

**BIOLOGICAL ASSESSMENT
MARINA CENTER PROJECT
BALLOON TRACK PROPERTY
EUREKA, CALIFORNIA**

Prepared for:

**CUE VI, LLC
323 5TH Street
Eureka, CA 95501**

Prepared by:

**HUFFMAN-BROADWAY GROUP, INC.
828 Mission Avenue
San Rafael, CA 94901
Contact: Terry Huffman, Ph.D.
(415) 925-2000 ▪ Fax: (415) 925-2006**

March 2008

TABLE OF CONTENTS

LIST OF ATTACHMENTS	iii
1.0 INTRODUCTION.....	1
2.0 EXISTING SETTING	3
2.1 SITE HISTORY	3
2.1 SITE DESCRIPTION	4
3.0 BIOLOGICAL ASSESSMENT.....	6
3.1 HABITATS	6
3.1.1 Vegetation Communities	6
3.1.2 Wetland Habitats	7
3.2 ANIMAL POPULATIONS.....	8
3.3 SPECIAL STATUS SPECIES.....	9
3.3.1 Special Status Plant Species	9
3.3.2 Special Status Animal Species	10
3.4 DETAILED WETLAND DELINEATION	13
3.4.1 Methodology	13
3.4.2 Results.....	15
Methodology	16
The Corps Descriptive Approach (CDA).....	16
Wetland Functions and Values at the Project Site.....	17
4.0 REGULATORY AGENCIES AND POLICIES.....	25
4.1 FEDERAL.....	25
4.1.1 Clean Water Act – Section 404	25
4.1.2 Clean Water Act – NPDES Requirements.....	26
4.1.3 Federal Endangered Species Act	26
4.1.4 Migratory Bird Treaty Act	27
4.1.5 Fish and Wildlife Coordination Act.....	27
4.2 STATE.....	27
4.2.1 California Endangered Species Act	27
4.2.2 Section 401 of the Federal Clean Water Act /Porter Cologne Water Quality Act.....	28
4.2.3 CDFG Species of Special Concern	28
4.2.4 California Department of Fish and Game – Streambed Alteration Agreement	28
4.2.5 California Department of Fish and Game – Fish and Game Code Sections 3503 and 3503.5	29
4.2.6 California Department of Fish and Game Fully Protected Species	29
4.2.7 California Coastal Commission (CCC)	29
4.3 LOCAL.....	32
4.3.1 City of Eureka LCP.....	32
4.4 OTHER STATUTES, CODES, AND POLICIES AFFORDING LIMITED PROTECTION	36
4.4.1 California Native Plant Society	36
5.0 POTENTIAL IMPACTS AND MITIGATION.....	37
5.1 WETLANDS IMPACTS.....	37
5.1.1 Impacts.....	37

Table of Contents, Continued

5.1.2	Mitigation Measures.....	38
5.1.3	Discussion.....	44
5.2	VEGETATION IMPACTS.....	46
5.2.1	Potential Impacts.....	46
5.2.2	Mitigation Measures.....	47
5.3	SPECIAL STATUS SPECIES IMPACTS	47
5.4	WATER QUALITY IMPACTS.....	48
6.0	REFERENCES.....	50

LIST OF ATTACHMENTS

Attachment 1. Figures

- Figure 1. Project Site Vicinity, Balloon Track Property, Eureka, CA
- Figure 2. Location of the Balloon Track Property, Eureka, CA
- Figure 3. Aerial Photograph of the Balloon Track Property, Eureka, CA
- Figure 4. Location of Areas Subject to Jurisdiction as Wetlands under the California Coastal Act Based on the Presumptive Evidence of a Predominance of Hydrophytic Vegetation, Balloon Track Property, Eureka, CA
- Figure 5a. Project Development Plan for Marina Center Project, Eureka, CA
- Figure 5b. Project Development Impacts, Marina Center Project, Eureka, CA
- Figure 5c. Proposed Clark Slough Wetlands Restoration, Marina Center Project, Eureka, CA
- Figure 6. Wetland Restoration Plan for Marina Center Project, Eureka, CA

Attachment 2. Supplemental Biological Information

- Table 1. Plant List for the Balloon Track Property
- Table 2. Animal Species Observed on the Project Site or Expected to Utilize the Project Site
- Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles
- Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

This report should be cited as: Huffman-Broadway Group, Inc. March 2008. *Biological Assessment, Marina Center Project, Balloon Track Property, Eureka, California*. March. San Rafael, California. 52 pp. plus Attachments. Prepared for CUE VI, LLC, Eureka, California.

1.0 INTRODUCTION

On behalf of our client (CUE VI, LLC), Huffman-Broadway Group, Inc. (HBG) has conducted a preliminary biological analysis for the Marina Center Project proposed on the approximately 38-acre Balloon Track Property in Eureka, Humboldt County, California (Figures 1 – 3). The property consists of Humboldt County Assessor's Parcel Numbers (APNs) 001-014-002, 003-021-09, 003-031-03, 003-031-005, 003-031-006, 003-031-007, 003-041-005, 003-041-006, 003-041-007, and 003-051-001.

Marina Center is a proposed mixed-use urban-infill retail, residential, and light industrial development on a former Union Pacific Railroad switching, maintenance and freight yard called the Balloon Track. The property gets this locally known name due to the Balloon shape of the railroad yard tracks that once occurred within the site. More than 100 years of hard use and 30 years of abandonment have resulted in the Balloon Track's present state of disrepair, defined as an urban Brownfield by the United States Environmental Protection Agency. The 38-acre property is near Eureka's historic downtown commercial core and connects with its shopping district.

Marina Center will offer retail (including The Home Depot) to meet important community needs, as well as offices, light industrial space, and non-profit organizations. The project will also include recreational amenities such as a Discovery Museum, as well as biking and walking paths connecting Marina Center to Eureka's historic downtown. Affordable housing units and a coastal wetland preserve covering nearly one-third of the total development are additional features.

The overall objectives of the Marina Center project are to:

1. Strengthen Eureka as the retail and employment center of Humboldt County.
2. Develop an economically viable mixed-use project (e.g., retail, office, residential, industrial).
3. Facilitate Brownfield Redevelopment and urban in-fill development of the Balloon Track properties.

The scope of work for HBG's biological analysis comprised the following tasks:

1. Conduct a reconnaissance of the site to identify ecological constraints and evaluate potential biological impacts that could result from development;
2. Recommend potential mitigation measures that may be necessary;
3. Identify permits that may be required from applicable regulatory agencies; and
4. Prepare this technical report.

This study describes biological resources present on the property and evaluates the potential for rare, threatened, or endangered species of flora and/or fauna to occur onsite or in the project vicinity. We reviewed pertinent literature, including the California Natural Diversity Data Base (CNDDDB), to identify whether populations of endangered, threatened, or rare species have occurred historically or currently are known to be present onsite or in the project vicinity. The site was surveyed by HBG biologists between August 2005 and January 2008 to characterize

habitat and wildlife resources onsite. The primary purpose of the field review was to identify ecological constraints to development on the property.

HBG also conducted a detailed delineation of wetlands at the property pursuant to relevant regulatory agency criteria. The results of HBG's wetland delineation are reported in a separate report and are summarized herein.

2.0 EXISTING SETTING

The Balloon Track Property is an approximately 38-acre former railroad yard and industrial site at the northwestern tip of Eureka. Highway 101 (aka Broadway Street) forms much of the eastern edge of the property; several industrial buildings and a portion of West Washington Street form the southern boundary of the site; and Waterfront Drive forms the western boundary of the property. At its nearest point, Humboldt Bay, which connects the property to the Pacific Ocean, is approximately 150 feet west-northwest of the site across Waterfront Drive. The general project site vicinity and location are shown in the regional map on Figure 1 and the relevant portion of the Eureka USGS 7.5-minute quadrangle map on Figure 2. An aerial photograph of the property is included as Figure 3. The site lies within Township 5 North, Range 1 West, Sections 21, 22, and 28, Humboldt Base and Meridian.

The Balloon Track Property lies within the Coastal Zone. The California Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, broadly defined by the California Coastal Act of 1976 (Public Resources Code § 30000 et seq.) to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. Coastal zone permitting for the Marina Center Project will fall under the City of Eureka's Local Coastal Program (LCP). The City's LCP, enacted and certified in 1984, was updated and recertified in 1999.

2.1 SITE HISTORY

The site was historically used as a railroad switching, maintenance, and freight yard beginning in the late 1800s. An 1888 survey map of the City of Eureka (U.S. Surveys, 1888) shows that the entire site was undeveloped tidal marsh except for one main railroad track that traversed north – south along the present northwestern site boundary. A small railroad depot and railroad spur were present at the current location of A Street and Waterfront Drive. Clark Slough, a large tidal channel, drained the southwestern portion of the site. Smaller tidal channel tributaries extended onto the site.

Between the late 1800s and early 1900s, tidal marsh in the eastern part of the site was gradually filled to allow construction of railroad maintenance buildings. During the early to mid-1900s, the railroad yard accommodated passenger as well as freight service. Locomotives, railroad boxcars, and passenger cars were frequently refueled and repaired onsite. Additionally, portions of the site were leased to Richfield Oil Company and General Petroleum Company around 1939; these firms were still present as late as 1954. By December 1946, a large part of the tidal marsh had been diked off with a soil berm. By July 1947, the previously diked area, including the southeast corner of the site, had been filled completely. Although Clark Slough was still present, the channel width had been reduced significantly from infilling with dredge materials. Buildings constructed onsite by 1962 were most recently occupied by Redwood Empire Company, Zabel Frank Trucking Company, and Paint Connection Company.

The railroad yard was originally owned and operated by Northwestern Pacific Railroad Company (NWP). In 1986, Southern Pacific Transportation Company (SPTCo) bought the NWP.

However, SPTCo did not operate the railroad yard; concurrently with SPTCo's purchase of NWP, the Eureka Southern Railroad Company (ESRC) was created. ESRC leased the railroad yard from SPTCo and continued operation of the railroad line immediately north and south of Eureka. In 1996, the Surface Transportation Board approved the merger of Union Pacific and Southern Pacific. The Union Pacific-Southern Pacific merger formed the largest railroad in the U.S.

Today, the property is owned by CUE VI, LLC.

2.1 SITE DESCRIPTION

Topography

Figure 2 is a U.S. Geological Survey (USGS) 7.5-minute topographic map showing the area around the City of Eureka. As shown on this map, the Balloon Track Property is very flat with an elevation close to sea level. Site elevations range from 8 to 12 feet North American Vertical Datum (NAVD).

