3.2.4 Air Quality

The project area is not in non-attainment for local air quality, therefore the following information is excerpted from the EIR for informational purposes only. The following section describes the existing air quality setting in Mendocino County and the potential short-term construction emissions resulting from development of the proposed project. The proposed project would not necessarily generate new trips, but would instead divert trips that would have otherwise been made to another recreational or open space location in the County; therefore long-term operational emissions resulting from auto trips are not considered significant and are not discussed further.

3.2.4.1 Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM_{10} and particles of 2.5 micrometers and smaller – $PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both State and Federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics with their general definition.

Mendocino County Air Quality Management District

The proposed project site is located in Mendocino County within the North Coast Air Basin (NCAB). The project site is under the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD) which is managed by a five member Board of local elected officials (currently the Board consists of the Mendocino County Board of Supervisors). The MCAQMD has established quantitative thresholds of significance to be used in environmental documentation (refer to Table 3-10). These thresholds are consistent with those developed by the Bay Area Air Quality Management District.

Mendocino County is non-attainment for the local PM-10 standard (particulate matter less than 10 microns in size). The primary manmade sources of PM-10 pollution in the area are wood combustion (woodstoves, fireplaces and outdoor burning), fugitive dust, automobile traffic and industry. The MCAQMD maintains full time monitoring equipment in the city.

City of Fort Bragg Coastal General Plan, Conservation, Open Space, Energy, and Parks Element

This Element of the General Plan includes polices that require the City to improve air quality and seek to comply with State and Federal standards for air quality.

3.2.4.2 Existing Conditions

The proposed project is located in the "North Coast area" as defined by the MCAQMD. This area consists of the urbanized area of Fort Bragg/Caspar/Mendocino which is an urbanized strip along Highway 1, roughly 15 mi in length. Development in this area is typically low to moderate density, visitor serving commercial. Traffic congestion can be extreme during summer weekends, especially when special events are held. Highway 1 is the primary transportation corridor in the area with Highway 20 providing a link to Willits and Highway 101 and Highway 128 (along the Navarro River) providing a link to Boonville, Ukiah and Sonoma County. Few alternatives exist so traffic generated in one area can have an impact on the entire length of Highway 1 in this area. Moderate industrial development exists in Fort Bragg, including Georgia Pacific West, categorized as a major source under the Environmental Protection Agency (EPA) Title V – although this facility is currently being decommissioned.

The north end of the South Parkland component of the project would be located adjacent to the City's wastewater treatment plant, which can produce odors. During field visits to the South Parkland site, odors were present within approximately 200 ft. of the facility.

3.2.4.3 Environmental Consequences

Methodology

The URBEMIS air quality modeling program was used to quantify potential construction emissions. Potential earthwork and a reasonable worst case scenario construction were developed so that the modeling could be performed. Operational emissions were not quantified as the proposed project is a trail system and is considerably smaller than a recreational project that would typically exceed operational emissions thresholds established by the MCAQMD. While it may attract some new users, because the proposed project is a connection of existing recreational facilities, it is not expected to generate significant new vehicle trips that would not otherwise be made to another recreational facility in the region (refer to Transportation section for more information).

Potential impacts considered in this analysis include violations of air quality standards (short-term emissions); exposure of sensitive receptors to substantial pollutant concentrations; creation of objectionable odors affecting a substantial number of people.

Impacts

Short-term Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other activities. Emissions from construction equipment also are anticipated and would include carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs), directly emitted particulate matter (PM-10 and PM-2.5), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving the multi-use trail, Elm Street Extension, and parking surfaces. Construction related effects on air quality from projects of this type would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from

the site. If not properly controlled, these activities would temporarily generate PM-10, PM-2.5, and CO, SO2, NOx, and VOCs. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries.

Topographic alteration is limited due to the flat nature of the site and type of project. The import and export of material is the construction activity most likely to generate significant short-term emissions. To avoid the rainy season, the bulk of the construction would occur during an approximately five month period during one year. Restoration would include the application of additional seed, weeding and other adaptive management techniques in years 2 -4 of the project and will not include soil movement. Because the fill material could be sourced from the adjacent Noyo Harbor dredge spoils and/or the Newman Gulch reservoir site, the haul distances would be short, approximately 3 to 5 mi round trip.

Due to the cultural and biological resources constraints, restoration and construction would occur relatively slowly (refer to the Project Description for more information). To quantify potential emissions, the URBEMIS modeling program was used to identify emissions that could result from the earthwork during the construction year. The results of the modeling are shown in **Table 3-10**. The construction characteristics are shown in

Table 3-11.

Table 3-10. Short-term Construction Emissions

Pollutant	Emission Estimates (lbs/day)	MCAQMD Thresholds	Federal Standard	Exceedance?
ROG	5.87	54	NA	No
NOx	40.37	54	53	No
PM-10 (exhaust)	2.35	82	152	No
PM-2.5 (exhaust)	2.16	54	35	No
Fugitive Dust (PM 10 and 2.5)	48.41	BMPs	NA	NA
GHG (CO2)		None	None	NA

Table 3-11. Earthwork Estimates

Activity	Cubic Yards
Earthwork	43,560
Soil Import	28,750
Soil Export	0
Soil Hauling	3 mile round trip

The results indicate that the proposed project would not exceed emissions thresholds established by the MCAQMD of the Federal EPA.

Odors

The proposed project would not generate odors, but trail users at the north end of the South Parkland component may be subjected to odors due to the proximity of the City's wastewater treatment plant to the trail. These odors would intermittently affect a small area of the proposed project and would only affect trail users for short periods while they were in close proximity to the facility and when the temperature and wind conditions result in odors coming onto the trail property. This limited exposure would not adversely affect trail users.

Long-term Emissions

The proposed project may result in beneficial effects to long-term, or "operational," emissions as it would improve the alternative transportation network in the City, potentially reducing the number of trips made by automobile. No significant impacts from long-term operational emissions would result from the proposed project.

3.2.4.4 No Project Alternative

The No Project Alternative would not include any construction activities and therefore would not result in any adverse effects to air quality.

3.2.4.5 Reduced Trail Alternative

The Reduced Trail Alternative would require less construction; however it would still include the majority of the earthwork and soil hauling described previously for the proposed project. Impacts and mitigation measures would be similar to the proposed project.

3.2.4.6 Avoidance, Minimization, and/or Mitigation Measures

Construction staging for the proposed project will occur within the paved portions of the Mill Site to a large degree. This may reduce PM10 emissions related to activity within staging areas (i.e. equipment storage and maintenance, stockpiling, employee parking, etc.). Nevertheless, the following measure was included in the Final EIR for the project to minimize PM10. These measures are not necessary to achieve compliance with Federal Standards. Nevertheless they are included here for informational purposes.

AQ/mm-1 *The project contractor, on behalf of the project applicant, shall prepare a dust control plan for construction activities at the project site pursuant to the requirements of the MCAQMD. The project contractor shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of construction and maintenance activities at the project site. The dust control plan shall include, at minimum, the following measures:*

a. Water shall be applied by means of truck(s), hoses, and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emissions.

b. All material excavated, stockpiled, or graded shall be sufficiently watered to prevent fugitive dust from leaving the property boundaries or causing a public nuisance of an ambient air standard. Watering should occur at least twice daily, however frequency of watering shall be based on the type of operation, soil, and wind exposure.

c. All on-site vehicle traffic shall be limited to a speed of 15 miles per hour (mph) on unpaved roads.

d. All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least 2 ft. of freeboard.

e. All land clearing, grading, earth moving, and/or excavation activities shall be suspended as necessary, based on site conditions, to prevent excessive windblown dust when winds are expected to exceed 20 mph.

f. Excavation and grading activities shall be suspended when sustained winds exceed 25 mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.

g. All inactive portions of the construction site, including soil stockpiles, shall be covered, seeded, or watered until a suitable cover is established. Alternatively, apply City approved nontoxic soil stabilizers (according to manufacturers' specifications) to all inactive construction areas (previously graded areas that remain inactive for four consecutive days). Acceptable materials that may be used for chemical soil stabilization include petroleum resins, asphaltic emulsions, acrylics, and adhesives that do not violate Regional Water Quality Control Board (RWQCB) or California Air Resources Board (CARB) standards.

h. Paved areas adjacent to construction sites (the abandoned runway) shall be swept or washed as required to remove excess accumulations of silt and/or mud, which may have resulted from grading and construction activities at the project site.

i. The project proponent shall re-establish ground cover on all disturbed portions of the project site through seeding and watering in accordance with the City of Fort Bragg Grading Ordinance and Local Coastal Program, which requires the application of native seed or terminal seed.

j. A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24-hours. The telephone number of the MCAQMD shall also be visible to ensure compliance with the Fugitive Dust Emissions requirements.

k. Construction workers shall park in designated parking area(s) to help reduce dust emissions.

3.2.4.7 Cumulative Impacts

The construction-related air quality impacts of the project are anticipated to be limited to the immediate environs of the Project site. Because no other construction emissions impacts are anticipated to occur in the vicinity of the Project during Project construction, the Project is not anticipated to contribute, along with other projects, to a cumulative temporary construction emissions impact. The mitigation measures that have been previously identified for project-specific impacts would apply cumulatively as well.

3.2.5 Biological Environment

The Biological Environment section provides a description of the existing biological resources of the project area and determines to what extent the project may impact sensitive habitats, potential jurisdictional waters, and special-status species. The evaluation is based primarily on a Natural Environment Study (NES) and a Biological Assessment (BA) prepared for the project. The section focuses on federally threatened and endangered species, however due to the substantial and varied biological resources, and complex regulatory environment for this project, this section includes discussions of state sensitive species and habitats as well. This section also includes all of the mitigation measures the City has already agreed to implement as a result of the EIR previously certified for this project.

In this section, the terms Biological Study Area (BSA) and Area of Direct Impact (ADI) are often used. The BSA is defined as the area (land and water) that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities. The ADI is defined as the area that is directly temporarily or permanently impacted by construction and construction-related activities.

Impacts to habitats and jurisdictional areas within the project BSA have been quantified based on areas of permanent and temporary disturbance resulting from implementation of the proposed project. Impact areas are represented as the ADI, which was overlain with maps of habitats, jurisdictional areas, and sensitive species to quantify impacts.

Permanent areas of disturbance include trails, parking areas, restrooms, roads, signs, and drainage improvements. Temporary areas of disturbance include those areas beyond the physical improvements that may be disturbed during project construction, but would be considered "natural" or in native condition after project implementation, *including areas to be restored.* Additionally, the restoration activities will result in a permanent beneficial impact to the area to restore native habitat that is currently covered with asphalt.

Impacts to biological resources in the BSA were evaluated by determining the sensitivity, significance, or rarity of each resource that would be adversely affected by the proposed project. Where potential project-related impacts to sensitive resources were identified, measures for avoiding or minimizing impacts to these resources were recommended.

3.2.5.1 Regulatory Setting

Federal Policies and Regulations

Section 404 of the Clean Water Act

The USACE is responsible for the issuance of permits for the placement of dredged or fill material into "Waters of the U.S." pursuant to Section 404 of the CWA. As defined by USACE at 33 CFR 328.3(a) (parts 1-6), the following summarizes "Waters of the U.S." as: "Those waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas."

Under federal regulations, wetlands are "waters of the U.S." that are identified as: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of

vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Project activities will not result in impacts to "Waters of the U.S." (wetlands or non-wetland other waters); the project is exempt from regulatory requirements under Section 404 of the CWA based on review by the USACE.

Section 401 of the Clean Water Act

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented through California's RWQCB (Regional Water Quality Control Board) and is triggered by the Section 404 permitting process. The RWQCB issues a Water Quality Certification via the 401 process that a project complies with applicable effluent limitations, water quality standards, and other conditions of California law. Evaluating the effects of the project on both water quality and quantity (runoff) falls under the jurisdiction of the RWQCB. The project will not require a Section 401 Water Quality Certification because it will have no impacts on state wetlands.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 provides legal protection for plant and animal taxa (taxonomic groups) that are in danger of extinction and classified as either threatened or endangered. Section 7 of the FESA requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as FHWA funding.

Section 9 of FESA protects federally listed plant and animal species from unlawful "take." "Take" is defined by FESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS (US Fish and Wildlife Service) and National Oceanic and Atmospheric Administration (NOAA Fisheries) regulate activities that may result in take of federally endangered or threatened species, or candidate species. USFWS typically exerts jurisdiction over freshwater and terrestrial species, and NOAA Fisheries typically exerts jurisdiction over marine species and anadromous fish (such as salmon and steelhead). Project-related activities that could result in impacts, such as take, to listed species would require any involved federal agencies to consult with the USFWS and/or NOAA Fisheries to determine the extent of impacts to listed species.

