRR A)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface water present?	☐ Yes ☒ No	Depth (inches):	
Water table present?	☒ Yes ☐ No	Depth (inches):	5 inches
Saturation Present? (includes capillary fringe)	☒ Yes ☐ No	Depth (inches):	4 inches

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Primary indicator High Water Table and Saturation observed. Hydrology is presumed naturally problematic due to above normal rainfall and likely do not represent normal conditions.

Wetland Determination Data Form - Western Mountains, Valleys and Coast Region

Project/Site: Noyo Center Laboneatory | City: Fort Bragg | County: Mendocino | Sampling Date: 3/31/2024

Applicant/Owner: Noyo Center for Marine Sciences | State: CA | Sampling Point: **SP-03**

Investigator(s): WRA, Inc., Rhiannon Korhummel | Section,Township,Range:

Landform (hillslope, terrace, etc.): coastal terrace | Local Relief (concave, convex, none): concave | Slope(%): 3

Subregion(LRR): LRR A | Lat: | Long: | Datum: WGS 84

Soil Map Unit Name: Urban Land | NWI classification: n/a

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☒ Soil ☒ Hydrology | (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: Sample point located in a topographic depression. Vegetation dominated by OBL plants at low cover. Soils are presumed hydric due to presence of hydrophytic vegetation and hydrology and in topoographic position likely to concentrate precipitation and surface flow. Primary hydrology indicators observed. Climatic conditions are considered wetter than normal and hydrology is considered naturally problematic.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** -	Absolute % cover		Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
Tree Stratum Total Cover:				
SAPLING/SHRUB STRATUM **Plot Size:** 10'x10'				
1. *Rubus armeniacus*	5		x	FAC
2.				
3.				
4.				
Sapling/Shrub Stratum Total Cover:	**5**			
HERB STRATUM **Plot Size:** 5'x5'				
1. *Mentha pulegium*	10		x	OBL
2. *Lythrum hyssopifolia*	5		x	OBL
3.				
4.				
5.				
6.				
7.				
8.				
Herb Stratum Total Cover:	**15**			
WOODY VINES **Plot Size:** -				
1.				
2.				
Woody Vines Total Cover:				

% Bare ground in herb stratum: | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	3	(A)
Total number of dominant species across all strata?	3	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☒ 3 - Prevalence Index is </= 3.0[1]
- ☐ 4 - Morphological adaptations[1] (provide supporting data in remarks)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Vegetation dominated by obligate non-native wetland plants and facultative non-native shrub.

SOIL **Sampling Point** SP-03

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[1]	Texture	Remarks
0-6	10YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except MLRA1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☒ Other (explain in remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted

Depth (inches): 6 inches

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: No hydric indicators observed and shovel refusal at 6-inches due to highly compacted soil. Soils presumed hydric due to presence of hydrophytic vegetation and hydrology along with topographic position likely to concentrate precipitation and surface flow.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1)(LRR AA)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9)(NW coast)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6)(LRR A)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface water present? ☒ Yes ☐ No Depth (inches): 4

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Primary hydrology indicator Surface Water (A1) at a maximum depth of 4 inches observed. Additionally, algal growth on submerged vegetation observed (B4). Vegetation meets the secondary indicator FAC-Neutral Test (D5).

Wetland Determination Data Form - Western Mountains, Valleys and Coast Region

Project/Site: Noyo Center Laboneatory | City: Fort Bragg | County: Mendocino | Sampling Date: 3/31/2024

Applicant/Owner: Noyo Center for Marine Sciences | State: CA | Sampling Point: **SP-04**

Investigator(s): WRA, Inc., Rhiannon Korhummel | Section,Township,Range:

Landform (hillslope, terrace, etc.): coastal terrace | Local Relief (concave, convex, none): flat | Slope(%): 3

Subregion(LRR): LRR A | Lat: | Long: | Datum: WGS 84

Soil Map Unit Name: Urban Land | NWI classification: n/a

Are climatic/hydrologic conditions on-site typical for this time of year? ☐ Yes ☒ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☒ Hydrology | (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: Sample point located in uplands adjacent to seasonal wetland. Vegetation dominated by non-native FAC species. No hydric soil indicator observed. Hydrology indicators observed and are considered naturally problematic due to wetter than normal climatic conditions.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** -	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			
SAPLING/SHRUB STRATUM **Plot Size:** 10'x10'			
1. *Rubus armeniacus*	1	x	FAC
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	**1**		
HERB STRATUM **Plot Size:** 5'x5'			
1. *Holcus lanatus*	50	x	FAC
2. *Hordeum marinum*	5		FAC
3. *Geranium sp.*	1		?
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**56**		
WOODY VINES **Plot Size:** -			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 2 (A)

Total number of dominant species across all strata? 2 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☒ 3 - Prevalence Index is </= 3.0[1]
- ☐ 4 - Morphological adaptations[1] (provide supporting data in remarks)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Vegetation dominated by non-native FAC species.

SOIL

Sampling Point SP-04

Profile description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[1]	Texture	Remarks
0-8	10YR 2/1	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
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- ☐ Redox Dark Surface (F6)
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- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

Restrictive Layer (if present):

Type: rocks

Depth (inches): 8

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: No indicators of hydric soil observed. Hydric soils are not presumed as the local relief is unlikely to concentrate rainfall or sheet flow.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except NW coast)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1)(LRR AA)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9)(NW coast)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6)(LRR A)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface water present? ☒ Yes ☐ No Depth (inches): 1

Water table present? ☒ Yes ☐ No Depth (inches): 4

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☒ Yes ☐ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Primary hydrology indicators Surface Water at a maximum depth of 1-inch and High Water Table at 4-inches observed. Additionally, algal matting was present. Hydrology is presumed naturally problematic due to above normal rainfall and likely do not represent normal conditions.

Appendix G

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 20 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.

Rhiannon Korhummel, BS, Senior Scientist with WRA, has 10 years of experience performing vegetation & habitat mapping, rare plant surveys, botanical assessments, vegetation change analysis, invasive plant species mapping, and wetland delineations. Her project focus is in cannabis development, CEQA projects for private and public development projects, coastal development permits, and habitat mitigation and monitoring plans, in Sonoma, Lake, Napa, and Mendocino counties. Ms. Korhummel's technical training includes the flora of Northern California, agrostology, vegetation classification and mapping, aquatic botany, plant ecology, forest ecology, and soil science. Additionally, she has completed the 40-hour Corps wetland delineation course. Ms. Korhummel received her Bachelor of Science in Botany from Humboldt State University.