Geology and Soils

The results of numerous investigations conducted onsite indicate that the area is "underlain by a sequence of three relatively continuous stratigraphic units" to at "least a depth of 65 feet" below ground surface (bgs) (Geomatrix, December 2001). The units consist of a sandy fill layer from the surface to a depth of approximately 3 to 6 feet bgs. The second unit is an estuarine clay (bay mud) that extends from the base of the sandy fill to approximately 13 feet bgs. The third unit is a coarse-grained sandy layer that extends from the base of the estuarine clay to a depth of at least 65 feet bgs (Geomatrix 2001).

The study area has not been officially mapped by the Natural Resources Conservation Service (NRCS). The majority of the soil within the upper 12 inches consists of fill material. Fill material was pumped in from Humboldt Bay to raise the land above flood levels or structural fill material was placed by previous owners and operators of the site to construct building pads, storm drains, roadways, and work areas. On the basis of the field surveys, HBG concluded that the entire study area consists of fill material, with the exception of the bottom and lower portions of the drainage channel in the southwestern portion of the site that was constructed along portions of the historical alignment of Clark Slough. The fill material consists of loamy sand and sandy loams.

Staff from the field NRCS office in Eureka suggest that the soil underlying the fill material could be Bayside silty clay loam, which has been mapped extensively in all terrestrial areas surrounding the site. Bayside silty clay loam was found by HBG in the bottom margins of the Clark Slough drainage channel in the southwestern portion of the site. Bayside silty clay loam is formed in very low-lying poorly drained areas of tidal marshes. It is often affected by salts and the surface horizon is frequently puddled. Discoloration is pronounced at the surface, indicating that water has stood for a matter of a week or more. The National Hydric Soils List (SCS 1991) indicates that the Bayside series is a hydric soil. This soil supports pickleweed, saltgrass, and silverweed. Pasture value is low.

Surface Water

With the exception of the remnants of Clark Slough and scattered depressional areas, potholes in roadways, and drainage ditches that seasonally pond and flow, no surface water occurs onsite.

2.0 Existing Setting

However, the area of study lies across Waterfront Drive from Humboldt Bay, which is connected to the Pacific Ocean.

Groundwater

Groundwater is known to occur in the shallow sandy fill and in the lower coarse-grained sandy layer. The two water-bearing zones are separated by bay mud. Groundwater levels in the shallow sandy fill are seasonally influenced by local precipitation and range from approximately 3 to 8 feet bgs. This “perched” aquifer occasionally goes dry during the driest time of year. Groundwater levels in the lower coarse-grained sandy layer have typically ranged from 6 to 12 feet bgs, with a flow direction generally toward Humboldt Bay (northwesterly). Water levels in this layer are tidally influenced.

FEMA Flood Zone

The majority of the area of study lies within Flood Zone C, areas of minimal flooding, as determined by Flood Rate Insurance Map 0600620005C dated June 17, 1986.

Climate

The area has a mild Mediterranean climate, with average temperatures ranging from over 63.9°F in the summer to 40.6° in the winter months. Annual precipitation is normally about 38.1 inches. Most precipitation occurs between October and April. Occasional thunderstorms occur in the summer months.

Environmental Studies

Various phases of environmental investigation and have been conducted onsite from 1988 to the present. Analytical results for soil, groundwater, and stormwater samples collected onsite indicate the presence of long-chain petroleum hydrocarbons, lead, copper, and arsenic in soil samples and petroleum, metals, and related chemicals in groundwater and stormwater samples.

3.0 BIOLOGICAL ASSESSMENT

3.1 HABITATS

HBG biologists conducted field surveys onsite between August 2005 and January 2008, and botanist Virginia Dains prepared a botanical inventory based on spring season field reviews conducted April 28 and 29, 2006. All habitats onsite were surveyed on foot and assessed for similarity to sites in the area known to support special status species. Qualitative information on the composition and distribution of plant species on the site was obtained during these site visits. A list of plant species inventoried on the property is included as Attachment 2, Table 1.

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Vegetation communities catalogued by Ms. Dains are described in Section 2.2.1. Wetland habitats onsite were classified using the U.S. Fish and Wildlife's Service's "Classification System for Wetland and Deepwater Habitats" (Cowardin et al. 1979) and described in Section 2.2.2.

3.1.1 Vegetation Communities

Disturbed Grassland

Much of the Balloon Track Property is dominated by ruderal vegetation. Ruderal vegetation within the railyard and industrial areas occurs in waste areas such as scraped shallow soils, mounds of fill and debris, concrete structures, utility infrastructure consisting of metal pipes and wire, railroad tracks, and the roadways currently used to access the site that were constructed during railyard and industrial operations. A large number of potholes formed within the compacted roadbase materials on these roadways as a result of years of vehicular use and lack of maintenance. Although the potholes fill with water periodically during the rainy season, any sparse vegetation that may form is crushed or otherwise heavily impacted by continued vehicle use. Vehicle tracks and ruts within upland and wetland areas adjacent to the larger potholes on the roadways indicate that the potholes are bypassed by vehicles on occasion, likely when the deeper potholes are completely filled with water.

The vegetation associated with ruderal areas is dominated by mostly weedy introduced grasses such as rip-gut brome (*Bromus diandrus*), sweet vernal grass (*Anthoxanthum odoratum*), quaking grass (*Briza maxima*), and herbs such as rough cat's ear (*Hypochaeris radicata*). Shallow soils were sometimes found to be carpeted with yellow owl's clover (*Triphysaria versicolor*), rose clover (*Trifolium hirtum*) or English plantain (*Plantago lanceolata*). Mounded areas were covered in introduced non-native tall grasses, wild fennel (*Foeniculum vulgare*), field mustard (*Brassica rapa*), or wild radish (*Raphanus sativus*) or supporting occasional shrubby coyote brush (*Baccharis pilularis*).

Seasonal Ponds

This habitat type is found in low-lying depression areas resulting from soil compaction or scraping. These areas pond water periodically during the rainy season. Characteristic species in these areas are diminutive annuals such as toad rush (*Juncus bufonius*), annual tule (*Scirpus cernuus*), and annual bluegrass (*Poa annua*). Where water ponds for long durations of time, taller-growing plants such as water foxtail (*Alopecurus geniculatus*), western mannagrass

3.0 Biological Assessment

(*Glyceria occidentalis*), spikerush (*Eleocharis macrostachya*), penny royal (*Mentha pulegium*) and tall flatsedge (*Cyperus eragrostis*) are established. The invasive non-native Common reed (*Phragmites australis*) was found associated with depressions in fill areas adjacent to and within several hundred feet east of the remnant Clark Slough channel.

Herbaceous Riparian

Several internal freshwater drainage ditches occur on the site. These drainages are identified by patches of Himalayan blackberry (*Rubus discolor*), cattail (*Typha latifolia*), and fringes of waterloving herbs such as Bloomer's beaked buttercup (*Ranunculus orthorhyncus* var. *bloomeri*), Pacific oenanthe (*Oenanthe sarmentosa*), hoary nettle (*Urtica dioica* ssp. *holosericea*), wild teasel (*Dipsacus fullonum*), and giant horsetail (*Equisetum telmateia* ssp. *braunii*). Willows (*Salix drummondii*) are found along the drainage ditches but there is not a continuous riparian corridor of willows or other perennial or structurally diverse cover.

Tidally Affected Drainage

Two muted tidal remnants of Clark Slough in the western portion of the property are connected to the bay by culverts under the railroad track. Tidal exchange within these slough remnants was verified by HBG based on field observations from 2005, 2006 and 2007 that indicate a daily rise and fall of water elevations. These Clark Slough remnants are excavated into the local landscape with steep banks and rip-rapped vertical walls that are affected by tidal action. This estuarine emergent wetland is dominated by the common reed (*Phragmites australis*). A border of thickspike cordgrass (*Spartina densiflora*) forms a nearly continuous ring to the exclusion of other intertidal plants within this zone. Individuals of silver weed (*Potentilla anserina*) and arrow-grass (*Triglochin maritima*) and tussocks of salt grass (*Distichlis spicata*) are interspersed in the rock revetment of the channel and the dominant introduced cordgrass. A natural mixed intertidal community is not present.

3.1.2 Wetland Habitats

According to the classification of Cowardin et al., two types of wetland habitats occur on the site: estuarine emergent and palustrine emergent. Emergent wetlands are characterized by erect, rooted herbaceous hydrophytes, excluding mosses and lichens. The vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants. Estuarine emergent wetland vegetation is found in habitats that occur on periodically and permanently flooded substrates and open water portions of semi-enclosed coastal waters where tidal seawater is diluted by flowing fresh water. This mix of fresh and ocean waters usually forms a horizontal salinity gradient that varies by area and location with seasonal variations in freshwater inflow and tidal action. The various physiological stresses exerted in the estuarine environment, especially those related to changing salinities, result in natural communities that are low in species richness but high in density. Palustrine wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 percent. As the estuarine wetlands are restricted to coastal areas, these wetlands are less common than freshwater wetlands or salt water environments of the open sea.

3.2 ANIMAL POPULATIONS

The species discussed in this study are based on review of available literature from the CNDDDB and habitat observations made during qualitative surveys in December 2005 and July 2006 by HBG wildlife biologists, and additional observations from site visits conducted in 2007 and 2008. A list of wildlife species observed onsite or expected to utilize the site was obtained through habitat reconnaissance, field observation, and literature sources. Supplemental information was obtained from the literature, particularly for wildlife taxa not observed during the surveys. A complete listing of the references from which information was compiled on the flora and fauna inhabiting the region is contained in the References section. Attachment 2, Table 2, lists reptiles, amphibians, birds, and mammals observed or expected to occur on the project site based on these reconnaissance level observations. The table includes the scientific names of all species mentioned in the text.

Species of raptor observed during a field review on December 29, 2005, include red-shouldered hawk, Cooper's hawk, peregrine falcon, and American kestrel. Observed birds using primarily the wetland habitats at the site include great blue heron, Wilson's snipe, red phalarope, belted kingfisher and marsh wren. Other birds observed at the site included killdeer, Western gull, glaucous-winged gull, rock pigeon, black phoebe, common raven, ruby-crowned kinglet, hermit thrush, European starling, white-crowned sparrow, golden-crowned sparrow, Lincoln's sparrow, song sparrow, fox sparrow, savannah sparrow, yellow-rumped warbler, Western meadowlark and Brewer's blackbird. Also observed flying over the site was a flock of Canada geese. All avian species observed at the site are common to abundant in the region with the exception of the peregrine falcon (which is state-listed as an endangered species, see section on special status species below) and red phalarope. At the time of the survey a series of storms along the West Coast forced many individuals of this species to seek refuge on land and resulted in large numbers of red phalaropes being seen at many coastal locations. Three red phalaropes were observed in a rain puddle at the Balloon Track Property on the morning of December 29. These birds normally occur at sea and are rarely seen on shore.