Marine Mammal Protection Act

All marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. The MMPA was amended substantially in 1994 to provide for certain exceptions to the take prohibitions, such as: Alaska Native subsistence, and permits and authorizations for scientific research; a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; and studies of pinniped-fishery interactions. Authority to manage the MMPA is divided between the U.S. Fish and Wildlife Service (Service) and the National Oceanic and Atmospheric Administration (NOAA). The Marine Mammal Commission (MMC), reviews existing policies and makes recommendations to the Service and the NOAA to better implement the MMPA.

Coordination between these three Federal agencies is necessary in order to provide the best management practices for marine mammals.

The MMPA defines harassment as "...an act of pursuit, torment or annoyance which has the potential to injure, or disturb by causing disruption of behavioral patterns, to a marine mammal or marine mammal stock in the wild." The MMPA defines two levels of harassment:

- Level A Harassment means any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild.

- Level B Harassment means any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential constraints to species protected under this law may be evaluated by the USFWS during the consultation process.

If any removal of vegetation that could support nesting bird species is scheduled to occur during the typical nesting season (March 1 to July 31), preactivity nest surveys will be required to determine if birds are actively nesting within the project area. Work-related disturbance near active bird nests would need to be avoided until the young have left the nest.

State Policies and Regulations

California Endangered Species Act

California has a parallel mandate to FESA, which is embodied in the California Endangered Species Act (CESA) of 1984 and separately under the Native Plant Protection Act (NPPA) of 1977. CESA ensures legal protection for plants listed as rare or endangered, and wildlife listed as threatened or endangered. The California Department of Fish and Wildlife (CDFW) regulates activities that may result in the “take” of such species. CESA has a much less inclusive definition of "take" (limited to direct takes such as hunting, shooting, capturing, etc.) that does not include the broad "harm" and "harassment" definitions in federal law. The CDFW also maintains a list of California Species of Special Concern (SSC) based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to affect state-listed species and SSC species, and their habitats.

In addition, certain plants are listed as rare or endangered by the California Native Plant Society (CNPS), but have no designated status. Unlisted plant species on the California Rare Plant Rank (CRPR) Lists 1A, 1B, and 2 are typically considered under CEQA.

Take of state-listed plant or wildlife species would require a Section 2081 Incidental Take Permit from the CDFW. This process requires submittal of a sensitive species study and permit application package, and is similar to the FESA Section 10 process, except that the CDFW is the regulatory and decision-making agency. Alternatively, Section 2080.1 allows

an applicant who has obtained a federal incidental take statement pursuant to a federal Section 7 consultation or a federal Section 10(a) incidental take permit to notify CDFW in writing that the applicant has been issued an incidental take statement or an incidental take permit pursuant to FESA. The applicant must submit the federal opinion incidental take statement or permit to CDFW for a determination as to whether the federal document is "consistent" with CESA.

The USFWS provided a letter of concurrence for the project under section 7, indicating that a Section 2081 Incidental Take Permit would not be required for potential impacts to the state listed Howell's spineflower (*Chorizanthe howellii*) and Menzies' wallflower (*Erysimum menziesii* ssp. *menziesii*) Additionally, California Department of Fish and Game concurred with the USFWS letter of concurrence in an e-mail from Rick Macedo, dated November 14, 2011; therefore no CESA Section 2081 Incidental Take Permit will be required.

California Fish and Wildlife Code

Section 1602

Section 1602 of the State of California Fish and Wildlife Code requires any person, state or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or, adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required. A Section 1602 Streambed Alteration Agreement will not be required for the project.

Other Fish and Wildlife Code Sections

California Fish and Wildlife Code Section 3503 includes provisions to protect the nests and eggs of birds. Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected species, such as: 1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions, 2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species, and 3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession.

Porter-Cologne Act and California Water Code Section 13263(a)

Pursuant to provisions of California's Porter-Cologne Act under California Water Code Section 13260(a), actions are regulated that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state." Waters of the State are defined under California Water Code Section 13050(e) as "any surface water or groundwater, including saline waters, within the boundaries of the state."

Under California Water Code Section 13263(a), the SWRCB requires that waste discharge requirements (WDR) be prescribed as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge. Since the proposed project will impact state waters not under federal jurisdiction, a Notice of Intent may need to be submitted through coordination with SWRCB/RWQCB to obtain a General WDR.

California Coastal Act

The California Coastal Act (CCA) of 1976 established a comprehensive plan to protect resources and regulate development along California's coast. The CCA requires every city and county located partly or wholly within the designated Coastal Zone to prepare a Local

Coastal Program (LCP) which is reviewed and certified by the California Coastal Commission (CCC). The CCA defines an LCP as "a local government's (a) land use plans, (b) zoning ordinances, (c) zoning district maps, and (d) within sensitive coastal resource areas, other implementing actions, which, when taken together, meet the requirements of, and implement the provisions and policies of this division at the local level" (Public Resources Code [PRC] Section 30108.6). The LCP zoning ordinance, district maps, and other implementing actions must be found to conform with and be adequate to carry out the LCP Land Use Plan.

The CCA places the highest priority on the preservation and protection of natural resources, including ESHAs (e.g., wetlands and dunes), and prime agricultural lands. Only uses that are dependent on such resources are allowed within habitat areas.

Local Policies and Regulations

City of Fort Bragg Coastal General Plan

The City Coastal General Plan establishes the Land Use Plan portion of the City LCP, and was prepared in accordance with the CCA. The Land Use Plan is defined as "the relevant portion of a local government's general plan, or local coastal element which are sufficiently detailed to indicate the kinds, location, and intensity of land uses, the applicable resource protection and development policies, and where necessary, a listing of implementing actions" (PRC Section 30108.5). The policies contained in the portion of the Coastal General Plan that constitute the LCP govern the use of land and water in the Coastal Zone within the City. Relevant policies and a consistency analysis is provided in the Land Use section of this EIR.

3.2.5.2 Natural Communities

Affected Environment

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. There is no critical habitat under the Federal Endangered Species Act on site. Wetlands and other waters are discussed in this section.

The following sections compile the various natural communities/habitats that occur within the BSA, including: ESHAs, non-ESHA natural communities, jurisdictional wetlands, invasive species and special status species (federal and state). Figures 3-9 and 3-10 includes maps of habitats within the BSA, and Table 3-12 lists and quantifies the habitats observed in the BSA and their regulatory status (i.e., ESHAs and non-ESHAs). The habitat map is based on a previous map created by State Parks staff, with some changes to boundaries and community classifications to be consistent across a larger BSA and to more clearly identify the locations and acreages of ESHAs and non-ESHAs.

The botanical and wetland information found in this subsequent EIR are from a botanical study and wetland delineation completed in 2013. Eleven natural communities were mapped within the Study Area, including five considered ESHA. WRA utilized natural community maps developed from previous surveys conducted within the Study Area, but changed boundaries and community classifications to be consistent across the Study Area (between North Parkland and South Parkland), to reflect the most recent literature (i.e., Sawyer et al.

2009, CDFW 2010), and to more clearly identify the locations and acreages of ESHA and non-ESHA. Disturbed communities that may provide restoration and mitigation opportunities were also mapped in the field. Both ESHA and non-ESHA natural communities are listed in Table 3-12, illustrated in Figure 3-9 and Figure 3-11, and detailed below.

Rare Natural Community ESHAs

Northern Coastal Bluff Scrub (NCBS): NCBS is a named community type in Holland (1986), and may be composed of several vegetation alliances described in Sawyer et al. (2009). The NCBS within the Study Area is dominated by herbaceous species with few, intermittent shrubs; therefore, the several described vegetation alliances within the literature (Sawyer et al. 2009, CDFG 2010) do not fully characterize those stands present in the Study Area.

NCBS occurs on bluff slopes and on the first coastal terrace. Winds, fog, and salt spray have a strong influence on this community dominated by low-growing shrubs and perennial herbs, with scattered annual and perennial grasses. Soils are sandy or rocky and poorly developed. NCBS in the Study Area is dominated by Oregon gumweed (*Grindelia stricta* var. *platyphylla*), bluff lupine (*Lupinus littoralis*), seaside daisy (*Erigeron glaucus*), coast buckwheat (*Eriogonum latifolium*), Bolander's golden aster (*Heterotheca sessiliflora* ssp. *bolanderi*), sea pink (*Armeria maritima* ssp. *californica*), common sandaster (*Corethrogyne filaginifolia*), coastal onion (*Allium dichlamydeum*), Henderson's angelica (*Angelica hendersonii*), and Menzies' wallflower (*Erysimum menziesii*). The NCBS within the Study Area is similar to that of Glass Beach; however, it is more disturbed and less extensive and therefore contains less native annual species such as baby blue eyes (*Nemophila menziesii* var. *menziesii*), coast tidytips (*Layia gaillardioides*), and creamcups (*Platystemon californicus*). A few sloped areas of NCBS support dense stands of bracken fern (*Pteridium aquilinum*), salal (*Gaultheria shallon*), and poison oak (*Toxicodendron diversilobum*).

In addition to forbs and diminutive shrubs, perennial native grasses are a substantial component of this community; therefore many areas were mapped as a mosaic of NCBS and Coastal Terrace Prairie (CTP), described below. Small areas included in the mapping of NCBS support dune mat species that grow on open sand, primarily beach bur (*Ambrosia chamissonis*). Non-native invasive iceplant (*Carpobrotus edulis*) is scattered throughout the NCBS. Areas dominated by iceplant or other invasive species were mapped as disturbed NCBS, a non-ESHA community, due to an almost complete absence of native species. These areas have high potential for restoration to NCBS or CTP.

Coastal Terrace Prairie (CTP): CTP is a name vegetation community within Holland (1986), and may be composed of several vegetation alliances (Sawyer et al 2009, CDFG 2010). Within the Study Area, meadow barley patches (*Hordeum brachyantherum* Herbaceous Alliance), blue wild rye patches (*Elymus glaucus* Herbaceous Alliance), and California oatgrass prairie (*Danthonia californica* Herbaceous Alliance) comprise the CTP within the Study Area (Sawyer et al. 2009).

CTP is dominated by native perennial grasses with native perennial forbs maintaining a characteristic position within this habitat, and is generally located on similar topographic position as NCBS but with more well-developed sandy loam soils. Throughout the Study Area, NCBS and CTP form a complex mosaic, and were therefore mapped as singular habitat type. Historically, CTP within the Study Area has been much reduced by conversion to non-native perennial grassland or developed, and therefore is only a minor proportion of the Study Area. The native grasses composing CTP within the Study Area include meadow

barley (*Hordeum brachyantherum*), California brome (*Bromus carinatus*), ocean bluff bluegrass (*Poa unilateralis*), coastline bluegrass (*P. confinis*), blue wild rye (*Elymus glaucus*), and California oatgrass (*Danthonia californica* var. *californica*). Characteristic perennial forbs include common yarrow (*Achillea millefolium*), Douglas iris (*Iris douglasiana*), blue-eyed grass (*Sisyrinchium bellum*), California poppy (*Eschscholzia californica*), dwarf checkerbloom (*Sidalcea malviflora* ssp. *malviflora*), and footsteps of spring (*Sanicula arctopoides*), mugwort (*Artemisia douglasiana*), and pearly everlasting (*Anaphalis margaritacea*).

These prairies comprise a minimal proportion of the Study Area. Other dominant and characteristic species this community are generally the same as the NCBS. Many patches of NCBS, particularly in the fragmented small terrace habitats remaining at the Mill, contain a mosaic of areas dominated by perennial herbs mixed with areas dominated by the native perennial grasses meadow barley (*Hordeum brachyantherum*), California brome (*Bromus carinatus*), ocean bluff blue grass (*Poa unilateralis*), blue wild rye (*Elymus glaucus*), and California oatgrass (*Danthonia californica* var. *californica*).

Vancouver rye stands: Vancouver rye stands is not specifically a named vegetation community within Holland (1986), but it is similar to the Valley rye grassland described therein, and creeping rye grass turfs described in Sawyer et al. (2009). Within the Study Area, these stands are composed of Vancouver rye (*Elymus* x *vancouverensis*), a sterile hybrid between American dune grass (*E. mollis*) and creeping ryegrass (*E. triticoides*). These areas are considered potential ESHA as they are dominated by a native grass species, although they do not support the diversity of herbaceous species found in Coastal Terrace Prairie.

Freshwater Seeps: Freshwater seeps are described in Holland (1986), and are potentially composed of several vegetation alliances (Sawyer et al. 2009, CDFG 2010). Within the Study Area, these seeps appear to composed of a mix of common monkeyflower seeps (*Mimulus guttatus* Herbaceous Alliance), panicled bulrush freshwater marsh (*Scirpus microcarpus* Herbaceous Alliance), and water parsley marsh (*Oenanthe sarmentosa* Herbaceous Alliance).

Freshwater seep communities are wetlands found on steep bluff slopes and beaches in the Study Area. These wetlands receive perennial or semi-perennial hydrological input as a result of surface and subsurface water flow. The freshwater seeps are generally dominated by silverweed (*Potentilla anserina* ssp. *pacifica*), watercress (*Nasturtium officinale*), field horsetail (*Equisetum arvensis*), common monkeyflower (*Mimulus guttatus*), panicled bulrush (*Scirpus microcarpus*), bog rush (*Juncus effusus*), and Brewer's rush (*J. breweri*). Some freshwater seeps in the Study Area support scattered dune willows (*Salix hookeriana*) or are disturbed by invasive species including Cape ivy (*Delairea odorata*), iceplant (*Carpobrotus edulis, C. chilensis*), velvet grass (*Holcus lanatus*), and wild radish (*Raphanus sativus*). Freshwater seeps may be considered jurisdictional wetlands by the Corps and wetland ESHA under the CCA/LCP (WRA 2007).

North Coast Riparian Scrub (NCRS): NCRS is described in Holland (1986) and is composed of several vegetation alliances (Sawyer et al. 2009, CDFG 2010). Within the Study Area, two patches of NCRS are located on or immediately adjacent to the bluff face, a dune willow thicket (*Salix hookeriana* Shrubland Alliance) and wax myrtle thicket (*Morella californica* Shrubland Alliance). These communities are dominated by a dense thicket of either dune willow (*Salix hookeriana*) or wax myrtle (*Morella californica*), with a sparse

understory of slough sedge (*Carex obnupta*), Pacific reed grass (*Calamagrostis nutkaensis*), chain fern (*Woodwardia fimbriata*), and sword fern (*Polystichum munitum*). These scrubs are wetland ESHA under the CCA/LCP and a potential Corps jurisdictional wetland, because they are dominated by hydrophytic species, exhibit hydric soils, and contain wetland hydrology indicators (WRA 2007, WRA 2010).

Beach and rocky bluffs: The western portion of the Study Area includes extensive rocky bluffs and intertidal beaches largely lacking vegetation. No significant dune habitat or dune vegetation is present at these low elevations, although the rocky and sandy beaches support scattered sea rocket (*Cakile maritima*), iceplant, and beach bur. Rocky bluffs support patches of iceplant, NCBS, or scattered individuals typical of the NCBS community.

Non-ESHA Natural Communities

Disturbed Northern Coastal Bluff Scrub: Bluff habitats in the Study Area have been invaded by non-native species and eroded by foot traffic to varying extents. Areas were identified as non-sensitive, disturbed NCBS if they were dominated by non-native weeds but located near the bluff edges where a NCBS or CTP community would otherwise likely be present or was indicated by the remnant native species. Areas mapped as disturbed NCBS were generally dominated by 50 to 100 percent relative cover of invasive species, and less than approximately 25 percent relative cover of native species. Disturbed NCBS was dominated by iceplant (*Carpobrotus edulis, C. chilensis*) and wild radish (*Raphanus sativus*), but was also characterized by invasion of rattlesnake grass (*Briza maxima*), common velvet grass (*Holcus lanatus*), rattail fescue (*Festuca myuros*), English plantain (*Plantago lanceolata*), Cape ivy (*Delairea odorata*), and other invasive non-native species. The majority of bluff areas in the Study Area support disturbed NCBS due to historic impacts, including asphalt paving, grading, vehicle traffic, and mill operations on all flat accessible areas near the bluffs.

Introduced Perennial Grassland: Introduced perennial grassland is described as non-native grassland in Holland (1986), and can be composed of several dozen vegetation alliances (Sawyer et al. 2009, CDFG 2010). Within the Study Area, introduced perennial grassland is composed of one vegetation alliance, common velvet grass-sweet vernal grass meadows (*Holcus lanatus-Anthoxanthum odoratum* Semi-Naturalized Herbaceous Stands) (Sawyer et al. 2009). This community is found on many coastal terraces of northern California, typically converted from various native habitats by grazing or agriculture.

Within the Study Area, introduced perennial grassland is dominated by common velvet grass (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*). Other grasses are present as sub-dominants, including native blue wild rye (*Elymus glaucus*) and California brome (*Bromus carinatus*), and non-natives such as slender wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), dogtail grass (*Cynosurus echinatus*), and rattlesnake grass (*Briza maxima*). Other common components of this community include California blackberry (*Rubus ursinus*), bracken fern (*Pteridium aquilinum*), hedge nettle (*Stachys rigida*), beach strawberry (*Fragaria chiloensis*), Oregon gumplant (*Grindelia stricta* var. *platyphylla*), and scattered coyote brush (*Baccharis pilularis*). The right-of-way along Glass Beach Road was mapped as this community, although near the edge of the road a roadside ditch includes more non-native ruderal species. Small portions of this right-of-way are also mowed or used for disposal of garden debris by neighboring residences.

Northern Coyote Brush Scrub: Northern Coyote Brush Scrub is described in Holland (1986) and is composed of the vegetation alliance, coyote brush scrub (*Baccharis pilularis*

Shrubland Alliance) as described in Sawyer et al. (2009). This scrub is a common coastal scrub present in the South Parkland of the Study Area. This community contains many similar species as the introduced perennial grassland, but coyote brush is the dominant species. Coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), and colonies of bracken fern (*Pteridium aquilinum*) are often found interspersed in coastal prairie and introduced perennial grasslands; therefore, drawing a boundary between grasslands and coastal scrub can be somewhat arbitrary. The Northern Coyote Brush Scrub community shown in Figure 3-9 is dominated by dense shrubs along with Douglas iris (*Iris douglasiana*), hedge nettle (*Stachys rigida*), coastal manroot (*Marah oregana*), and dune knotweed (*Polygonum paronychia*).

Invasive shrubs: Invasive shrub stands are not specifically described in Holland (1986), but the vegetation alliance, Scotch broom patches (*Cytisus scoparius* Semi-Naturalized Shrubland Stands) are described in Sawyer et al. (2009). Within the Study Area, significant stands of the invasive shrubs scotch broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus armeniacus*) are present near the southern boundary of Glass Beach, on both sides of the beach access road. Himalayan blackberry (*Rubus armeniacus*) in particular poses a threat of further invasion into the native-dominated adjacent wetland within Glass Beach, but outside of the Study Area. These stands also support many other non-native and invasive species such as wild radish (*Raphanus sativus*) and three cornered leek (*Allium triquetrum*).

Developed: Developed areas are not described in the vegetation literature (Holland 1986, Sawyer et al. 2009, CDFG 2010), but these areas often contain vegetative patches distinct from surrounding native or naturalized habitats. The terrace portions of the Study Area have been paved or graveled, and support a disturbed community of non-native species and several native coastal bluff species that are typically supported by rocky, exposed conditions. These paved areas, as well as the most heavily disturbed public areas at Glass Beach, support sparse or patchy vegetation generally dominated by bird's foot trefoil (*Lotus corniculatus*), rattail fescue (*Festuca myuros*), English plantain (*Plantago lanceolata*), rough cat's ear (*Hypochaeris radicata*), brass buttons (*Cotula coronopifolia*), and pygmy weed (*Crassula connata*). However, these areas have also been colonized by native species, predominantly Oregon gumplant (*Grindelia stricta* var. *platyphylla*), seaside fleabane (*Erigeron glaucus*), Bolander's golden aster (*Heterotheca sessiliflora* ssp. *bolanderi*), and bluff lupine (*Lupinus littoralis*).

Table 3-12. Summary of Habitats in the BSA

Community Type	Jurisdiction (federal in bold)	Acreage
Glass Beach Headlands[1]		
Developed/disturbed – Glass Beach access road	none	3.2 ac
North Parkland[2]		
Mixed Coastal Terrace Prairie and NCBS	ESHA	2.21 ac
Freshwater Seep	ESHA (CCC/LCP wetland)	n/a[3]
Beach and rocky bluffs	ESHA, **USACE waters** (tidal areas)	1.89 ac
Disturbed NCBS	none	5.30 ac

Community Type	Jurisdiction (federal in bold)	Acreage
Developed/disturbed	none	27.89 ac
South Parkland		
Mixed Coastal Terrace Prairie and NCBS	ESHA	9.62 ac
Rye (Leymus) stands	ESHA	2.57 ac
Freshwater Seep	ESHA (CCC/LCP wetland)	n/a[3]
Wax Myrtle Riparian Wetland	ESHA	0.87 ac
Northern Coyote Brush Scrub	none	0.67 ac
Ice Plant	none	0.07 ac
Introduced Perennial Grassland	none	66.28 ac
Developed/disturbed	none	12.26 ac
TOTALS		**≈184.24 ac**

[1] Includes Glass Beach Drive project component.

[2] Includes Elm Street extension and parking area component.

[3] Locations of seeps were mapped but access restrictions did not allow for precise acreage calculations for all seeps.

Please note that the BSA is defined as the area (land and water) that may be directly, indirectly, temporarily, or permanently impacted by construction and construction-related activities. The size of the BSA is approximately 184 ac and includes a polygon that encompasses the proposed trail, restoration areas, and surrounding areas anticipated to be temporarily impacted by project-related activities (refer to Figures 3, 4, and 6 for BSA boundaries).

Environmental Consequences

ESHA Natural Communities Temporary Impacts and Mitigations

The proposed project would result in approximately 0.19 acre of temporary impacts to ESHA natural communities, specifically to CTP/NCBS, Vancouver rye stands, and North Coast Riparian Scrub. Temporarily impacted areas are enumerated in Table 3-13 and include those areas outside of permanent physical installations (e.g. trails, roads), as well as proposed restoration areas. Restoration areas should confer benefits to ESHA natural communities through the removal/reduction of invasive plant species and revegetation with native species. Mitigation measures below have been developed to address temporary impacts to ESHA natural communities.

Table 3-13 Projected temporary impacts to natural communities

Natural Community	Total Acreage	Impact Acreage	Percent of Total Acreage
Beach / Rock	2.03	0.0	0.0

Coastal Terrace Prairie / Northern Coastal Bluff Scrub	16.22	0.15	0.9
Freshwater Seep	0.88	0.0	0.0
North Coast Riparian Scrub	0.94	0.01	1.1
Vancouver Rye Stand	2.57	0.03	1.2
TOTAL ESHA	**22.64**	**0.19**	**0.8**
Developed	37.68	18.45	49.0
Disturbed NCBS	5.51	0.48	8.7
Ice Plant Patch	0.07	0.0	0.0
Introduced Perennial Grassland	47.90	12.65	26.4
Invasive Shrubs	0.16	0.16	100
Northern Coyote Brush Scrub	0.58	0.20	34.5
TOTAL Non-ESHA	**92.0**	**31.96**	**34.7**

Impact 1: ESHA natural communities would be temporarily impacted during construction and restoration activities.

BR/mm-1 During construction, permanent and temporary impacts to ESHA natural communities shall be avoided/minimized to the extent feasible. The ESHA natural communities which have the potential to be disturbed by the project shall be shown on site plans. Areas in which grading or other disturbance is to occur shall be defined on-site by readily identifiable barriers that will protect the surrounding native habitat areas. Construction equipment and other vehicles shall be prevented from entering ESHA natural communities to be avoided through the use of exclusion zones or other barriers.

BR/mm-2 During and following construction, drainage control methods shall be incorporated into the project in a manner that minimizes erosion, sedimentation, and the discharge of harmful substances into aquatic habitats during and after construction.

BR/mm-3 Prior to construction, the applicant will prepare a Hazardous Materials Response Plan or equivalent to allow for a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

All project-related hazardous materials spills within the project site will be cleaned up immediately by the contractor. Spill prevention and cleanup materials will be on-site at all times during construction.

BR/mm-4 During construction, to control erosion during and after project implementation, the applicant and contractors will implement standard California Department of Transportation (Caltrans) Best Management Practices (BMPs).

BR/mm-5 During construction, the cleaning and refueling of equipment will occur only within a designated staging area and at least 65 ft. from wetlands, other waters, or other aquatic areas. This staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills.