No mammals were observed at the site during the survey, although several species would be expected at the site, including striped skunk, raccoon, Virginia opossum, and California ground squirrel. Despite looking under boards and other objects, the only amphibian or reptile observed was the Pacific treefrog within onsite wetlands. Other expected reptiles would include Western fence lizard, common garter snake, and gopher snake.

A summer season field review by a wildlife biologist was conducted on July 9, 2006. Avian and other wildlife use of the site during this time of year was less extensive than during the winter. Birds commonly seen during this survey were rock pigeon, barn swallow, European starling, white-crowned sparrow, and house sparrow. Other birds observed in lesser numbers included violet-green, tree, and cliff swallows; black phoebe; common raven; song sparrow; American goldfinch; and purple finch. Although nests of these species were not observed at the site, all of these species would be expected to nest at the site or in the immediate site vicinity. Birds seen flying over the site included black-crowned night-heron, great blue heron, great egret, and snowy egret, most likely birds associated with the rookery located on nearby Indian Island (Figures 1 and 2). Pacific treefrogs were also observed in the onsite wetlands. A peregrine falcon was also sighted on the site by HBG wetland scientist Dr. Terry Huffman on July 31, 2007.

3.3 SPECIAL STATUS SPECIES

As described above, rare, endangered, or threatened species are protected by the federal Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq., as amended), the California Native Plant Protection Act of 1977 (California Fish and Game Code § 1900 et seq.), and the California Endangered Species Act of 1984 (California Fish & Game Code § 2050 et seq.). The California Environmental Quality Act of 1970 (CEQA; California Public Resources Code § 21000 et seq.) provides additional protection for unlisted species that meet the rare or endangered criteria defined in Section 15380 of the CEQA Guidelines (Title 14, *California Code of Regulations* § 15000 et seq.).

The California Department of Fish and Game maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Database (CNDDDB). Sensitive species include those species listed by the federal and state governments as endangered, threatened, or rare, or as candidate species for these lists. The CNDDDB is organized into map areas based on 7.5-minute topographic quadrangle maps produced by the U.S. Geological Survey. Occurrences of sensitive species and important natural communities reported to CDFG are mapped on the quadrangle maps. The database gives further detailed information on each occurrence, including the specific location the individual, population, or habitat was observed (if known) and the presumed current state of the population or habitat.

The Balloon Track Property is in the Eureka 7.5-minute quadrangle. The CNDDDB records search included adjacent quadrangles to the north (Tyee City), northeast (Arcata North), east (Arcata South), southeast (McWhinney Creek), south (Field's Landing), and southwest (Cannibal Island). The CNDDDB review indicated that several special status animal and plant species are known to occur in close proximity to the site. These are discussed in more detail below. It is important to note that the absence of special animals, plants, or natural communities from the report does not necessarily mean that they are absent from the area in question, only that no occurrence data are currently entered in the CNDDDB inventory. The occurrence of special status species in the vicinity of the site may be an indication that they also could occur onsite. Tables 3 and 4 in Attachment 2 are lists of special status plants and animals, respectively, that have been reported in the Eureka and adjacent 7.5-minute quadrangles or that are known to occur in the vicinity of the site based on knowledge of the HBG investigators.

3.3.1 Special Status Plant Species

Special status plant species listed in the California Natural Diversity Data Base as occurring or having occurred in the Eureka 7.5-Minute quadrangle and adjacent quadrangles are listed in Attachment 2, Table 3. The CNDDDB includes:

- Species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act
- Species that are listed or proposed for listing by the state of California as threatened or endangered under the California Endangered Species Act
- Species listed in the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (updated quarterly) (see Section 4.4.1)
- Plant species that meet the definition of rare or endangered under the CEQA.

3.0 Biological Assessment

The CNDDDB list of special status plants in Table 3 was used to identify habitats that may harbor rare species. The habitat requirements and listing status of these special status plants are summarized in Table 3. No special status plants were found in the CNDDDB database for the Balloon Track Property itself. All of the species listed in Table 3 require habitat conditions not found at the site. For instance, many of the species are found in coastal sand dunes, natural salt marsh, or North Coast forest communities not present onsite. The disturbed and created habitats on the Balloon Track Property do not represent habitats suitable for any of these species.

No special status plants were found on the Balloon Track Property during the systematic surveys botanist Virginia Dains conducted on the Balloon Track Property April 28 and 29, 2006. The timing of the surveys coincided with the flowering periods for some of the target species, and absence of these species is demonstrated. The absence of other special status plants was based on an assessment of habitat conditions.

Given (i) the disturbed nature of the project area and the virtual lack of native soils that could support rare, native species, (ii) the fact that special status species listed in Table 4 require habitat conditions not found on the property, and (iii) an April survey of the site was negative for presence of target species or their habitats, it can be stated that the likelihood of special status plants being found on the property is remote. No special status plants are expected to occur at the Balloon site, and further surveys are not required.

3.3.2 Special Status Animal Species

HBG consulted the CDFG California Natural Diversity Data Base (CNDDDB) to ascertain the potential for special status animal species occurring in the seven 7.5-minute quadrangle map areas. All species found to occur within the general CNDDDB search area, or determined to be potentially present based on the knowledge of the HBG investigators, are evaluated in Table 4. The Balloon Track Property does not provide habitat suitable to support any of the animal species listed in Table 4.

The CNDDDB indicates that special status species that are known to have occurred within the general vicinity of the property include the rare sandy beach tiger beetle (*Cicindela hirticollis gravida*), the federally listed endangered tidewater goby (*Eucyclogobius newberryi*), the coast cutthroat trout (*Oncorhynchus clarkii clarkii*, a state species of special concern), the federally listed threatened western snowy plover (*Charadrius alexandrinus nivosus*) and the federally listed endangered California clapper rail (*Rallus longirostris obsoletus*). Also one species state-listed as endangered was sighted on the property by HBG during field reviews: American peregrine falcon (*Falco peregrinus*). In addition, the rookery on Indian Island is reported as providing a nesting area for black-crowned night-heron (*Nycticorax nycticorax*), snowy egret (*Egretta thula*), great egret (*Ardea alba*) and great blue heron (*Ardea herodias*). These species that have occurred in the project vicinity are reviewed in detail below with respect to the potential for the site to provide habitat suitable to support them.

Sandy Beach Tiger Beetle

The rare sandy beach tiger beetle (*Cicindela hirticollis gravida*) is not state or federally listed nor designated as a species of special concern by state or federal governments. This beetle inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to

3.0 Biological Assessment

northern Mexico. The beetle lives in clean, dry, light-colored sand in the upper beach zone. Larvae have a subterranean existence and prefer moist sand not affected by wave action. According to the CNDDDB, the species was known to occur along the Eureka shoreline from a historical record from 1905. The species is thought to be extirpated from this area. No impacts to this species would result from development on the Balloon Track Property.

Tidewater Goby

The tidewater goby (*Eucyclogobius newberryi*) is a federal-listed endangered fish that is also a state designated species of special concern. The species is found in brackish water habitats along the California Coast from Agua Hedionda Lagoon in San Diego County north to the mouth of the Smith River. In November 2000, the USFWS designated 9 miles of rivers, streams, and estuaries in Orange and San Diego counties in Southern California as critical habitat for the species. Tidewater goby individuals are found in shallow lagoons and lower stream reaches, with habitat requirements that include fairly still but not stagnant water and high oxygen levels. In Humboldt Bay they are known from the area of the mouth of Mad River Slough and the mouth of Jacoby Creek, but are not known from the immediate vicinity of the Balloon Track Property.

Special Status Salmonid Species

Three species of salmonids listed as threatened under the federal Endangered Species Act (ESA) are known to pass through Humboldt Bay, in addition to one other species designated by the state as a species of special concern. As anadromous fish, individuals of these species spend much of their life at sea, and migrate into freshwater rivers and streams to spawn. Each of the salmonid species function as reproductively isolated populations or Evolutionarily Significant Units (ESUs) which evolve separately and behave like individual species, and have protection under the ESA. These four species are the subject of the Humboldt Bay Watershed Salmon and Steelhead Conservation Plan, prepared by the Humboldt Bay Watershed Advisory Committee and the Natural Resources Services Division of the Redwood Community Action Agency for the CDFG and the California Coastal Conservancy in 2005.

Fall chinook salmon (*Oncorhynchus tshawytscha*) from the California Coast ESU (coastal streams from Redwood Creek in Humboldt County to the Russian River in Sonoma County) were listed as threatened in September of 1999. Also expected to migrate through Humboldt Bay are fall and spring coho salmon (*Oncorhynchus kisutch*) of the Southern Oregon and Northern California Coast ESU, which extends from Cape Blanco in Curry County, Oregon to Punta Gorda in Humboldt County. This coho salmon ESU was listed as threatened in May of 1997. Also present are winter and summer steelhead (*Oncorhynchus mykiss*) from the Northern California ESU (Redwood Creek in Humboldt County to the Gualala River in Sonoma County), listed as threatened in June of 2000.

The fourth species of anadromous fish possible in Humboldt Bay is the Coast cutthroat trout (*Oncorhynchus clarkii clarkii*) which is not listed by the state or federal governments but is considered a state designated species of special concern. This anadromous fish species inhabits small coastal streams from the Eel River to the Oregon border. In the Humboldt Bay area the species is known from the Elk River and its tributaries (36 miles of occupied or accessible habitat) and Freshwater Creek and its tributaries (15 river miles of stream habitat

Heron and Egret Rookery

According to the CNDDDB, a rookery on Indian Island, in Humboldt Bay just north of the site, accommodates five species of nesting herons and egrets: great blue heron, great egret, snowy egret, black-crowned night-heron and cattle egret. The rookery is located within a grove of Monterey cypress and eucalyptus planted as ornamentals at the former Gunther Mansion, which was destroyed by the City in 1958. The number of active nests varies from year to year, but has totaled as many as 233 great egret nests in 1980, 87 great blue heron nests in 1972, 10 snowy egret nests in 1980, and 74 black-crowned night-heron nests in 1993. A pond area bordered by cypress trees on nearby Woodley Island is used by the herons and egrets primarily for roosting.