BR/mm-6 During construction, trash will be contained, removed from the work site, and disposed of regularly by the contractor. Following construction, all trash and construction debris will be removed from work areas.

The proposed restoration of approximately 32 acres of native habitat, the majority of which would qualify as ESHA natural communities along with implementation of the above measures, would reduce potential temporary ESHA impacts to a less than significant level. No additional mitigation measures are required.

ESHA Natural Communities Permanent Impacts and Mitigation

The proposed project would result in approximately 0.01 acre of permanent impacts to ESHA natural communities, specifically CTP/NCBS (see Table 3-14 and Figures 3-10 and Figure 3-12). Permanently impacted areas include the trail system, roads, parking areas, signage, restrooms, and immediately adjacent areas. The proposed project includes restoration of approximately 32 acres of native habitat, the majority of which would qualify as ESHA natural communities, resulting in substantially more ESHA natural community habitat than currently exists within the Study Area despite the permanent impacts. Therefore, the restoration activities may be considered compensatory mitigation for permanent loss to ESHA natural community. However, the mitigation measures below have been developed to address permanent impacts to ESHA natural communities.

Table 3-14 Projected permanent impacts to natural communities

Natural Community	Total Acreage	Impact Acreage	Percent of Total Acreage
Beach / Rock	2.03	0.0	0.0
Coastal Terrace Prairie / Northern Coastal Bluff Scrub	16.22	0.01	0.1
Freshwater Seep	0.88	0.0	0.0

North Coast Riparian Scrub	0.94	0.0	0.0
Vancouver Rye Stand	2.57	0.0	0.0
TOTAL ESHA	**22.64**	**0.0**	**0.04**
Developed	37.68	2.93	7.8
Disturbed NCBS	5.51	0.03	0.5
Ice Plant Patch	0.07	0.0	0.0
Introduced Perennial Grassland	47.90	3.40	7.1
Invasive Shrubs	0.16	0.07	43.8
Northern Coyote Brush Scrub	0.58	0.06	10.3
TOTAL Non-ESHA	**92.0**	**6.49**	**7.1**

BR Impact 2: Construction of trails within the North Parkland and South Parkland would permanently impact ESHA.

BR/mm-7 To limit unauthorized access into ESHA natural communities on the North and South Parkland, prior to and after construction, the City of Fort Bragg shall incorporate an ESHA natural community fencing plan in the final restoration plan. To avoid cultural resource impact and aesthetic resource impacts, the fencing plan shall be limited in scope and focus on those areas of the project where ESHA natural communities would most likely be subject to unauthorized access (i.e. trail termini, the blowhole, etc.).

The North Parkland component would not result in significant impacts to ESHA. Implementation of Mitigation Measure 4.1 would substantially reduce permanent impacts to ESHA on the South Parkland. The restoration areas would result in the creation of approximately 32 acres of habitat, much of which would qualify as ESHA natural communities (Northern Coastal Bluff Scrub and Mixed Coastal Terrace Prairie) when mature. The restoration, along with implementation of the above measures, would reduce permanent ESHA impacts to a less than significant level. No additional mitigation measures are required.

No Project Alternative

Biological resources would not be directly affected by the No Project Alternative, although bluff retreat would also reduce the remnant habitats which exist on the extreme western edges of the North and South Parkland. Access to the North and South Parkland must be permitted, as the Coastal Conservancy funds to acquire the property mandate public access. Public use of the site, without a formal trail system, would likely result in long-term

disturbances to habitats and sensitive species found at the bluff edge and rocky shorelines of the Coastal Trail property. Effects would potentially be more adverse than the proposed project as access would not be directed and controlled by the location of the trail improvements, signage, and resource fencing. Unlike the proposed project, this alternative would not include any restoration, and therefore would not result in beneficial effects to biological resources.

Reduced Trail Alternative

The Reduced Trail Alternative would include the beneficial effects of the proposed project, such as increasing habitat at the Glass Beach Headlands and the North and South Parkland.

Because trail users would continue to be drawn to the coast, this alternative, which does not include the proposed trails closest to the coast, may result in the development of and continued use of existing informal trails throughout the project. This would result in disturbance to sensitive habitats and plant species, perhaps to a greater degree than the proposed project.

Cumulative Impacts

The proposed project would have extremely small permanent impacts on ESHA and will have temporary impacts on 0.19 ac of ESHA. The proposed restoration proposed on North and South Parklands, would result in the creation of approximately 30 ac of habitat, most of which would be considered ESHA (coastal scrub or terrace prairie). As a result, the project would result in a net increase of ESHA. Because the proposed project would result in a net increase of ESHA, it would not contribute to cumulative impacts to ESHA.

3.2.5.3 Jurisdictional Wetlands, Other Waters, and Riparian Areas

Affected Environment

Wetlands are transitional areas between open water and uplands, functioning to improve water quality, detain storm water runoff, recharge groundwater, and provide wildlife habitats. Some wetlands remain perennially inundated and others may only be seasonally inundated. The technical definition of wetlands may differ by regulatory agency jurisdiction. Regulatory jurisdictions may overlap, depending on the definitions by which the various regulatory agencies delineate their respective jurisdictional boundaries. Potential USACE three-parameter jurisdictional wetlands (features associated with waters of the U.S. with dominant hydrophytic vegetation, hydric soils, and wetland hydrology), drainages, and riparian areas under CDFG jurisdiction, and CCC/LCP single parameter wetlands were identified in the BSA.

Potential USACE jurisdictional wetlands, other waters, and riparian areas in the BSA have been delineated in Figure 3–14 and all jurisdictional wetlands (federal and state) are quantified in 5. In some cases these jurisdictional areas overlap the natural community ESHAs previously described in this section. Jurisdictional wetlands and other waters acreage may not exactly match the habitat acreages in the table due to differences by which habitats were characterized in the field by absolute cover and the parameters by which the various regulatory agencies require their jurisdiction to be delineated in the field. The function and values of the wetland vary throughout the project. Wetlands in the Glass Beach Headlands area are of high and moderate quality as they have excellent hydrological and habitat features other than some invasive Himalayan blackberry. The small willow wetland on the bluff edge of the North Parklands is of moderate quality. It offers habitat value but no

biological connections up stream as it is bounded on the west by asphalt and the Mill Site. There are two wetlands on the South Parkland BSA; both are wax myrtle wetlands with low habitat value as they are heavily infested with Himalayan blackberry.

Environmental Consequences

Project implementation would include ground disturbance, vegetation displacement, and/or fill activities that would permanently impact a small acreage of potential Coastal Act wetlands. Potential impacts to jurisdictional wetlands, other waters, and riparian areas were determined by overlaying project ADI with delineation maps prepared for the Wetland Assessment (SWCA 2010; WRA 2010, SNR, 2013).

Table 3-15. Summary of Potential Jurisdictional Areas in the BSA

Type of Potential Jurisdictional Area[1]	Feature Type(s)	Acreage	Notes
Glass Beach Headlands[2]			
USACE / SWRCB / RWQCB Wetlands	Riparian wetlands, freshwater marsh, and seep wetlands[3]	2.67 ac	Wetlands associated with basin located in southern section; seep wetlands located along bluff face just north of the basin.
USACE / SWRCB / RWQCB Other Waters	Drainages	0.11 ac	Main drainage and secondary drainage outlet from riparian area; channel leading from seep; drainage ditch along Glass Beach Drive.
CDFW Jurisdictional Areas	Riparian habitat; drainages	2.76 ac	Riparian area at south end of Glass Beach Headlands; drainage(s) at riparian wetland and Glass Beach Drive; wetland seep flow.
CCC/LCP Jurisdictional Areas	Wetlands; riparian habitats; drainages, and seep wetlands[3]	5.81 ac	Include areas mapped as USACE jurisdictional wetlands, hydrophytic vegetation adjacent to USACE jurisdictional wetlands, and USACE jurisdictional "other waters" due to the presence of observed hydrology, and CCC/LCP riparian habitats (such as willow-dominated habitats).
North Parkland[4]			
CCC/LCP Jurisdictional Areas	Three seep wetlands[3]	n/a[3]	Three seep wetlands along coastal bluff areas; lack hydric soils and channels and are not under jurisdiction of USACE or CDFG.
South Parkland			
USACE / SWRCB / RWQCB Wetlands	Riparian wetland	0.80 ac	Hillside riparian area in southern section that flows into the Pacific Ocean.
CDFW Jurisdictional Areas	Drainage ditch; riparian wetland	0.86 ac	Manmade drainage ditch dug in uplands and isolated from other jurisdictional features; aforementioned riparian area.
CCC/LCP Jurisdictional Areas	Seep wetlands[3], drainage ditch, riparian wetland	0.97 ac	Ten freshwater seeps occur along bluffs; one sample point was taken for the only accessible seep; aforementioned riparian area and ditch.

[1] Regulatory jurisdictions may overlap, depending on the definitions by which the various regulatory agencies delineate their respective jurisdictional boundaries.

[2] Includes Glass Beach Drive project component.

[3] Locations of bluff seeps in the BSA were mapped but access restrictions did not allow for precise acreage calculations for all seeps.

[4] Includes Elm Street extension and parking area component.

Glass Beach Headlands.

The proposed project would not permanently impact any wetland habitat at the Glass Beach Headlands.

Glass Beach Drive

Relocation of the drainage ditch along Glass Beach Drive would result in a narrower ditch and some loss of low quality Coastal Act wetlands. A portion of this wetland feature would be permanently impacted. Mitigation for the relocation of the drainage ditch along Glass Beach Drive has been approved under the Coastal Development Permit for the project for in-kind, on-site replacement. Therefore no significant impacts would result.

North and South Parkland.

Potentially jurisdictional areas at the North and South Parkland would be completely avoided.

No Project Alternative

The No Project alternative would have no significant impacts to jurisdictional areas.

Reduced Trail Alternative

Effects to jurisdictional areas would be similar to the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

BR Impact 3: Construction of the multi-use trail along Glass Beach Drive will result in temporary impacts to Coastal Act wetland.

BR/mm-8 During construction, any disturbance within jurisdictional wetlands or other waters will take place between June 15 and October 31 in any given year, when the surface water is likely to be dry or at seasonal minimum. Deviations from this work window are not permitted by the City's Certified LCP.

Cumulative Impacts

It has been estimated that California has lost approximately 90% of its historic wetlands and riparian resources to alternative land use. Regulatory agencies have sought to offset the additional loss of riparian areas and wetlands with restoration and revegetation requirements for projects within their respective jurisdictions.

The Glass Beach Headlands and the Mill Site have been subjected to varying degrees of disturbance over the years. The Glass Beach parcel has experienced various human-related impacts, including garbage-dumping, livestock grazing, homeless encampments, unplanned trails, coastal bluff erosion, bluff excavations, littering, residential and urban infrastructural development, and invasive plants. Over 90% of the northern portion of the Mill Site is paved with asphalt or compressed gravel. The South Mill Site parcel is impacted by large areas of artificial fill materials of 2 to 30 ft. in depth (70% of total area), areas of compacted gravel and dirt roads (10%), an asphalt runway (5%), as well as extensive areas of non-native and invasive plants (e.g., velvet grass, wild radish, pampas grass).These areas were formerly used for Mill Site waste disposal, a golf course, dynamite storage, a scrap yard, and finished lumber storage.

The implementation of the proposed project is not expected to introduce impacts to jurisdictional wetlands, other waters, or riparian areas, as the project will include a restoration component that will result in net beneficial impacts to natural communities/habitats within the BSA. Further, the redevelopment of the Mill Site would result in a further restoration and enhancement of jurisdictional features. The proposed project would not contribute to cumulative impacts to jurisdictional features. No cumulative impact mitigation measures are required.

3.2.5.4 Sensitive Plant Species

The proposed project would potentially impact a number of sensitive plant species, including some that are considered threatened or endangered. Based on review of the project by qualified biologists and consultation with regulatory agencies, the proposed project would have less than significant impacts to these species. Further, it would likely have beneficial impacts to these species as they are included in the candidate species list and will be planted as part of restoration efforts on the North and South Parkland.

Due to the historic development at the Mill Site, beyond the bluff edge, there is currently very little habitat onsite for sensitive plant species. The proposed project would not contribute to potential cumulative adverse impacts.

Affected Environment

The CNDDB (2009 and 2010) documents numerous special-status (federally listed, state listed, and/or California Rare Plant Rank (CRPR) List 1B or 2) plant taxa as occurring within the USGS Fort Bragg quadrangle and the surrounding quadrangles. In addition, several other species were also included for evaluation of occurrence potential based on the USFWS federal species list for Mendocino County accessed online (USFWS 2011) and the knowledge and experience of local botanists and results of previous survey conducted in the BSA.

A total of 66 special-status plant taxa have been considered for this EIR. Several floristic botanical surveys have previously been conducted at the Glass Beach Headlands, along Glass Beach Drive, and at the Mill Site. Additional floristic botanical surveys were conducted by WRA in 2009 and 2013 specifically for the Coastal Trail.

Four special-status plant species were observed within the Study Area during the 2013 surveys. In general, the distribution, numbers, and extent of these populations correlated strongly with those observed and mapped during the 2009 surveys. The field visits coincided with the periods when all special-status plant species with potential to occur in the Study Area were identifiable. Plants were identified to the appropriate taxonomic level to identify or rule out any special-status species. The four species are detailed below including their habitat requirements, associated plant species, and specific on-site distribution and populations. Distributions of each of the subpopulations are illustrated in Figure 3-15 and Figure 3-16, and are summarized in Table 3-16 below.

Table 3-16. Summary of special-status plant species observed within the Study Area

Scientific name	Common name	Status	Counts	Sub-populations
Agrostis blasdalei	Blasedale's bentgrass	Rank 1B	2,163	71
Castilleja mendocinensis	Mendocino paintbrush	Rank 1B	178	38
Erysimum menziesii (x. *E. concinnum*)	Menzies' wallflower hybrid	FE; SE; Rank 1B	3,125	48
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Rank 1B	13,313	42

Blasdale's bentgrass (*Agrostis blasdalei).* CNPS Rank 1B: Blasdale's bentgrass is a perennial graminoid in the grass family (Poaceae) that blooms from May to July. It typically occurs in bare or sparsely vegetated areas in coastal dune, coastal bluff scrub, and coastal prairie habitat at elevations ranging from 15 to 490 feet (CDFW 2013, CNPS 2013). Soil survey data at known locations suggest that this species is typically located on moderately strongly acid (pH 5.0) to slightly acid (pH 6.5) sandy loams and sands derived from sedimentary rock (CDFW 2013, CSRL 2013). Observed associated species include sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), tree lupine (*Lupinus arboreus*), many-colored lupine (*L. variicolor*), bracken fern (*Pteridium aquilinum*), seaside fleabane (Erigeron glaucus), sea lettuce (*Dudleya farinosa*), sea pink (*Armeria maritima ssp. pacifica*), and common yarrow (*Achillea millefolium*) (CDFW 2013, personal observation 2009, 2013).

Within the Study Area, Blasdale's bentgrass was observed in both the North Parkland and South Parkland, and was typically located in areas with low to very low vegetation cover on bluff faces or flats very near the bluff face. Counts totaled 2,163 individuals in 71 distinct subpopulations, though many of these subpopulations were located on the same peninsula bluff face (Appendix D, Figure 2a, 2b).

Mendocino paintbrush (Castilleja mendocinensis). CNPS Rank 1B: Mendocino paintbrush is a perennial hemiparasitic forb in the broomrape family (Orobanchaceae) that blooms from April to August. It typically occurs on coastal bluff faces and near bluff edges within coastal bluff scrub, closed-cone coniferous forest, coastal dune, coastal prairie, and coastal scrub habitat at elevations ranging from 0 to 520 feet (CDFW 2013, CNPS 2013). Observed associated species include shore pine (Pinus contorta ssp. contorta), Bishop pine (P. muricata), coyote brush (Baccharis pilularis), blue blossom (Ceanothus thyrsiflorus var. thyrsiflorus), sticky monkey (Mimulus aurantiacus), poison oak (Toxicodendron diversilobum), common yarrow (Achillea millefolium), coast angelica (Angelica hendersonii), varied lupine (Lupinus variicolor), sea lettuce (Dudleya farinosa), sea pink (Armeria maritima ssp. californica), coastal buckwheat (Eriogonum latifolium), Blasdale's bentgrass (Agrostis blasdalei), coast onion (Allium dichlamydeum), beach knotweed (Polygonum paronychia), seaside daisy (Erigeron glaucus), beach strawberry (Fragaria chiloensis), and common woolly sunflower (Eriophyllum lanatum var. arachnoideum) (CDFW 2013, personal observation 2009, 2010, 2012, 2013).

Within the Study Area, Mendocino paintbrush was observed in both the North Parkland and South Parkland, and was typically located in areas directly on bluff faces or the top edge of bluff faces. Counts totaled 178 individuals in 38 distinct subpopulations, though many of these subpopulations were located on the same peninsula bluff face (Appendix D, Figure 2a, 2b). One individual was observed growing within cracked asphalt away from the bluff face, but it appeared to be an anomalous waif with very little potential to colonize the surrounding disturbed or developed areas.

Menzies' wallflower hybrid (Erysimum menziesii x E. concinnum). Federal Endangered, State Endangered, CNPS Rank 1B: Menzies' wallflower is a perennial forb in the mustard family (Brassicaceae) that blooms from March to June. It typically occurs on sandy substrate on dunes in coastal strand and coastal dune habitat at elevations ranging from 0 to 100 feet (CNPS 2013, CDFW 2013). Observed associated species include yellow sand verbena (Abronia latifolia), silver beachweed (Ambrosia chamissonis), beach sage (Artemisia pycnocephala), beach suncup (Camissoniopsis cheiranthifolia), American wild carrot (Daucus pusillus), Howell's spineflower (Chorizanthe howellii), beach lupine (Lupinus chamissonis), European sea rocket (Cakile maritima), Douglas bluegrass (Poa douglasii), beach strawberry (Fragaria chiloensis), and seaside buckwheat (Eriogonum latifolium) (CDFW 2013, personal observation 2009, 2012, 2013).

Within the Study Area, Menzies' wallflower hybrid was observed in both the North Parkland and South Parkland, and was typically located in areas with dense to sparse, low-growing vegetation on flats very near the bluff face. Counts totaled 3,125 individuals in 48 distinct subpopulations, though many of these subpopulations were located on the same peninsula (Appendix D, Figure 2a, 2b). The status and taxonomy of the wallflowers at Glass Beach headlands and within the Study Area is currently not well understood.

Short-leaved evax (Hesperevax sparsiflora var. brevifolia). CNPS Rank 1B: Short-leaved evax is an annual forb in the sunflower family (Asteraceae) that germinates and leafs-out in late winter, blooms from March to June, and senesces in late summer. It typically occurs on sandy substrate on bluffs and flats in coastal bluff scrub and coastal dune habitat at elevations ranging from 0 to 700 feet (CNPS 2013, CDFW 2013). Observed associated species include round-head Chinese houses (Collinsia corymbosa), beach suncup (Camissoniopsis cheiranthifolia), North Coast phacelia (Phacelia insularis var. continentis), seacoast angelica (Angelica lucida), beach sage (Artemisia pycnocephala), Howell's spineflower (Chorizanthe howellii), Mendocino paintbrush (Castilleja mendocinensis), seaside buckwheat (Eriogonum latifolium), and seaside daisy (Erigeron glaucus) (CDFW 2013, personal observation 2009, 2010, 2013).

Within the Study Area, short-leaved evax was observed in both the North Parkland and South Parkland, and was typically located in areas with very low vegetation cover to almost completely bare ground on near developed areas, on flats very near the bluff face, and on shelves of the bluff face. Counts totaled 13,313 individuals in 42 distinct subpopulations, though many of these subpopulations were located on the same peninsula or general area (Appendix D, Figure 2a, 2b).

In 2013, a total of 247 plant species were observed within the Study Area, composed of 136 species considered native to California and 111 considered not native. Of the 247 species observed, 227 are herbs (forbs, grasses, ferns), with the remaining 20 composed of trees and shrubs. The five most diverse families include the sunflower family (Asteraceae) with 40 species; the grass family (Poaceae) with 38 species; the pea family (Fabaceae) with 30

species; the mustard family (Brassicaceae) with nine species, and the carrot family (Apiaceae) with eight species. Of the non-native species, 66 are considered by the California Invasive Plant Council (Cal-IPC) to be invasive including seven ranked "high" and 27 ranked "moderate" (Cal-IPC 2006).

Environmental Consequences

The Preliminary Plans prepared for the North and South Parkland components considered known populations of sensitive species and the improvements were designed to avoid these resources to the maximum extent feasible. The location and number of impacted special-status plant species are summarized in Table 3-17 below, and illustrated in Figures 3-16 & 3-18 below.

Table 3-17. Projected impacts to special-status plant species

Species	Total Individuals within the Study Area	Temporary Impacts	Permanent Impacts	Total Impacts	Percent of Total Population
Blasdale's bentgrass (*Agrostis blasdalei*)	2,163	173	0	173	8.0
Mendocino paintbrush (*Castilleja mendocinensis*)	178	1	1	2	1.1
Menzies' wallflower hybrid (*Erysimum menziesii* x. *E. concinnum*)	3,125	5	0	5	0.2
Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*)	13,313	35	96	131	1.0

Threatened and Endangered Plant Species Avoidance, Minimization, and/or Mitigation Measures

Menzies' wallflower hybrid is the only documented threatened/endangered plant species within the North Parkland and South Parkland. Five individuals (0.2 percent of the total documented population) are projected to be impacted by associated project activities within temporary impact areas (i.e., restoration areas), but no individuals are located in permanent impact areas. The FESA Section 7 effects determination from 2011 is that the proposed project is not likely to adversely affect Menzies' wallflower hybrids. The USFWS issued a Letter of Concurrence with this conclusion (USFWS 2011). All avoidance measures recommended by USFWS to address potential impacts to these species have been included below:

BR Impact 4: The proposed project could potentially impact state and federally listed species, including Menzies' wallflower within the North and South Parklands.

BR/mm-9: Prior to construction, State Parks and the City of Fort Bragg shall coordinate with CDFW to determine if a Section 2081 Incidental Take Permit (or a Section 2080.1 Consistency Determination) will be required for potential impacts to Menzies' wallflower.

BR/mm-10: The following measures shall be implemented to avoid/and or minimize impacts to Menzies' wallflower:

a) Prior to construction, the applicant shall implement planning to avoid impacts to the Menzies' wallflower populations consistent with State Parks' vegetation management policy. Federally listed plant species in areas to be impacted shall be mapped during the appropriate flowering season prior to construction. Specific areas with federally listed plant species to be avoided shall be mapped and marked with exclusion zones. Brightly colored exclusion fencing shall be implemented and maintained throughout construction to prevent unauthorized access into environmentally sensitive areas.
b) Prior to and during construction, the applicant will retain a qualified biological monitor (or monitors) approved by all involved regulatory agencies to ensure compliance with avoidance and minimization measures within the project environmental documents. Monitoring will occur throughout the length of construction or as directed by the regulatory agencies. Full-time monitoring will occur during vegetation removal and erosion control installation. Monitoring may be reduced to part time once construction activities are underway and the potential for additional impacts are reduced. The qualified biological monitor(s) shall have expertise in the botany of the region, be familiar with the identification and distribution of all native and non-native plants within the project area. The biological monitor(s) shall have the authority to halt construction or other ground disturbance in areas where such activity is to be avoided.
c) Prior to construction, Menzies' wallflower population boundaries will be flagged or fenced by the contractor under the supervision of a qualified biologist to delineate the limits of allowable site access and disturbance. Areas within the designated project site that do not require regular access will be clearly flagged as off-limit areas to avoid/discourage unnecessary damage to sensitive habitats or existing vegetation within the project site. Within the flagged areas, herbicides will only be used by people trained by State Parks personnel in the identification of rare plants.
d) During construction, where there is a risk of herbicide being accidentally applied to rare plants, non-native plants/weeds will be pulled by hand or sprayed with a low-emitting spray nozzle used in conjunction with cardboard shields against the rare plants. Care will be given to ensure that root systems of rare plants are not dislodged.
e) During construction, work in new areas will commence only after a rare plant survey is completed.
f) All people engaged in restoration activities that could harm rare plants will be instructed by State Park personnel in the identification of such rare plants.

g) Prior to construction, the applicant will prepare a final Habitat Mitigation and Monitoring Plan (HMMP) to detail restoration methods, success goals, and monitoring criteria for vegetation and natural habitats. The HMMP will be consistent with Federal regulatory requirements and will be amended with any regulatory permit conditions, as required. The applicant will implement the HMMP during construction and following project completion.