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus*) recently has been delisted as an endangered species under the federal Endangered Species Act, but continues to be listed as endangered by the State of California. These falcons nest along the coast north of Santa Barbara, in the Sierra Nevada, and in mountains of northern California. It most often breeds in woodland, forest and coastal habitats. The species inhabits open wetlands near cliffs and canyons, and also occurs in some cities where these falcons are known to nest on buildings and bridges.

A peregrine falcon was observed perched on a transmission tower on the project site during a field survey December 29, 2005. A peregrine falcon was also sighted on the site by HBG wetland scientist Dr. Terry Huffman on July 31, 2007. Appropriate nest sites do not occur in the project area. American peregrine falcons are known to winter in the general vicinity of Humboldt Bay, and sporadic use of the undeveloped but disturbed project area as a winter foraging area would be expected. Significant foraging area for this species is present in the marshes, mudflats and open water habitats within the greater Humboldt Bay area.

Special Status Raptor Species

Several special status tree-nesting raptor species that occur in Humboldt County include white-tailed kite (*Elanus caeruleus*, a California Fully Protected species), and Cooper's hawk (*Accipiter cooperii*) and sharp-shinned hawk (*Accipiter striatus*), both state-designated species of special concern with respect to nesting habitat. None of these species would be expected to nest at the site due to the lack of appropriate nesting trees and nesting habitat. Use of the site as a wintering foraging area by any of these three species is possible, and a Cooper's hawk was noted at the site by an HBG biologist in December of 2005. Osprey (*Pandion haliaetus*) is an additional raptor species of state-designated special concern with respect to nesting habitat, which is known to nest in the Humboldt Bay area, using not only trees but man-made substrates such as transmission towers. Spring surveys of the site by HBG biologists confirmed that osprey does not nest at the project site. Two ground-nesting raptor species of state designated special concern with respect to nesting habitat, northern harrier (*Circus cyaneus*) and short-eared owl (*Asio flammeus*) would also not nest at the site due to lack of appropriate nesting habitat and general disturbance resulting from the urban setting of the project area. Northern harrier may forage over the site, especially during the winter, and though winter foraging at the site by short-eared owl may be possible, such activity would be sporadic at best. Merlin (*Falco columbarius*), a state-designated species of special concern with respect to wintering habitat, is known to winter in open areas of Humboldt County, and could sporadically use the project site as a winter

foraging area. However, there are no aspects of the project site distinguishing this location for this purpose over many other more suitable locations around Humboldt Bay

California Clapper Rail

The California clapper rail (*Rallus longirostris obsoletus*), a federally and state listed endangered species, inhabits salt water marshes traversed by tidal sloughs in San Francisco Bay. Critical habitat for the species has not been designated. The California clapper rail requires abundant growths of pickleweed, but does feed away from cover. These rails primarily feed on mollusks from mud-bottomed sloughs. The primary factor affecting California clapper rails has been the loss of tidal marsh bordering the San Francisco Bay. Other factors affecting population numbers include erosion of shorelines, freshwater discharges from wastewater facilities, fragmentation of tidal marshes, and proliferation of mammalian predators (e.g., red fox, raccoons, rats, skunks and domestic pets and feral animals) and avian predators (e.g., raptors).

According to the CNDDDB, a breeding population of California clapper rails existed on Indian Island in 1932, although no confirmed breeding records have been reported since. As the species has not recently occurred in the project area and habitat necessary to support the species is not found at the site, it can be definitively stated that California clapper rails do not occur at the property.

Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*) is a federal-listed threatened species and a California species of special concern. It is present in California in fall and winter, common on sandy marine and estuarine shores, uncommon at saltponds and areas at the Salton Sea. The species nests locally in these habitats from April through August, but the major nesting habitat now appears to be on salt pond levees, especially in San Francisco Bay. Inland nesting areas occur at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern California, the Central Valley, and southeastern deserts. The species needs sandy, gravelly or friable soils for nesting. Major threats to the species are habitat loss and human disturbance at nest sites. Critical habitat was designated by the USFWS on September 29, 2005, and the nearest critical habitat unit to the Balloon Track Property is on the Humboldt Bay South Spit, over 3 miles away.

According to the CNDDDB, Western snowy plovers were documented as nesting at North Humboldt Bay Spit, just west of the project area, between 1899 and 1948, and six pairs of these birds were noted as being present there during 1978 nesting season. Nesting was also documented at Elk River Spit, just over 2 miles from the project area, in 1920, and a pair of snowy plovers was observed there during the nesting season in 1977. Nesting has not been documented in the project vicinity for a number of years, and habitat for the species does not occur on the site. Western snowy plovers do not occur at the property.

3.4 DETAILED WETLAND DELINEATION

3.4.1 Methodology

Between August 2005 and January 2008, HBG conducted onsite evaluations of the geographic extent of wetlands according to requirements of the California Coastal Act/City of Eureka Local

3.0 Biological Assessment

Coastal Program and the requirements of the Corps of Engineers Clean Water Act Section 404 Regulatory Program. Existing land forms, vegetation, hydrology, and soil conditions were studied to identify areas that would likely contain wetland and aquatic habitats.

Wetlands in California's Coastal Zone are regulated under the California Coastal Act (CCA) of 1976, which is administered by the California Coastal Commission (CCC). In areas where local coastal programs (LCPs) have been established, such as the City of Eureka, the CCC can review developments approved by the local government within 100 feet of any wetland. Section 30121 of the CCA defines "wetlands" as "*lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*" Subsequently, wetlands were further defined in Title 14 *California Code of Regulations* Section 13577(b):

. . . land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated soil at some time during each year and their location within, or adjacent to, vegetated wetland or deepwater habitats.

On the basis of the above definitions, the CCC considers a wetland to be any area that is sufficiently wet for a long enough period of time to promote the formation of hydric soils or a predominance of hydrophytic vegetation. Title 14 CCR Section 13577 designates the following features to define the upper limits of wetlands:

- The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;
- The boundary between soil that is predominantly hydric and soil that is predominantly non hydric; or
- In the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time each year and land that is not.

The CCC staff has developed a wetland identification and delineation methodology based on the CCR definition. The methodology requires that a one parameter approach be followed to identify and delineate the geographic extent of wetland boundaries. The parameter used can be either (1) the presence of hydric soils, or (2) the presence of a predominance of hydrophytes. A predominance of hydrophytes is determined when greater than 50 percent of the plant species present are hydrophytes. Typically CCC staff members begin the wetland identification and delineation process using the vegetation parameter. Determining the presence or absence of a parameter is accomplished by making an onsite determination as to the presence of field indicators.

3.0 Biological Assessment

HBG conducted onsite investigations of the Balloon Track Property within the project boundary starting in August 2005 with a focus on identifying wetlands using the one-parameter methodology for determining the predominance of hydrophytic vegetation. It was also decided to conduct studies to determine the presence of hydric soils in areas where vegetation grows by spreading rhizomes, which could yield a false-positive result for the hydrophytic vegetation parameter being met. Field work was conducted on nearly 30 days during August, September, and October of 2005; January, February, March, April, and May of 2006; March, August and October of 2007; and January of 2008. Field work included visual observations of ponding and flooding; evaluation of soil saturation within 72 soil pits excavated to a depth of 12 inches; evaluation of the presence or absence of hydric soils within 47 additional soil pits; and analysis of vegetation.

When field data collection was completed, GPS data were incorporated into a Geographic Information System (GIS) and overlain on a topographic map produced by 3Di West (GeoTerra). On the basis of the data obtained in the above described investigations, the geographic extent of wetlands potentially subject to CCC jurisdiction was delineated; the boundaries resulting from each one-parameter study (presence of a predominance of hydrophytic vegetation vs. presence of hydric soils) were separately overlain onto a topographic base map.

Details of the methodology used to determine wetland boundaries for this project are described in Section 2.3 of the wetland delineation report prepared by HBG under separate cover.

3.4.2 Results

Both upland and wetland areas are present onsite. Upland areas consist of the former railyard and industrial areas and include railroad tracks, access roads, concrete structures, underground utility lines, and mounds of debris. Wetland areas meeting the CCA definition of wetlands were found within the Clark Slough muted tidal drainage, non-tidal drainages and depressions, and compacted low-lying areas within the railyard and industrial areas. The resulting delineation, shown on Figure 4, follows the CCC staff one-parameter wetland identification and delineation approach that assumes the presence of wetland habitat based on the presumptive evidence of a predominance of hydrophytic vegetation. Using this approach, 1.06 acres of estuarine emergent wetlands (Clark Slough remnants) were identified, together with 7.61 acres of palustrine emergent wetlands.

At least a portion of the wetlands identified on Figure 4, where hydrophytes, hydric soils, and wetland hydrology are collectively present, would be subject to the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. A formal Corps jurisdictional verification of the HBG delineation of wetlands and waters of the United States has not been conducted at the site to date. The extent of areas exhibiting hydric soil indicators associated with palustrine emergent wetlands was found to be approximately 4.54 acres. This area is essentially a subset of the 7.61 acres of palustrine emergent wetlands exhibiting hydrophytic vegetation indicators. The wetland area subject to Corps jurisdiction may be limited to this area of mostly seasonal freshwater wetlands, which exhibits hydric vegetation, soil, and hydrology indicators, in addition to the 1.06 acres of muted tidal wetlands of Clark Slough, for a total of approximately 5.60 acres of Corps jurisdictional wetlands.

3.4.3 WETLAND FUNCTIONS AND VALUES

Methodology

Wetland assessment procedures began appearing in the 1970s and a number of proposed methodologies have been developed since that time. Currently, over 70 such methodologies are in varying states of development and use. The early methodologies were designed for use on large controversial planning projects or wetland inventories. The earliest of these to gain some measure of acceptance was the Wetland Evaluation Technique (WET), developed by Adamus, et al. However, WET and its subsequent version (WET II) proved far too cumbersome for routine use; a criticism also directed at more recent attempts at a universal assessment technique, i.e., the Hydrogeomorphic Methodology (HGM).

Partly in response to the perceived methodological shortcomings of the large-scale techniques, recent efforts have been directed at the assessment of functions in routine permit applications. Three such methodologies are the: (1) Minnesota Routine Assessment Method (MNRAM), (2) Wisconsin Rapid Assessment Methodology (WI RAM), and (3) the Corps of Engineers Descriptive Approach (Corps Descriptive Approach or CDA). We selected the CDA for this study because it examines many of the functions outlined in the Corps' regulations. These functions are generally accepted by the scientific and regulatory communities, and form the basis upon which wetlands are regulated in many state and local jurisdictions. In addition, the CDA was designed to cover a broader geographic area than MNRAM or WI RAM.