h) Prior to and during construction, a component including Menzies' wallflower conservation shall be integrated into an environmental training session for construction personnel working on the project, to be conducted by a qualified biologist. Topics covered shall include site specific environmental issues and sensitive natural resources, avoidance of disturbance, relevant environmental regulations, and standard Best Management Practices (BMPs) identified for the project. All construction personnel shall be required to attend the environmental training session for sensitive biological resources and sign an attendance sheet indicating their agreement to comply with all applicable environmental regulations.

i) During construction, the applicant shall appropriately sequester topsoil in areas of proposed disturbance to preserve the seed bank. The topsoil shall be redistributed during revegetation efforts. These activities shall be conducted under the direction of qualified biologists.

j) During construction, erosion control measures will be implemented by the contractor. Silt fencing, fiber rolls, and barriers (e.g., hay bales) will be installed between the project site and adjacent wetlands and other waters. At a minimum, silt fencing will be checked and maintained on a daily basis throughout the construction period. The contractor will also apply adequate dust control techniques, such as site watering, during construction.

k) During construction, the cleaning and refueling of equipment will occur only within a designated staging area and at least 65 feet from wetlands, other waters, or other aquatic areas. This staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills.

l) During construction, all project-related hazardous materials spills within the project site will be cleaned up immediately by the contractor. Spill prevention and cleanup materials will be on-site at all times during construction.

m) During construction, the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project site will be removed and properly disposed by the contractor, under direction of the biological monitor(s). All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species. If soil from weedy areas (such as areas with poison hemlock or other invasive exotic plant species) must be removed offsite, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a certified landfill.

n) After construction, mitigation for impacts to Menzies' wallflower and/or the restoration component of the proposed project shall be accompanied by a monitoring program. Monitoring shall be accompanied by a qualified botanist at least twice a year (once in the spring and once in the summer) for a minimum of five years. Monitoring shall include counts of numbers of both species with projections of survival rates, along with the supervision of removal of invasive exotics that may encroach on habitat for either species.

o) After construction, the applicant shall, under direction of qualified biologists, conduct weeding in areas disturbed by the original removal of non-native species on a regular basis (at least twice a year for five years).

These measures, based on guidance from the USFWS, would reduce impacts to state and federally listed species within the Study Area to a less than significant level. The other components would avoid impacts to these species because proposed temporary and permanent areas of disturbance are not in proximity to known populations. No additional mitigation measures are required.

Other Special-status Plant Species Avoidance, Minimization, and/or Mitigation Measures

Blasdale's bentgrass, Mendocino paintbrush, and short-leaved evax are located throughout the North Parkland and South Parkland. One seventy-three individuals (8.0 percent of the total documented population) of Blasdale's bentgrass are located in temporary impact areas, and no individuals are located in permanent impact areas. The majority of Blasdale's bentgrass subpopulations are located on the outer edge of the projected temporary impacts; therefore, with pre-construction surveys, flagging of special-status species, and delineation of work areas during construction, total impacts to Blasdale's bentgrass could be substantially reduced.

Two individuals (1.1 percent of the total documented population) of Mendocino paintbrush are projected to be impacted by associated project activities, with one located in a permanent impact area and one located in a temporary impacted area. One individual is located in the center of proposed trail alignment on decomposing asphalt/compacted gravel, and is likely a waif with very little potential to successfully provide a highly localized source population. The remaining individuals within the Study Area are located near or on the bluff face, and therefore, the pre-construction surveys, flagging, and delineation of work areas would likely avoid or substantially reduce the impacts to the remaining individuals of Mendocino paintbrush.

One hundred thirty-one individuals (1.0 percent of the total documented population) of short-leaved evax are located within impact areas, with 96 located in temporary impact areas and 35 located in permanent impact areas. The majority of short-leaved evax to be impacted are located in temporary impact areas. Impacts to short-leaved evax would be largely discountable, as this species is locally common and located in areas of disturbance and substantial bare ground.

The following measures are recommended below to address impacts to non-listed, special-status plant species. It is anticipated that these measure would be incorporated into the proposed restoration plans for the North and South Parklands, as applicable.

BR Impact 5: Implementation of the proposed project would directly and/or indirectly significantly impact non-listed, special-status plant species Blasdale's bentgrass, Mendocino paintbrush, and short-leaved evax.

BR/mm-11: Prior to construction, the applicant shall implement planning to avoid impacts to special-status plant species to the extent feasible. Where possible, avoidance can include delay of construction/restoration until after the blooming season for special-status annual plants, to ensure that the seed

bank for special status plants is retained on site. Special-status plant species in areas to be impacted shall be mapped during the appropriate flowering season prior to construction. An estimate shall be made of special-status plants that will be impacted. Specific areas with special-status plant species to be avoided shall be mapped and marked with fencing, flagging, or exclusion zones to minimize the potential for unnecessarily impacting plants.

BR/mm-12 Prior to construction, if special-status plants cannot be avoided and must be impacted, seed of special-status plants onsite shall be gathered from areas to be impacted for eventual reseeding after ground disturbance has been completed. If feasible, special-status plants in areas proposed for ground disturbance may be salvaged by digging up individual plants (including roots/rhizomes) for immediate transplanting and/or planting in containers for eventual replanting. Revegetation success criteria/goals for special-status plants shall be at a minimum 2:1 ratio (i.e., two plants established for each plant lost or two acres of absolute cover established for each acre of absolute cover lost) or a ratio negotiated between the City and permitting agencies based on City proposals. Reseeding or transplanting of special-status plant taxa shall be conducted by a qualified botanist or revegetation firm. Specific methods for revegetation of special-status plants shall be detailed in the final HMMP prepared during the permitting process for the project. If transplanting or reseeding is not appropriate for a given species, a combination of habitat protection and/or improvement shall be completed by a qualified botanist and will serve as mitigation, to be detailed in a final HMMP. The final HMMP shall be approved by regulatory agencies including the USFWS and CDFW as applicable.

BR/mm-13 Prior to and during construction, a component including special-status plants and conservation shall be integrated into an environmental training session for construction personnel working on the project, to be conducted by a qualified biologist. Topics covered shall include site-specific environmental issues and sensitive natural resources, avoidance of disturbance, relevant environmental regulations, and standard BMPs identified for the project. All construction personnel shall be required to attend the environmental training session for sensitive biological resources and sign an attendance sheet indicating their agreement to comply with all applicable environmental regulations.

BR/mm-14 During construction, a biological monitor (or monitors) shall be present during all construction work in or near sensitive habitat areas or areas supporting special-status plant species. Monitoring will occur throughout the length of construction or as directed by the regulatory agencies. Full-time monitoring will occur during vegetation removal and erosion control installation. Monitoring may be reduced to part time with agency approval once vegetation removal has been completed and the potential for additional impacts are reduced. The qualified biological monitor(s) shall have expertise in the botany of the region, be aware of the identification and distribution of all sensitive plants within the BSA, and shall be familiar with the identification of all native and non-native species in the work area. The biological monitor(s) shall have the authority to halt construction or other ground disturbance in areas where such activity is to be avoided.

BR/mm-15 During herbicide application, a 15-foot buffer zone shall be established around areas with special-status plant species. No herbicide application shall occur within the buffer zone. Invasive plants within the buffer area shall be removed by hand.

BR/mm-16 During herbicide application, special-status plant species shall be covered with appropriate shielding, such as plastic sheeting, 5-gallon buckets, or 20-gallon plastic tubs (depending on size of plants) to protect them during herbicide applications occurring in their vicinity. Plants shall be covered for no more than two hours.

BR/mm-17 After construction, mitigation for impacts to special-status plant taxa and/or the restoration component of the proposed project shall be accompanied by a monitoring program. Monitoring shall be conducted by a qualified botanist at least twice a year (once in the spring and once in the summer) for a minimum of four years. Monitoring shall include counts of numbers of sensitive species with projections of survival rates, along with the supervision of removal of invasive exotics that may encroach on rare plant habitat.

BR/mm-18 After construction, the applicant shall, under direction of qualified biologists, conduct weeding in areas disturbed by the original removal of non-native species on a regular basis (at least twice a year for four years).

BR/mm-19 Prior to construction, qualified biologists shall collect seed from Blasdale's bent grass and grow out enough plants to transplant a minimum of 100 plants in the areas disturbed by construction. Any remaining seed shall be redistributed in suitable habitat within the Study Area.

BR/mm-20 During construction and implementation of the restoration activities proposed, the applicant shall establish potential habitat for Blasdale's bentgrass by removing ice plant (Carpobrotus spp.), wild radish (Raphanus spp.) and by removing asphalt covered areas. The areas shall be created or restored and seeded with excess Blasdale's bentgrass seed. The restoration plan shall include a performance measure that a self-sustaining population of at least 446 new individual Blasdale's bentgrass plants (including the 100 noted above) would exist within the project area at the conclusion of restoration.

BR/mm-21 The project will remove asphalt and compacted gravel in locations suitable for Mendocino paintbrush and re-vegetate with Mendocino paintbrush in combination with its host plant(s). Revegetation aspects of the proposed restoration will include the planting of suitable host plants for Mendocino paintbrush.

The above measures would ensure that any impacts to special-status species, including the Blasdale's bentgrass would be mitigated at a ratio of 2:1. These measures require coordination with agencies, pre-construction surveys, worker training, and require an extensive restoration program. These measures would reduce impacts to Blasdale's bentgrass, Mendocino paintbrush, and short-leaved evax to a less than significant level. No additional measures are required.

No Project Alternative

Sensitive plant species would not be directly impacted by the No Project Alternative. Bluff retreat would also reduce the remnant habitats which exist on the extreme western edges of the North and South Parkland. Unlike the proposed project, this alternative would not include any restoration, and therefore would not result in beneficial effects to sensitive plant species.

Reduced Trail Alternative

The Reduced Trail Alternative would include the beneficial effects of the proposed project, such as increasing habitat for sensitive plant species at the Glass Beach Headlands and the North and South Parkland.

Because trail users would continue to be drawn to the coast, this alternative, which does not include the proposed trails closest to the coast on the North and South Parkland, may result in the development of and continued use of existing informal trails throughout the project. This would result in disturbance of sensitive habitats and plant species, perhaps to a greater degree than the proposed project.

Cumulative Impacts

Encroachment of development and public access along the California coast has presented cumulative effects to special-status plant species through reduction of available undisturbed habitat and increases in human disturbance. With the increased historical use of the Glass Beach property, many sensitive plants have already sustained damage due to trampling and erosion, and further deterioration of special status plant populations can be expected from increased visitor use, unless strictly observed safeguards for the remaining plants are provided (Warner et al. 2008). The spread and proliferation of invasive plants encroaching also present cumulative effects that impact sensitive local native habitats. Left unmitigated, the potential for cumulative effects on special-status plants could be high; however, the combination of avoidance and minimization efforts recommended for impacts to special-status plant species and compensatory mitigation are anticipated to be sufficient to mitigate such cumulative effects.

3.2.5.5 Sensitive Wildlife Species

Affected Environment

The CNDDB documents numerous special-status animal species (federally listed, state-listed, California Fully Protected, California Species of Special Concern, CDFW Special Animals, birds protected by the MBTA, and California Fish and Wildlife Code) as occurring within the Fort Bragg quadrangle and surrounding quadrangles. Several other species were also included for evaluation of occurrence potential based on the USFWS federal species list for Mendocino County accessed online on November 7, 2011 (see USFWS correspondence in Chapter 3 for the complete species list database query), the Audubon Society and the knowledge and experience of local biologists and previous survey results.

Numerous other bird species, several bat species, and various marine mammals have been addressed in other documentation supporting the NES. The “other nesting birds” category has been added for the numerous species of birds with potential for occurrence in the BSA

protected by the MBTA and California Fish and Wildlife Code Section 3503. The "other marine mammals" category encompasses the various marine mammals that could establish haul-out sites on rocky island or rock shore areas in the vicinity of the BSA.

A total of 50 special-status animal taxa (including the categories of other nesting birds and other marine mammal categories) have been considered for this EIR. The following animal taxa were determined to have potentially suitable habitat within the BSA (other than simply foraging habitat).

Environmental Consequences

Ten Mile Shoulderband Snail

No Ten Mile shoulderband snails (*Noyo intersessa*) have been reported during surveys in or near the BSA to date. During surveys of the BSA in October 2009, SWCA biologists noticed several weathered shoulderband snail shells in dune and scrub habitat at the Glass Beach Headlands. These snails contained features similar to Helminthoglypta spp. of shoulderband snails common along the California coast. It is unknown if these snails are the same snails that have been previously identified as *Noyo intersessa*. No snails were found in the North or South Parklands or in areas of Glass Beach headland proposed for disturbance.

Northern Red-legged Frog

Northern red-legged frog (NRLF) (*Rana aurora*) has not been documented to occur within the Glass Beach Headlands, but there is a potential for occurrence at Pudding Creek, just north of the BSA (Warner et al. 2008). DNA analysis of red-legged frogs in wetlands sampled at the Georgia-Pacific mill pond 8 indicates these frogs are northern red-legged frogs and **not** the federally threatened California red-legged frog (*Rana draytonii*) (Biosearch Associates 2010).

Seasonal wetland habitat within the BSA could provide very marginal habitat for NRLF. Significant impacts to NRLF could potentially include injury or mortality in freshwater marsh or other moist uplands used as dispersal habitat, resulting from access and use of equipment, worker foot-traffic, and implementation of project components; however measures have been included in the EIR and reiterated in this EIR so that potential significant impacts would be avoided.

Double-crested Cormorant and Black Oystercatcher

The discussions of double-crested cormorant (*Phalacrocorax auritus*) and black oystercatcher (*Haematopus bachmani*) have been combined because these species have similar habitat requirements, impacts, and avoidance/minimization measures. No active double-crested cormorant or black oystercatcher nests were observed during 2009 surveys of the BSA. A foraging oystercatcher was observed in a rocky shore area in October 2009 and has been observed off shore of the site since that time.

The proposed construction of cable stairways to the beach at the North Parkland will impact some coastal bluff habitat, but these are not known cormorant or black oystercatcher nesting locations and no nesting has been observed at these locations. While no current nesting locations will be impacted by the proposed cable stairway, the construction of the stairways at the North Parkland would permanently remove the availability of approximately 50 ft^2 of potential nesting habitat at the North Parkland.

Significant impacts could result from noise and disturbance associated with construction equipment and personnel, which could alter nesting as well as roosting and foraging behaviors. Additional indirect impacts from increased user access along the proposed trail could also result; however, birds nesting along these coastal cliff areas have presumably become at least somewhat acclimated to occasional human disturbances associated with trail use or activities at the Mill Site. In addition, the project includes interpretive signage warning people to stay off the coastal monuments and to refrain from disturbing birds.

Northern Harrier, Bryant's Savannah Sparrow, White-tailed Kite, and other Nesting Birds

The northern harrier (*Circus cyaneus*) and Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*) are considered SSC by the CDFW. The white-tailed kite (*Elanus leucurus*) is considered a "Fully Protected Species" by the State of California. The numerous other bird species protected by the MBTA and California Fish and Wildlife Code have also been addressed as a group in this section as they would be subjected to similar potential project-related impacts and would benefit from similar avoidance and minimization measures.

Construction during the northern harrier nesting season in grassland and freshwater marsh habitats could impact nesting northern harriers and Bryant's savannah sparrows. Construction during the white-tailed kite nesting season could impact nesting birds.

Implementation of the proposed project would also produce beneficial effects by creating 30 acres of new potential habitat.

Numerous mitigation measures which address impacts to these sensitive wildlife species are recommended and included below. With implementation of these measures, no significant impacts to other sensitive wildlife species would result.

Burrowing Owl

Phase 1 and 2 protocol winter season surveys for burrowing owl were completed for all areas of the BSA. Suitable habitat was found within the BSA; however, large contiguous tracts of the project site were deemed unsuitable for burrowing owls. This was due largely to the extensive asphalt surfaces, lack of perching spots and some wet areas (Stephens 2010). Winter surveys identified 20 burrows/burrow areas and also determined presence and occupancy of a burrow by a burrowing owl on the northern edge of Glass Beach Headlands, although this burrow is well outside of the project area.

The Glass Beach Headlands contain suitable habitat in a small area of approximately 2 ac or less (Stephens 2010). This area is the very northern part of the Glass Beach Headlands at the end of Glass Beach Drive and the southern entrance to the Pudding Creek trestle.

Based on the results of the surveys, burrowing owl use of this portion of the BSA appears to be limited to the winter season with no breeding season detections obtained through surveys (Stephens 2010). Local knowledge and observations of burrowing owls within or near the project site appear to confirm that use is limited to occasional winter use.

The area of the Glass Beach Headlands near the Pudding Creek trestle where burrowing owl wintering activity was confirmed will be completely avoided because no restoration is proposed for this area and there are no informal trails in this area. The nearest trail

component along Glass Beach Drive will be located approximately 250 ft. from confirmed burrowing activity. While a 300-ft foraging radius around the occupied burrow is not possible given site conditions, the 15-ac habitat area at the Glass Beach Headlands will be preserved around this location. As a result, no other compensatory mitigation should be required per the protocol survey and mitigation guidance from the California Burrowing Owl Consortium (1993) and CDFW (1995), and impacts would not be adverse.

Western Snowy Plover

No western snowy plovers (*Charadrius alexandrinus nivosus*) have been observed during surveys of the BSA. Potential nesting habitat occurs in the heavily used public beach at the north end of Noyo Harbor, with other plover species seen at these locations before; however, high tides and the use of this area as an off-leash dog park and active human use of the park preclude nesting. The Pudding Creek estuary may support marginal habitat, but no snowy plover nesting has been documented in or near the BSA and would be considered unlikely (Macedo 2010). As a result, the proposed project would not result in significant impacts to Western Snowy Plover. No mitigation measures are required. No Snowy Plover critical habitat occurs within the BSA.

Marine Mammals

Marine mammals such as the harbor seal (*Phoca vitulina*) and California sea lion (*Zalophus californianus*) are commonly observed on the shore within MacKerricher State Park and in surrounding areas (Warner et al. 2008). Harbor seals use nearby rocky areas along the coast as pupping/nursing habitat; other rocky and sandy beach areas are used as haul-outs by harbor seal and California sea lion. The Stellar (northern) sea lion (*Eumetopias jubatus*), which is much less likely to use this area, has the potential to use rocky islands for the same purpose, although this is expected to be highly unlikely as this species is locally very rare and suitable haul-out areas for this species are located outside of the BSA. One possible rookery exists in the inlet south of Noyo Headland Preserve (although only one known documented marine mammal birth has occurred here). Additionally, Marine Mammal Center volunteers have observed and/or rescued marine mammals that have hauled out near the BSA (Warner et al. 2008).

As designed, the proposed project would not adversely affect any known haul-out locations for marine mammals, as LU/mm-3 limits access to the Noyo Headland Preserve to scientific study and Native American use (with no groups larger than 20 people).

Additionally, it is possible that some form of Level B Harassment (previously discussed) of marine mammals manifested in indirect effects of noise impacts could result from implementation of the proposed project; however this is anticipated to be minimal, as marine mammals in the area are at least somewhat acclimated to the ongoing human disturbances in and near coastal settings in the region, project activities would be mainly restricted to bluff areas and areas inward, and construction methods would largely involve hand-work. Mitigation measures have been included for the proposed project that would reduce impacts to less than significant.

No Project Alternative

Access to the North and South Parkland must be permitted, as the Coastal Conservancy funds to acquire the property mandate public access. Public access with no constructed project would likely result in long-term disturbances to wildlife at the bluff edge and rocky shorelines of the Mill Site. Impacts would potentially be greater than the proposed project

as access would not be directed and controlled by the location of the trail improvements, signage, and resource fencing. Unlike the proposed project, this alternative would not include any restoration, and therefore would not result in beneficial impacts to biological resources.

Reduced Trail Alternative

This alternative would marginally reduce impacts to wildlife species because this alternative would include the beneficial effects to wildlife since it would increase habitat at the North and South Parkland.

Avoidance, Minimization, and/or Mitigation Measures

BR Impact 6: Construction of the Fort Bragg Coastal Trail has the potential to impact shoulderband snails, and Northern Red Legged Frogs (NRLF)

BR/mm-22 If any native shoulderband snails are observed during ground disturbance activities in suitable habitat, such snails shall be relocated by a qualified biologist to suitable habitat outside of the area of disturbance to avoid/minimize injury or mortality.

BR/mm-23 Prior to construction, the City shall obtain a letter of permission or equivalent authorization from CDFW to relocate NRLF and other SSC species from work areas encountered during construction within the ADI as necessary. Qualified biologists shall capture and relocate any NRLF (if present) or other SSC species to suitable habitat outside of the area of impact. Observations of SSC species or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion.

BR Impact 7: Construction during the double-crested cormorant and black oyster catcher nesting seasons could impact nesting birds.

BR/mm-24 Prior to construction, nest surveys for double-crested cormorant and oyster catchers shall be conducted by a qualified biologist in areas where construction is proposed to occur within 200 ft. of tidal and bluff habitats.

BR/mm-25 Prior to and during construction, if active double-crested cormorant nests are observed, a minimum 200-ft (61-m) buffer/exclusion zone delineated by highly visible flagging/stakes shall be established by a qualified biologist around each active nest until all young have fledged; a 100-ft (30.5-m) exclusion zone is required for active black oystercatcher nests. During construction within 200 ft. of tidal and bluff habitats, a qualified biologist shall conduct weekly monitoring visits to assess the present status of double-crested cormorant breeding activity and establish exclusion zones as needed (these monitoring visits must be conducted for construction within 100 ft. of tidal and bluff habitats for black oystercatcher).

BR Impact 8 Construction of the proposed project could impact protected bird species such as the northern harrier, Bryant's savannah sparrow, white-tailed kite, and other migratory birds which utilize the project site.

BR/mm-26 Prior to construction, vegetation removal shall be scheduled to avoid the typical nesting bird season (defined as occurring from March 15 to July 31 for most bird species), if feasible.

BR/mm-27 Prior to and during construction, if project activities cannot feasibly avoid the typical nesting bird season (defined as occurring from March 15 to July 31 for most bird species), weekly bird surveys of the project areas that will be under construction shall be conducted by a qualified biologist with experience in conducting breeding bird surveys, beginning 30 days prior to the disturbance of suitable nesting habitat. If a protected native bird nest is found, clearance/construction will not occur within an appropriate buffer/exclusion zone (determined by a qualified biologist) delineated by highly visible flagging/stakes until August 1, or until any active nests are vacated and there is no evidence of a second attempt at nesting.

BR/mm-28 Prior to and during construction, if active northern harrier nests are observed, a minimum 300-ft buffer/exclusion zone delineated by highly visible flagging/stakes shall be established by a qualified biologist around each active nest until all young have fledged. During construction within 300 ft. of grassland and freshwater marsh habitats during the northern harrier breeding season, a qualified biologist shall conduct weekly monitoring visits to assess the present status of breeding activity and establish exclusion zones as needed.

BR/mm-29 Prior to and during construction, if active white-tailed kite nests are observed, a minimum 300-ft buffer/exclusion zone delineated by highly visible flagging/stakes shall be established by a qualified biologist around each active nest until all young have fledged.

BR/mm-30 Prior to construction, nest surveys for Bryant's savannah sparrow shall be conducted by a qualified biologist if construction is proposed to occur within 100 ft. of potential grassland and freshwater marsh nesting habitat during the breeding season for the species (April to July).

BR/mm-31 Prior to and during construction, if active Bryant's savannah sparrow nests are observed, a minimum 100-ft buffer/exclusion zone delineated by highly visible flagging/stakes shall be established by a qualified biologist around each active nest until all young have fledged. During construction within 100 ft. of grassland and freshwater marsh habitats during the Bryant's savannah sparrow breeding season, a qualified biologist shall conduct weekly monitoring visits to assess the present status of breeding activity and establish exclusion zones as needed.

BR/mm-32 Prior to and during construction, a training component regarding general nesting bird protection and conservation shall be integrated into an environmental training session for construction personnel working on the project, to be conducted by a qualified biologist. Topics covered shall include site specific environmental issues and sensitive natural resources, avoidance of disturbance, relevant environmental regulations, and BMPs identified for the project. All construction personnel shall be required to

attend the environmental training session for sensitive biological resources and sign an attendance sheet indicating their agreement to comply with all applicable environmental regulations.

BR Impact 9: Construction of the proposed project could potentially impact burrowing owls.

BR/mm-33 Prior to construction, nest surveys for Burrowing Owls shall be conducted by a qualified biologist if construction is proposed to occur within 100 ft. of burrowing owl nesting habitat during the breeding season for the species.

BR/mm-34 Based on the proposed location of project-related disturbance, the one previously occupied burrow (2009) will not be impacted; however, if it is determined during the preconstruction survey that occupied burrows could be impacted; the applicant shall implement the following mitigation measures:

Burrows, occupied by burrowing owls, shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through noninvasive methods that either:

a. Birds have not begun egg-laying and incubation; or,

b. Juveniles from the occupied burrows are foraging independently and are capable of independent survival.