The Corps Descriptive Approach (CDA)

There is some confusion in the literature over what constitutes a wetland function and what constitutes a wetland value. For purposes of the CDA, a wetland function is a self-sustaining property of a wetland that exists in the absence of society. For example, a wetland that has slowly moving water performs the function of retaining sediments and toxicants. Wetland values, on the other hand, are based on human judgment of the worth, merit, quality, or importance derived from one or more functions and/or their underlying physical characteristics. For example, the visual quality/aesthetics of a wetland (a wetland value) may be due to its function as wildlife habitat and the underlying physical characteristic (e.g., abundant vegetation) that provides that habitat. The CDA identifies and addresses eight wetland functions and five wetland values, as follows:

Wetland Functions:

- Groundwater recharge/discharge
- Flood flow alteration
- Fish and shellfish habitat
- Sediment, toxicant and/or pathogen retention
- Nutrient removal, retention and/or transformation
- Production export
- Sediment/shoreline stabilization
- Wildlife habitat

Wetland Values:

- Recreation
- Educational/scientific
- Uniqueness/heritage
- Visual quality/aesthetics
- Threatened or endangered species habitat

These functions/values are virtually identical to those evaluated by the WET methodology. The CDA, however, is less formalistic and calculation-intensive than the WET methodology and many other wetland assessment approaches, some of which can produce results that are difficult to understand without backtracking through the underlying calculations. In utilizing the Best Professional Judgment of qualified wetlands professionals, and requiring a rationale for their conclusions, the CDA is more understandable to a wider audience.

Basically, the CDA follows a three-step process: (1) complete a brief description of the physical characteristics of the wetland or wetlands (the biological assessment for the site served this function), (2) list the functions/values exhibited, and (3) provide a rationale for the conclusions (presence/absence determination). Using the CDA, functions and values are determined as existent or non-existent, based on a list of potential rationales (referred to as “considerations/qualifiers” which identify a function or value) associated with each function or value. The Table A and B summarize (1) whether a particular function or value was present, (2) a general description of the properties which were used to identify a function or value as being present, and (3) the general rationale for making the determination of whether a particular function/value is present.

Wetland Functions and Values at the Project Site

Wetlands perform one or more functions in a site-specific manner within the ecosystem. Performance of a given function typically results in a value to the ecosystem and associated biota, which can translate into a human experiential value if the site is open to the public or values for special status species with suitable habitat conditions.

Table A describes whether and to what extent wetlands functions are “present” in the Clark Slough Channel or elsewhere on the project site. The table notes that some of these functions are “limited.” In this context, the “limited” notation indicates that the potential and/or opportunity to provide the function is constrained due to physical limitations at the site or adjacent to it. For example, while the Clark Slough remnant may contain some fish or shell fish, the effectiveness of the Clark Slough Channel to provide fish and shellfish habitat is limited by the small size and nearly vertical side slopes of this partially rip-rap lined channel, and by lack of connectivity to any adjacent tidal marsh habitat as compared to other estuarine areas within the Eureka area. In addition, the potential habitat value of the Clark Slough remnant is impaired or degraded because sediments within the channel and elsewhere on the site contain contaminants. Table B also indicates there are no wetlands “values” currently present on the project site.

Table A. Wetland Functions Present at the Project Site

Wetland Function	General Description of Function Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Function
Groundwater Recharge/Discharge	Wetland serves as a groundwater recharge and/or discharge area. Recharge relates to the potential for the wetland to contribute water to an aquifer. Discharge relates to the potential for the wetland to serve as an area where ground water can be discharged to the surface.	No	No	Deep subsurface soils contain clay layers which provide a physical barrier to groundwater recharge/discharge. Seasonally ponded water is lost to evapotranspiration.
Floodflow Alteration (Storage & Desynchronization)	Wetland aids in the reduction of flood damage by attenuation of floodwaters for prolonged periods following precipitation events.	Yes (limited ¹)	Yes (limited)	Flooding onsite is limited to the narrow Clark Slough channel and higher elevation wetland/upland areas immediately adjacent to the channel. Such a narrow, steep-sided, relatively unvegetated channel provides only limited flood storage capacity and desynchronization (altered rate, length and duration of flooding) because the channel geometry allows water to flow quite quickly through it.
Fish and Shellfish Habitat	Effectiveness of seasonal or permanent water bodies associated with the wetland in question for fish and shellfish habitat.	Yes (limited)	No	<u>Palustrine emergent wetlands.</u> Lack appropriate habitat conditions for fish or shellfish. <u>Estuarine Emergent Slough Channel.</u> Effectiveness of the Clark Slough Channel to provide fish and shellfish habitat is limited by the small size and nearly vertical side slopes of this partially rip-rap lined channel, and lack of adjacent connectivity to tidal marsh habitat as compared to other estuarine areas within the Eureka area. In addition, sediments within channel contain contaminants.
Sediment/Toxicant/Pathogen Retention	Wetland aids in the prevention of the degradation of water quality by trapping sediments, toxicants or pathogens.	Yes (limited)	Yes (limited)	<u>Palustrine emergent wetlands.</u> Ability to retain sediments, toxicants, or pathogens in palustrine emergent wetlands is limited by the shallow depth

3.0 Biological Assessment

Table A. Wetland Functions Present at the Project Site

Wetland Function	General Description of Function Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Function
				<p>of many of the low-lying depressions scattered throughout the site's uplands. These areas hold relatively little ponded water and dry up relatively quickly from evapotranspiration between cycles of heavy rainfall periods annually. In addition, ponded water infiltrates past compacted thin surface soil materials, consisting of fine grained materials, and it moves relatively quickly to underlying well drained fill materials consisting of sandy to sandy loam soils. The above conditions limit sediment/toxicants/pathogen retention because the volume of ponded water resulting from stormwater runoff is limited and well drained nature of the near surface subsoil.</p> <p>The exceptions to this generalization are the deeper ditches and detention basin found within the lower southeastern portion of the property where the ponding areas are deeper and the detention time for stormwater is typically longer. Here the function is not considered limited.</p> <p><u>Estuarine Emergent Slough Channel</u>. Physical evidence on-site demonstrates that Clark Slough Channel traps sediments, though this function is limited due to the small size of the channel, and lack of adjacent connectivity to more expansive tidal marsh habitat with low-lying topography as compared to other estuarine areas within the Eureka area. Furthermore, stormwater contact times with the fringe of estuarine wetland areas is limited because the narrow side slopes of the channel consist of nearly vertical side slopes that are partially rip-rap lined rather than vegetated.</p>

3.0 Biological Assessment

Table A. Wetland Functions Present at the Project Site

Wetland Function	General Description of Function Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Function
<p>Nutrient Removal/Retention/Transformation</p>	<p>Wetland aids in the prevention of adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.</p>	<p>Yes (limited)</p>	<p>Yes (limited)</p>	<p><u>Palustrine emergent wetlands.</u> Ability of palustrine emergent wetlands to remove, retain and/or transform nutrients such as phosphorous and nitrogen, which enter the wetlands through stormwater flows, is limited by the shallow depth of many of the low-lying depressions scattered throughout the site's uplands. These areas hold relatively little ponded water and dry up relatively quickly from evapotranspiration between cycles of heavy rainfall periods annually. In addition, ponded water infiltrates past compacted thin surface soil materials, consisting of fine grained materials, and it moves relatively quickly to underlying well drained fill materials consisting of sandy to sandy loam soils. The above conditions limit nutrient removal/retention/transformation because the volume of stormwater and contact with vegetation is limited.</p> <p>The exceptions to this generalization are the deeper ditches and detention basin found within the lower southeastern portion of the property where the ponding areas are deeper and the contact time for stormwater typically longer. Here the function is not considered limited.</p> <p><u>Estuarine Emergent Slough Channel.</u> Ability to remove, retain and/or transform nutrients such as phosphorous and nitrogen is limited due to the small size of fringe wetlands growing along the channel, the lack of connection to adjacent more expansive low-lying tidal marsh habitat, and relatively sparse in-channel vegetation. Stormwater bearing nutrients has a relatively short</p>

3.0 Biological Assessment

Table A. Wetland Functions Present at the Project Site

Wetland Function	General Description of Function Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Function
				contact time with the slough channel because it flows quickly through the relatively sparsely vegetated, nearly vertical side slopes of this partially rip-rap lined channel.
Production Export (Nutrient)	Wetland produces food or usable products for human, or other living organisms.	Yes (limited)	No	<p><u>Palustrine Emergent Wetlands.</u> The majority of palustrine emergent wetlands found are not connected to downstream flows and thus cannot export beneficial nutrients such as detritus and organic carbon substances to Humboldt Bay.</p> <p><u>Estuarine Emergent Slough Channel.</u> Wetland vegetation within the remnant Clark Slough channel produces a food source as it breaks down into detrital form, but export is limited due to the small amount of fringe marsh vegetation growing along the seep sided, partially rip-rap lined channel.</p>
Sediment/Shoreline Stabilization	Wetland aids in the stabilization of stream banks and shorelines against erosion.	Yes (limited)	No	<p><u>Palustrine Emergent Wetlands.</u> The majority of these wetlands are not located along shorelines.</p> <p><u>Estuarine Emergent Slough Channel</u> Although the banks of the existing slough channel have some vegetation that protects the remnant slough channel from erosion and resulting release of sediments into the slough channel, the density of vegetation and associated root mass along the bank and steep side slope is relatively limited.. Thus, the ability of the vegetation growing along this partially rip-rapped channel is limited compared to what could be provided from a more vegetated, gently sloped, un rip-rapped estuary shoreline.</p>

3.0 Biological Assessment

Table A. Wetland Functions Present at the Project Site				
Wetland Function	General Description of Function Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Function
Wildlife Habitat	Wetland provides habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species are considered.	Yes (limited)	Yes (limited)	<p><u>Palustrine Emergent Wetlands</u> Both resident and migrating waterbirds utilize the site. Wildlife use of onsite palustrine emergent wetlands has been documented, but is limited due to a predominance of very dense growing invasive non native plant species (e.g. common reed in the southern portion of the site), habitat fragmentation and associated lack of connectivity, soil contamination, and overall site disturbances.</p> <p><u>Estuarine Emergent Slough Channel</u>. Wildlife use of estuarine emergent wetlands in Clark Slough remnant has also been documented but is limited by steep sided channels, invasive non native plant species, partially rip-rapped channel, soil contamination, and overall site disturbances.</p>

¹“Limited” notation indicates that the potential and/or opportunity to provide function is constrained due to physical limitations at the site or adjacent to it.