When destruction of occupied burrows is unavoidable, existing unsuitable burrows shall be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on protected lands.

If avoidance requirements cannot be met and owls must be moved away from the disturbance area, passive relocation techniques shall be used rather than trapping. Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 160 ft. from the impact zone and that are within or contiguous to a minimum of 6.5 ac of foraging habitat for each pair of relocated owls. Relocation of owls shall only be implemented during the non-breeding season. On-site habitat shall be preserved in a conservation easement and managed to promote burrowing owl use of the site.

a. Passive Relocation with One-way Doors -- Owls shall be excluded from burrows in the immediate impact zone and within a 160-ft buffer zone by installing one-way doors in burrow entrances. One-way doors (e.g., modified dryer vents) shall be left in place 48 hours to insure owls have left the burrow before excavation. Two natural or artificial burrows shall be provided for each burrow in the project area that will be rendered biologically unsuitable. The project area shall be monitored daily for one week to confirm owl use of burrows before excavating burrows in the immediate impact

zone. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

b. Passive Relocation without One-way Doors -- Two natural or artificial burrows shall be provided for each burrow in the project area that will be rendered biologically unsuitable. The project area shall be monitored daily until the owls have relocated to the new burrows. The formerly occupied burrows may then be excavated. Whenever possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into burrows during excavation to maintain an escape route for any animals inside the burrow.

BR Impact 8: Construction of the proposed project has the potential to disrupt/disturb a sensitive marine mammal species during pupping season.

BR/mm-35 Prior to construction, a component including general marine mammal protection and conservation shall be integrated into an environmental training session for construction personnel working on the project, to be conducted by a qualified biologist. Topics covered shall include site specific environmental issues and sensitive natural resources, avoidance of disturbance, relevant environmental regulations, and BMPs identified for the project. All construction personnel shall be required to attend the environmental training session for sensitive biological resources and sign an attendance sheet indicating their agreement to comply with all applicable environmental regulations.

BR/mm-36 Prior to construction, a qualified biologist shall conduct surveys to identify potential marine mammal haul-out sites in the vicinity of the BSA. Binoculars or a spotting scope shall be used for surveying potential haul-out locations, with implementation of exclusion zones as appropriate by a qualified biologist. If project activities will occur within designated exclusion zones, the qualified biologist shall survey potentially affected beach areas for presence of marine mammals. The surveys shall occur the day before work activities are scheduled to commence, with both a morning and afternoon count. If a marine mammal is found to be hauled out within a defined exclusion zone, project construction shall not occur within that exclusion zone until the marine mammal has departed. The condition of any marine mammal observed shall be noted. Marine Mammal Center personnel shall be contacted if the animal appears to be injured or in distress.

BR/mm-37 During construction, monitoring by a qualified biologist shall occur every morning work is scheduled to occur for the proposed project within designated exclusion zones. The qualified biologist shall have the authority to halt work if it is determined that project activities are impacting marine mammals.

Cumulative Impacts

Encroachment of development and public access along the California coast has presented cumulative effects to native snail species, NRLF, bird species, and marine mammals, and other coastal species through reduction of available undisturbed habitat and increases in human disturbance. Burrowing owls for example have been impacted historically by the spread of iceplant at the Glass Beach Headlands.

Based on the discussions above, construction-related impacts to sensitive wildlife species and their habitat are anticipated to be minimal. Preconstruction surveys and relocation (if necessary) would reduce impacts to a less than significant level. Construction-related effects to nesting birds related to the proposed project can be avoided or minimized with preconstruction surveys and establishment of exclusion zones.

The proposed trail would facilitate public access to coastal habitats within the BSA but restrict access to specific areas. In addition, the impacts of human disturbance can be further avoided or minimized through education via interpretive/safety signage and by ensuring placement of beach access points away from potential habitat, including bird nesting areas.

Due to the historic uses of the Mill Site, there is limited habitat for wildlife species, particularly sensitive wildlife other than at the bluff edge (where the proposed project is located).

It should be noted that the proposed project would ultimately allow for substantially greater public access to the bluff edge on the Mill Site, and to the beaches below – places where recent activity has been limited to decommissioning and remediation activities. Therefore, the proposed project would potentially result in indirect human disturbance of birds and other species which utilize the bluff edge and beaches. However, given the fencing, interpretive signage, and other measures proposed to reduce impacts, such as the boardwalks and dedicated viewing areas, these potential cumulative effects would not be adverse.

Figure 3–9. North Parkland Habitat Map

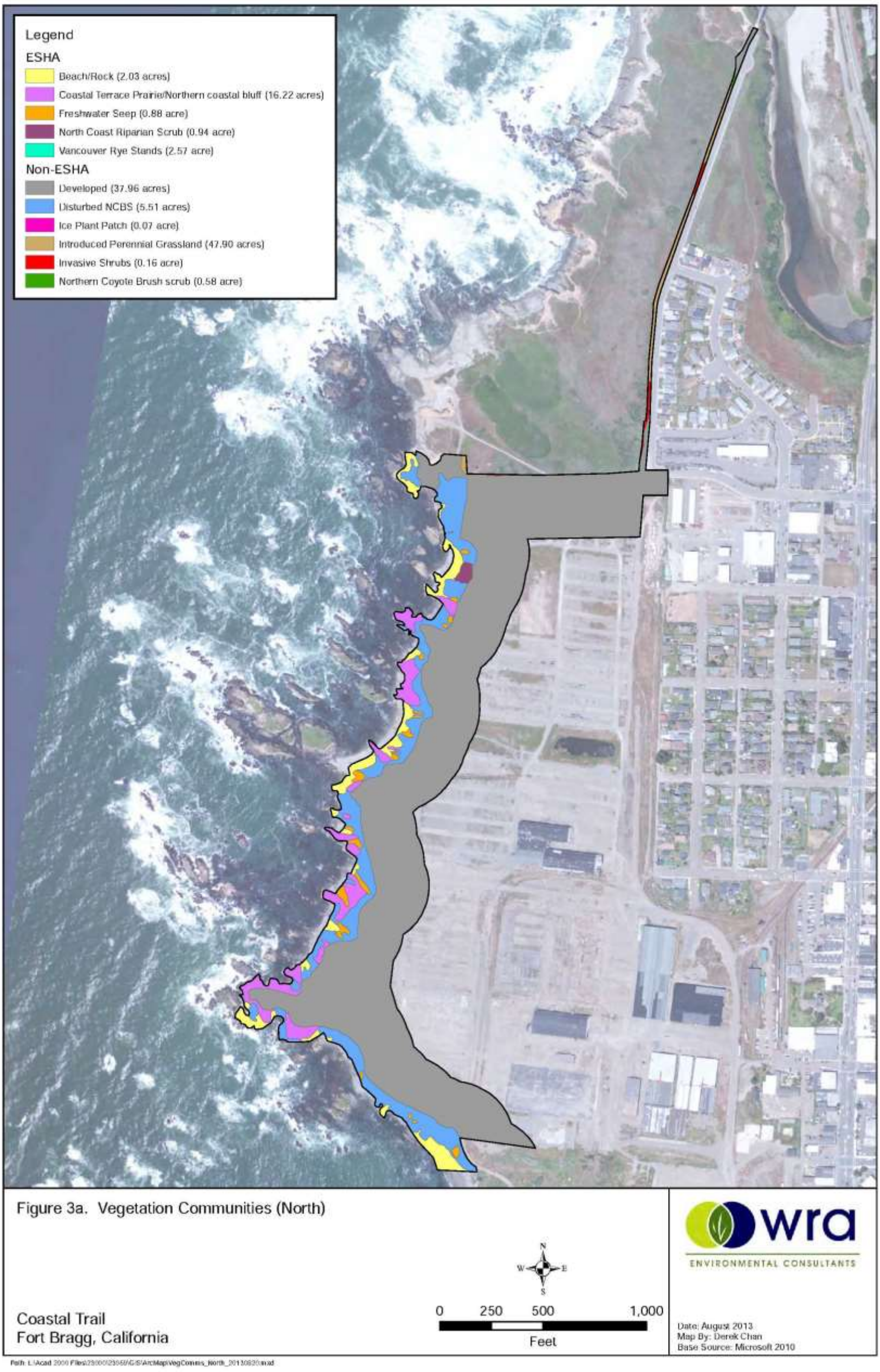
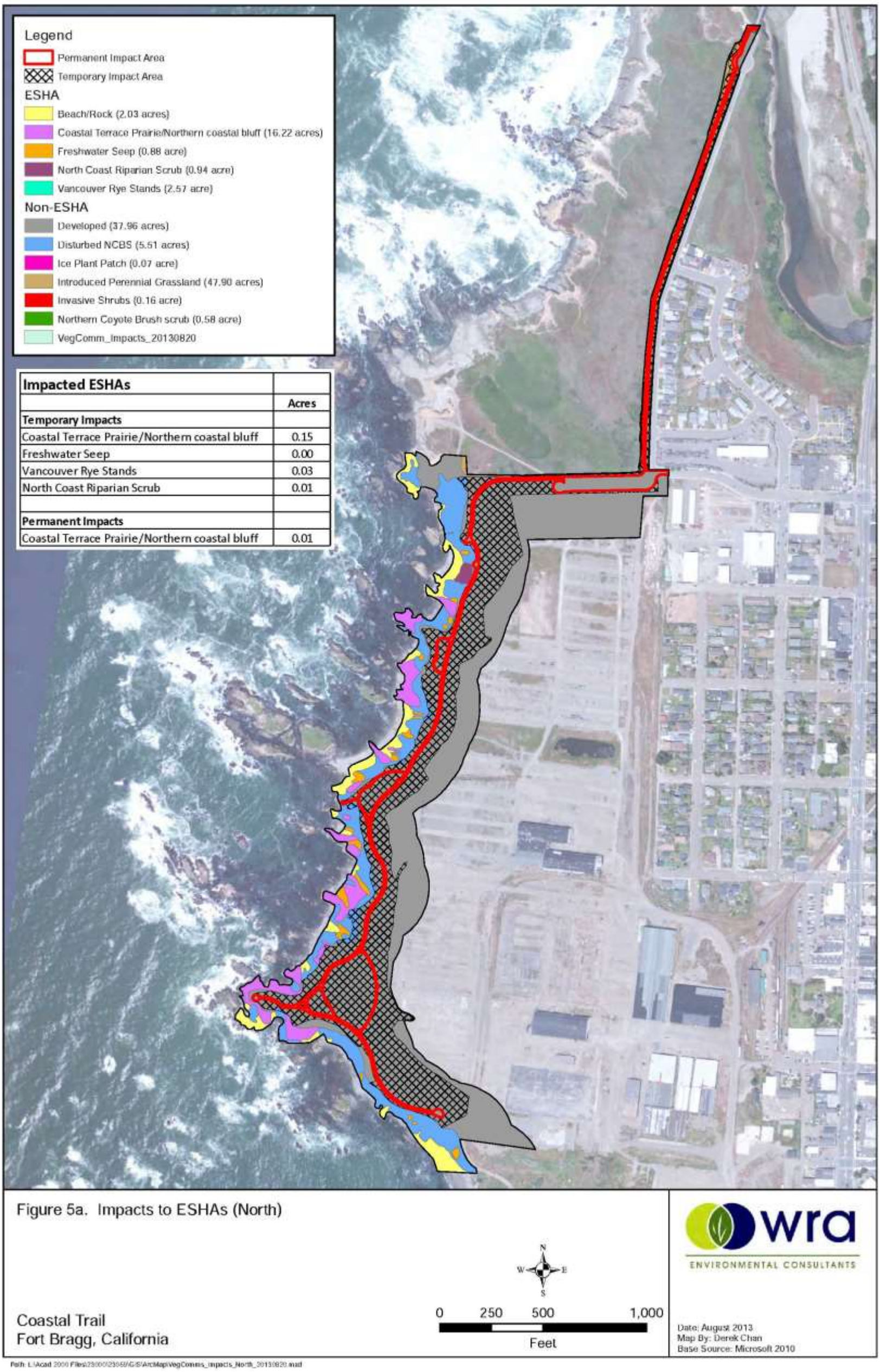


Figure 3–10. North Parkland Habitat Map with Trail Overlay



Impacted ESHAs	
	Acres
Temporary Impacts	
Coastal Terrace Prairie/Northern coastal bluff	0.15
Freshwater Seep	0.00
Vancouver Rye Stands	0.03
North Coast Riparian Scrub	0.01
Permanent Impacts	
Coastal Terrace Prairie/Northern coastal bluff	0.01