Table B. Wetland Values Present at the Project Site

Wetland Value	General Description of Value Categories Considered	Present in Estuarine Emergent Slough Channel?	Present in Palustrine Emergent Seasonal Wetlands?	Rationale for Presence / Absence of Value
Recreation	Effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland, whereas non-consumptive opportunities do not.	No	No	Contaminated site not open to public.
Education/Scientific	Related to the effectiveness of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.	No	No	Contaminated site not open to public
Uniqueness/Heritage	Relates to the effectiveness of the wetland or its associated waterbodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals or geologic features, etc.	No	No	Contaminated site, no special values identified
Visual Quality/Aesthetics	Related to the visual and aesthetic qualities of the wetland.	No	No	Contaminated site not open to public
Threatened or Endangered Species Habitat	Relates to the effectiveness of the wetland or associated waterbodies to support threatened or endangered species.	No	No	Threatened or Endangered Species not found during biological surveys conducted following protocols accepted by resource agencies

3.5 SUMMARY OF ECOLOGICAL CONSTRAINTS

Ecological constraints at the Balloon site include the presence of wetlands as defined by the California Coastal Act (City of Eureka LCP, as reflected in the General Plan Policy Document). City General Policy also considers wetlands to be Environmentally Sensitive Habitat Areas (ESHAs). Figure 4 shows a total of 8.67 acres of wetlands subject to CCC jurisdiction based on presumptive evidence of a predominance of hydrophytic vegetation, specifically 1.06 acres of estuarine emergent wetlands (Clark Slough) and 7.61 acres of palustrine emergent wetlands.

No constraints have been identified for this site pertaining to special status species of animals or plants.

4.0 REGULATORY AGENCIES AND POLICIES

The following is a description of federal, state, and local environmental laws and policies that could apply to the Balloon site and that are relevant to the California Environmental Quality Act (CEQA) review process.

4.1 FEDERAL

4.1.1 *Clean Water Act – Section 404*

The U.S. Army Corps of Engineers regulates discharges of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act (CWA). “Discharge of fill material” is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2(f)). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality requirements.

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency are responsible for implementing the Section 404 program. Section 404(a) authorizes the Corps to issue permits, after notice and opportunity for comment, for discharges of dredged or fill material into waters of United States. Section 404(b) requires that the Corps issue permits in compliance with EPA guidelines, which are known as the Section 404(b)(1) Guidelines. Specifically, the Section 404(b) (1) guidelines require that the Corps only authorize the “least environmentally damaging practicable alternative” (LEDPA) and include all practicable measures to avoid and minimize impacts to the aquatic ecosystem. The guidelines also prohibit discharges that would cause significant degradation of the aquatic environment or violate state water quality requirements.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 C.F.R. §328.3(b)).

Furthermore, Jurisdictional Waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 C.F.R. §328.3(e)).

Tidal waters are also under the jurisdiction of the Corps. The landward limits of jurisdiction in

4.0 Regulatory Agencies and Policies

tidal waters extend to the high tide line . . . “or, when adjacent non-tidal waters of the United States are present, to the limits of jurisdiction for such non-tidal waters” (33 C.F.R. §328.4(b)). High tide is further defined to include the line reached by spring high tides and other high tides that occur with periodic frequency (33 C.F.R. §328.3(d)).

Following the 2001 U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (99-1178; 531 U.S. 159 [2001]), some isolated wetlands may be excluded from the Corps’ Section 404 jurisdiction because they are (1) non-tidal, (2) non-navigable, (3) not hydrologically connected to navigable waters or adjacent to such waters, and (4) not subject to foreign or interstate commerce.

4.1.2 Clean Water Act – NPDES Requirements

In 1972, the Clean Water Act was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments established a framework for regulating municipal, industrial, and construction-related stormwater discharges under the NPDES program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish stormwater permit application requirements for specified categories of industries. The regulations as amended provide that discharges of stormwater from construction projects that encompass one or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES permit. The California State Water Resource Control Board has developed a general construction stormwater permit to implement this requirement.

4.1.3 Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction; requires development of specific plans of action for the recovery of listed species; and restricts activities perceived to harm or kill listed species or affect critical habitat (16 U.S.C. 1532, 1536).

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 U.S.C. 1532, 50 CFR 17.3). Taking can result in civil or criminal penalties. Federal regulation 50 CFR 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Additionally, FESA prohibits the destruction or adverse modification of designated critical habitat. In the Service’s regulations at 50 CFR 402.2, destruction or adverse modification is defined as a “direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.

The ESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat (16 U.S.C. 1536).

4.0 Regulatory Agencies and Policies

Therefore, the ESA is invoked when the property contains a federally listed threatened or endangered species that may be affected by a permit decision. In the event that listed species are involved and a Corps permit is required for impacts to jurisdictional waters, the Corps must initiate consultation with USFWS (or the National Marine Fisheries Service, NMFS) pursuant to Section 7 of the ESA (16 U.S.C. 1536; 40 CFR § 402). If formal consultation is required, USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

4.1.4 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act is administered by the USFWS. The Act provides that it is unlawful to: pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product unless permitted by regulations. Most bird species within California fall under the provisions of the Act. Excluded species include nonnative species such as house sparrow, starling, and ring-necked pheasant and native species such as quail.

4.1.5 Fish and Wildlife Coordination Act

The USFWS also has responsibility for project review under the Fish and Wildlife Coordination Act. This statute requires that all federal agencies consult with USFWS, NMFS, and the state's wildlife agency (California Department of Fish and Game, CDFG) for activities that affect, control, or modify streams and other water bodies. Under the authority of the Fish and Wildlife Coordination Act, USFWS, NMFS, and CDFG review applications for permits issued under Section 404 and provide comments to the Corps about potential environmental impacts.

4.2 STATE

4.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing California Environmental Quality Act (CEQA) documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

The CESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFG exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFG may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for

4.0 Regulatory Agencies and Policies

possible jeopardy is implemented. CDFG requires preparation of mitigation plans in accordance with published guidelines.

4.2.2 Section 401 of the Federal Clean Water Act /Porter Cologne Water Quality Act

Pursuant to section 401 of the Federal Clean Water Act, projects that require a Corps permit for the discharge of dredge or fill material must obtain water quality certification that confirms a project complies with state water quality requirements before the Corps permit is issued. State water quality is regulated/administered by the State Water Resources Control Board and the nine Regional Water Quality Control Boards (RWQCB). The proposed project is under the jurisdiction of the North Coast Regional Water Quality Control Board.

The state also asserts independent regulatory authority over the placement of waste, including fill, into waters of the State under the Porter-Cologne Act. Projects that affect wetlands or waters may also need to meet waste discharge requirements (WDRs) of the RWQCB under California's Porter-Cologne Water Quality Control Act. Under this Act, the RWQCB regulates the "discharge of waste" to "waters of the State". Both of the terms "discharge of waste" and "waters of the State" are broadly defined in Porter-Cologne, such that discharges of waste include fill, any material resulting from human activity, or any other 'discharge' that may directly or indirectly impact 'waters of the State.' It is important to note that, while Corps Section 404 permits and RWCQB 401 certifications are required when the activity results in direct fill or discharge into waters of the United States (including wetlands), any activity that results in a discharge that impacts waters of the State may be subject to WDRs.

The California State Water Resources Control Board has developed a general construction stormwater permit to implement the requirements for the federal National Pollutant Discharge Elimination System (NPDES) permit.

4.2.3 CDFG Species of Special Concern

CDFG tracks species in California whose numbers, reproductive success, or habitat may be threatened. Even though not formally listed under FESA or CESA, such plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFG. CDFG has also designated special-status natural communities which are considered rare in the region, support special status species or otherwise receive some form of regulatory protection. Documentation pertaining to these communities, as well as special status species (including species of special concern), is kept by CDFG as part of the California Natural Diversity Data Base (CNDDB).

4.2.4 California Department of Fish and Game – Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires any person, governmental agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, to first notify CDFG of such proposed activity. CDFG may propose reasonable modifications, based on the information contained in the notification form and a possible field

4.0 Regulatory Agencies and Policies

inspection, CDFG may propose reasonable modifications in the proposed construction as would allow for the protection of fish and wildlife resources. Upon request, the parties may meet to discuss the modifications. If the parties cannot agree and execute a Lake and Streambed Alteration Agreement, then the matter may be referred to arbitration.

4.2.5 California Department of Fish and Game – Fish and Game Code Sections 3503 and 3503.5

Section 3503 of the Fish and Game Code makes it unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs.

4.2.6 California Department of Fish and Game Fully Protected Species

Species classified as Fully Protected Species by the California Department of Fish and Game may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

4.2.7 California Coastal Commission (CCC)

The California Coastal Commission has jurisdiction over wetlands in the coastal zone under both state legislation (California Coastal Act of 1976, Public Resources Code § 30000 et seq.) and federal legislation (Coastal Zone Management Act, 16 U.S.C. § 1451 et seq.). Under the Coastal Act, the Coastal Zone generally extends 1,000 yards inland from the mean high tide line, except in certain areas where it extends inland to the closest of either the first major ridgeline parallel to the sea or five miles from the mean high tide line. The entire property is located within the Coastal Zone.

The federal Coastal Zone Management Act requires federal permit applicants to obtain a certification that activities proposed within the coastal zone are consistent with state coastal zone management programs. Applicants for Corps Section 404 permits must obtain a Coastal Commission determination of consistency with the California Coastal Zone Management Program (33 CFR §325.2[b][2][iii]).

The policies most relevant to water quality and marine resources at the Balloon Track Property are provided below:

Section 30107.5 of the Coastal Act states: "Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

Section 30121 of the Coastal Act states: "Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, fresh water marshes, open or closed brackish water marshes, swamps, mudflats, and fens."

Section 30230 of the California Coastal Act (CCA) states that "Marine Resources shall

4.0 Regulatory Agencies and Policies

be maintained, enhanced, and where feasible restored. Special protection shall be given to areas of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes."

Section 30231 of the CCA states that *"The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats and minimizing alteration of natural streams."*

Section 30233 of the CCA states that:

"(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- 1. New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- 2. Maintaining existing or restoring previously dredged depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- 3. In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetlands, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- 4. In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- 5. Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake or outfall lines.*

4.0 Regulatory Agencies and Policies

6. *Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
 7. *Restoration purposes.*
 8. *Nature study, aquaculture, or similar resource dependent activities.*
- (b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.*
- (c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division."*

Coastal Act Section 30236 allows for the substantial alternation of rivers and streams if *"no other less environmentally superior alternative exists, best mitigation measures are used, and the alternations are limited to flood control projects where such protection is necessary for public safety, necessary water supply projects, or projects where the primary function is the improvement of fish and wildlife habitat"*.

Section 30240 of the CCA states that:

"(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreations areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. "

Section 30007.5 of the Coastal Act provides the Commission with the ability to resolve conflicts between Coastal Act policies. This section provides that: *"The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner that on balance is the most protective of significant coastal resources."*

Section 30250 of the Coastal Act, states, in relevant part: *"(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in*

4.0 Regulatory Agencies and Policies

other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.”

To meet the standard of review for policy conflict resolution, the proposed project must fulfill the requirements of, and be in conformity with, "the policies of Chapter 3" (meaning California Public Resources Code ("PRC") Sections 30200 - 30265.5). In general, a proposal must be consistent with all relevant policies in order to be approved. Thus, if a proposal is inconsistent with one or more policies, it must normally be denied, or conditioned to make it consistent with all relevant policies. However, the Legislature also recognized that conflicts can occur among those policies. It, therefore, declared that, when the Commission identifies a conflict between the policies in Chapter 3, such conflicts are to be resolved "in a manner which on balance is the most protective of significant coastal resources (PRC Sections 30007.5 and 30200(b)). That approach is generally referred to as the "balancing approach to conflict resolution." Balancing allows the Commission to approve proposals that conflict with one or more Chapter 3 policies, based on a conflict between the Chapter 3 policies as applied to the proposal before the Commission. Thus, the first step in invoking the balancing approach is to identify a conflict between the Chapter 3 policies. In order for the Commission to utilize the conflict resolution provision of Section 30007.5, the Commission must first establish that the proposal presents a substantial conflict between two statutory directives contained in Chapter 3 of the Coastal Act. The fact that a proposal is consistent with one policy of Chapter 3 and inconsistent with another policy does not necessarily result in a conflict. Rather, the Commission must find that to deny the proposal based on the inconsistency with one policy will not be most protective of significant coastal resources.

4.3 LOCAL

4.3.1 City of Eureka LCP

The entire property is located within the Coastal Zone and governed by the City of Eureka Local Coastal Program (LCP). Local Coastal Programs (LCPs) are basic planning tools used by local governments to guide development in the coastal zone, in partnership with the Coastal Commission. LCPs contain the ground rules for future development and protection of coastal resources. The LCPs specify appropriate location, type, and scale of new or changed uses of land and water. Each LCP developed by a City or County includes a land use plan and measures to implement the plan (such as zoning ordinances). The LCP prepared by the City of Eureka governs decisions that determine the short- and long-term conservation and use of coastal resources. While the LCP reflects unique characteristics of the City of Eureka, regional and statewide interests and concerns must also be addressed in conformity with California Coastal Act goals and policies. Following adoption by the city council, the City of Eureka's LCP was submitted to the Coastal Commission, certified in 1984 by the Coastal Commission after review for consistency with Coastal Act requirements, and updated and certified in 1999. The City's LCP supersedes the 1977 General Plan and preexisting zoning for the area.

The primary goal of the LCP is to ensure that the local government's land use plans, zoning ordinances, zoning district maps, and implementing actions meet the requirements of, and implement the provisions and policies of, the Coastal Act at the local level. The Commission's coastal permitting authority over most new development is transferred to the local government, which applies the requirements of the LCP in reviewing proposed new developments. The Commission retains permanent coastal permit jurisdiction over development proposed on

4.0 Regulatory Agencies and Policies

tidelands, submerged lands, and public trust lands, and the Commission also acts on appeals from certain local government coastal permit decisions. The Commission reviews and approves any amendments to previously certified Local Coastal Programs.

Natural Resource policies of the City's LCP that are relevant to the project site are those related to wetlands and stream corridors. A wetland delineation prepared by HBG according to LCP criteria is described in Section 3.4. City of Eureka Natural Resource policies that pertain to the project area are in Section 6 of the General Plan Policy Document, and are specifically spelled out in the section entitled "Aquatic Resources and Marine, Wetland and Riparian Habitats."

The policies most relevant to biological resources at the Balloon Track Property are provided below:

General Plan Policy 6.A.6 states, "*The City declares the following to be environmentally sensitive habitat areas within the Coastal Zone:*

- a. *Rivers, creeks, sloughs, gulches and associated riparian habitats, including, but not limited to Eureka Slough, Fay Slough, Cut-Off Slough, Freshwater Slough, Cooper Slough, Second Slough, Third Slough, Martin Slough, Ryan Slough, Swain Slough and Elk River.*
- b. *Wetlands and estuaries, including that portion of Humboldt Bay within the City's jurisdiction, riparian areas, and vegetated dunes.*
- c. *Indian Island, Daby Island, and the Woodley Island wildlife area.*
- d. *Other unique habitat areas, such as waterbird rookeries, and habitat for all rare or endangered species on state or federal lists.*
- e. *Grazed or farmed wetlands (i.e., diked former tidelands)."*

Policy 6.A.7 states, "*Within the Coastal Zone, the City shall ensure that environmentally sensitive habitat areas are protected against any significant disruption of habitat values, and that only uses dependent on such resources shall be allowed within such areas. The City shall require that development in areas adjacent to environmentally sensitive habitat areas be sited and designed to prevent impacts which would significantly degrade such areas, and be compatible with the continuance of such habitat areas.*"

General Plan Policy 6.A.9 describes the circumstances under which the City may permit the filling of wetlands. Policy 6.A.9 states, "*The City shall permit the diking, filling, or dredging of open coastal waters, wetlands, or estuaries only under the following conditions:*

- a. *The diking, filling or dredging is for a permitted use in that resources area;*
- b. *There is no feasible, less environmentally damaging alternative;*
- c. *Feasible mitigation measures have been provided to minimize adverse environmental effects;*
- d. *The functional capacity of the resource area is maintained or enhanced. "*

4.0 Regulatory Agencies and Policies

General Plan Policy 6.A.11 states that *“the City shall require that diking, filling or dredging of a wetland or estuary maintain or enhance the functional capacity of these resources. Functional capacity means the ability of the wetland or estuary to be self-sustaining and to maintain natural species diversity. In order to establish that the functional capacity is being maintained, all of the following must be demonstrated.*

- a. *Presently-occurring plant and animal populations in the ecosystem will not be altered in a manner that would impair the long-term stability of the ecosystem, i.e., natural species diversity, abundance and composition are essentially unchanged as the result of the project;*
- b. *A species that is rare, threatened, or endangered will not be significantly adversely affected; and*
- c. *Consumptive (e.g., fishing, aquaculture and hunting) or nonconsumptive (e.g., water quality and research opportunity) values of the wetland or estuary ecosystem will not be significantly reduced.”*

General Plan Policy 6.A.13 lays out standards for mitigation of wetland fill. Policy 6.A.13 states, *“The City shall require that diking or filling of a wetland that is otherwise in accordance with the policies of this General Plan, shall, at a minimum, require the following mitigation measures:*

- a. *A detailed restoration plan shall be required as part of the project application for each specific restoration site. The restoration plan shall include provisions for purchase, if required, and restoration of an equivalent area of equal or greater biological productivity, and dedication of the land to a public agency or other method which permanently restricts the use of the site to habitat and open space purposes. The restoration site shall be purchased or otherwise made available prior to any permitted diking or filling.*
- b. *Areas adequate to maintain functional capacity shall be opened to tidal action or other sources of surface water shall be provided. This provision shall apply to diked or filled areas which themselves are not environmentally sensitive habitat areas, but would become so if, as part of a restoration program, they are opened to tidal action or provided with other sources of surface water. All of the provisions for restoration, purchase (if necessary), and dedication described under item a of this policy shall apply to any program or activity performed pursuant to this policy.*
- c. *Mitigation shall, to the maximum extent feasible, be of the same type as the wetland to be filled (i.e., freshwater marsh for freshwater marsh, saltwater marsh for saltwater marsh, etc.).*

Where no suitable private or public restoration or enhancement sites are available, an in-lieu fee may be required to be paid to an appropriate public agency for use in the restoration or enhancement of an area of equivalent productive value or surface area.”

General Plan Policy 6.A.14 limits development of wetlands to certain uses, one of which includes restoration projects. City policy 6.A.14 provides that, *“Consistent with all other*

4.0 Regulatory Agencies and Policies

applicable policies of this General Plan, the City shall limit development or uses within wetlands that are neither farmed nor grazed, or within estuaries, to the following:

- a. Port facilities.*
- b. Energy facilities.*
- c. Coastal-dependent industrial facilities, including commercial fishing facilities.*
- d. Maintenance of existing or restoration of previously dredged depths in navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- e. Incidental public service purposes which temporarily impact the resources of the area, such as burying cables or pipes, inspection of piers, and maintenance of existing intake and outfall lines.*
- f. Restoration projects.*
- g. Nature study, aquaculture, or similar resource-dependent activities.*
- h. New or expanded boating facilities in estuaries, consistent with the demand for such facilities.*
- i. Placement of structural piling for public recreational piers that provide public access and recreational opportunities.”*

Policy 6.A.19 describes the requirements for an effective buffer around wetlands. Policy 6.A.19, states *“The City shall require establishment of a buffer for permitted development adjacent to all environmentally sensitive areas. The minimum width of a buffer shall be 100 feet, unless the applicant for the development demonstrates on the basis of site specific information, the type and size of the proposed development, and/or proposed mitigation (such as planting of vegetation) that will achieve the purpose(s) of the buffer, that a smaller buffer will protect the resources of the habitat area. As necessary to protect the environmentally sensitive area, the City may require a buffer greater than 100 feet. The buffer shall be measured horizontally from the edge of the environmental sensitive area nearest the proposed development to the edge of the development nearest to the environmentally sensitive area. Maps and supplemental information submitted as part of the application shall be used to specifically define those boundaries.”*

General Plan Policy 7.E.11 states *“The City shall work with owners of property affected by toxic contamination to identify cost-effective approaches to remediation of contaminated soils. In particular, the City shall focus its efforts on developing unified strategies to addressing cleanup of large areas (e.g., the Westside Industrial Area, the waterfront area) so as to reduce the unit cost of remediation.”*

General Plan Policy 7.E.12 states *“The City shall work with the Regional Water Quality Control Board and Humboldt County to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.”*

4.4 OTHER STATUTES, CODES, AND POLICIES AFFORDING LIMITED PROTECTION

4.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (CNPS 2007). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. Definitions of the CNPS listings follow:

CNPS List #	Description of Status
List 1A	Plants believed extinct.
List 1B	Plants rare, threatened, or endangered in California and elsewhere.
List 2	Plants rare, threatened, or endangered in California, but more numerous elsewhere.
List 3	Plants about which we need more information – a review list.
List 4	Plants of limited distribution – a watch list.

In August 2005, the CNPS Board of Directors added a new Threat Code extension following a CNPS listing (e.g., 1B.1, 2.2). This extension replaces the E (Endangerment) value from the R-E-D (Rarity – Endangerment – Distribution) Code, which has been discontinued. The number coding represents this information in parallel with the threat rankings that the California Natural Diversity Database (CNDDB) uses; the lower the number, the higher the corresponding threat level. The new Threat Code extensions and their meanings are presented below:

- .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 – Fairly endangered in California (20 – 80% occurrences threatened)
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

All List 1A (presumed extinct in California) and some List 3 (need more information- a review list) plants lacking any threat information receive no threat code extension. Also, these Threat Code guidelines represent a starting point in the assessment of threat level. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Code.

5.0 POTENTIAL IMPACTS AND MITIGATION

This section identifies potential impacts to wetlands, vegetation, special status species, and water quality resulting from development of the Balloon Track Property and provides mitigation measures to reduce impacts to below a significant level.

As noted in Section 1.0, the objectives of the Marina Center Project proposed by CUE VI, LLC, are to:

1. Strengthen Eureka as the retail and employment center of Humboldt County.
2. Develop an economically viable mixed-use project (i.e., retail, office, residential, industrial).
3. Facilitate Brownfield Redevelopment and urban in-fill development of the Balloon Track Property.

Most of the Balloon Track Property is currently zoned as public; however, some parcels are zoned ML (limited industrial) and CS (service commercial). CUE VI, LLC, has requested a Local Coastal Program (LCP) Amendment to provide the necessary land use and zoning designations for construction of the Marina Center Project. Proposed revised zoning designations would result in parcels being zoned as CS, OR (office and multi-family residential, CW (waterfront commercial), or ML.

The North Coast Regional Water Quality Control Board has issued a cleanup and abatement order and is overseeing investigation and cleanup at the site. Remedial measures may include excavation and removal of contaminated soil, *in situ* remediation of soil at “hot spots,” and/or capping the portions of the site to be developed. Development of the site will be subject to review and approval by the RWQCB.

The impacts and mitigation measures described below are an integral part of developing the site to achieve the Marina Center Project objectives presented above.

5.1 WETLANDS IMPACTS

5.1.1 Impacts

Impacts to wetlands will result from (1) site cleanup and (2) the proposed restoration of Clark Slough and adjacent wetlands. Wetland impacts would be considered permanent in areas where fill in wetlands would facilitate the eventual development of the Marina Center Project. Wetlands that would subject to cleanup and then incorporated into the wetland restoration area/conservation lands would be considered temporarily impacted. The following impacts to wetlands would occur:

- *Permanent loss of 5.54 acres of palustrine emergent wetlands during removal of contaminated soil as part of cleanup work. These wetlands formed on fill material placed on tidal marsh wetlands. The 5.54 acres of wetlands would be impacted by the remediation and to facilitate the development of the Marina Center Project. If wetlands were defined according to Corps of Engineers criteria under the Clean Water Act,*

5.0 Potential Impacts and Mitigation

approximately 3.86 acres of palustrine emergent wetlands would be permanently impacted.

- *Temporary loss of 3.13 acres of wetland habitat* prior to restoration of Clark Slough and adjacent wetlands. This acreage consists of 1.06 acres of tidal (estuarine emergent) wetlands within the remnant of Clark Slough and 2.07 acres of adjacent palustrine emergent wetlands. The 3.13 acres of wetlands would be impacted for purposes of remediation of conservation lands, but would not facilitate the development of the Marina Center Project. If wetlands were defined according to Corps of Engineers criteria under the Clean Water Act, approximately 1.74 acres of wetlands would be temporarily impacted. The 1.74 acres of wetlands would consist of 0.68 acres of palustrine emergent wetlands and the 1.06 acres of tidal wetlands within the Clark Slough remnant.

5.1.2 Mitigation Measures

The applicant proposes an 8.98 acre tidal wetland restoration area that will provide mitigation for the 8.67 acres of total wetland impacts (permanent loss of 5.54 acres of palustrine emergent wetland plus 3.13 acres of combined palustrine emergent and estuarine emergent habitat in and around the remnants of Clark Slough) at a mitigation ratio of 1.03:1. This 8.98 acre estuarine wetland restoration area when combined with a 2.91 acre upland buffer habitat will constitute an 11.89 acre open space wetland preserve. The 11.89 acre area will be protected from future development by a conservation easement in accordance with California Civil Code Sections 815-816.

Mitigation for Permanent Loss of 5.54 Acres of Wetlands

Onsite restoration of 5.54 acres of upland areas to their former tidal marsh condition will be accomplished. Instead of creating in-kind palustrine emergent seasonal wetlands similar to those currently scattered throughout the Balloon Track Property, mitigation for this acreage will be included within the proposed 8.98 acre tidal wetland habitat that will be restored onsite in upland areas adjacent to the Clark Slough Channel.

Mitigation for Temporary Loss of 3.13 Acres of Wetlands within and around Clark Slough

Onsite restoration of 3.13 acres of tidal marsh habitat will be included with the proposed 8.98 acre tidal marsh restoration and will be accomplished within the 1.06 acres of the remnants of Clark Slough and the immediately adjacent 2.07 acres. Rip-rap, fill material, and exotic vegetation will be removed and the area will be replanted with native marsh vegetation.

The wetland impacts and mitigation requirements of the proposed project are summarized in the following tables:

5.0 Potential Impacts and Mitigation

Table C. Summary of Wetland Impacts and Mitigation Requirements for Marina Center

Wetland Habitat Type	Existing Potential CCC Wetland Acres	CCC Wetlands Not Impacted to facilitate the Marina Center Project, but for Remediation of Conservation lands	CCC Wetlands Directly Impacted for Remediation to Facilitate the Marina Center Project	Proposed Mitigation	Mitigation Ratio
Palustrine Emergent Wetland	7.61	2.07	5.54	0	NA
Estuarine Emergent Wetland (includes Clark Slough Channel)	1.06	1.06	0	0	NA
Restored Clark Slough Channel with adjacent muted tidal wetlands	NA	NA	NA	2.68	NA
Restored Muted tidal wetlands	NA	NA	NA	6.30	NA
Wetlands Subtotal	8.67	3.13	5.54	8.98	1.1
Upland Buffer habitat	0	NA	NA	2.91	NA
Total Wetland + Upland Buffer =	8.67	3.13	NA	11.89	1.4

The anticipated functions and values of the restored wetlands as compared to the functions and values provided by the wetlands in their existing condition are displayed in the following tables (Tables C and D). As part of the restoration proposed within the mitigation plan for the project, the combination of degraded palustrine emergent wetlands which have formed on contaminated upland fill material and a narrow band of estuarine emergent wetlands currently growing along the margin of the Clark Slough Channel would be replaced by a significantly expanded tidal marsh wetland tidally connected to a restored segment of the Clark Slough Channel.

The performance of various wetland functions associated with the project site has the potential to improve and increase with removal of fill material containing contamination, which currently constitutes a potential source of pollutants. Removal of this contaminated material will lower grade elevations, which will introduce daily tidal flow over a larger area of wetland with gentler side slopes, thus allowing for the potential improvement to performance of various wetland functions.

As a result of the conversion of the existing uplands and palustrine emergent wetlands formed on contaminated upland fill material contiguous with the restored Clark Slough, some functions not currently performed by the palustrine emergent wetlands would be performed by the restored tidal marsh wetlands on uncontaminated soils over a wider low-lying area that has connectivity to the estuarine ecosystem through the introduction of daily tidal flows. These functions include provision of fish and shellfish habitat, product export and sediment/shoreline stabilization. Other functions currently performed on only a limited basis by the existing wetlands (such as flood flow alteration; sediment, toxicant and/or pathogen retention; nutrient removal, retention, and/or transformation; and wildlife habitat) would be improved after implementation of the restoration. Values such as recreation, educational/scientific, uniqueness/heritage and aesthetics would result

5.0 Potential Impacts and Mitigation

subsequent to site remediation and wetland restoration when the site becomes a conservation area with limited public access that is managed by an agency (City of Eureka, Corps, CCC, CDFG and RWQCB) approved third party non-profit organization qualified to manage conservation lands. The improved habitat conditions would also increase the potential for use by special status species. Improvements in the functions and associated values resulting from the tidal restoration project are described in Tables D and E.

Table D. Wetland Functions to Result From Implementing the Wetlands Restoration /Mitigation Plan

Wetland Function Assessed ¹	Current Wetland Habitat Conditions Assessed ²		Restored Wetland Habitat Conditions Resulting from Restoration	
	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands Restored to Tidal Wetlands
	Present?	Present?	Expected to be Present?	Expected to be Present?
Groundwater Recharge/Discharge	No	No	No	No
Flood Flow Alteration	Yes (limited ³)	Yes (limited)	Yes; <u>Rationale:</u> Flood storage capacity increased through removing upland fill material and restoring areas to original tidal marsh elevations with gentler, more fully vegetated slopes.	Yes; <u>Rationale:</u> Flood storage capacity increased through removing upland fill material and restoring areas to original tidal marsh elevations with gentler, more fully vegetated slopes.
Fish and Shellfish Habitat	Yes (limited)	No	Yes; <u>Rationale:</u> Area of tidal marsh/fishery habitat increased through removing upland fill material and restoring areas to original tidal marsh elevations with gentler, fully vegetated slopes. Also, habitat function improved through the removal of existing contaminants from site.	Yes; <u>Rationale:</u> Area of tidal marsh /fishery habitat increased through removing upland fill material and restoring areas to original tidal marsh elevations with gentler, fully vegetated slopes. Also habitat function improved through the removal of existing contaminants from site.
Sediment, Toxicant and/or Pathogen Retention	Yes (limited)	Yes (limited)	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Removal of existing	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Removal of existing

5.0 Potential Impacts and Mitigation

Wetland Function Assessed ¹	Current Wetland Habitat Conditions Assessed ²		Restored Wetland Habitat Conditions Resulting from Restoration	
	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands Restored to Tidal Wetlands
	Present?	Present?	Expected to be Present?	Expected to be Present?
			on-site contaminants through site remediation reduces the load of potential toxicants. Tidal waters cycling through a larger, more gently sloped and more fully vegetated wetland area on a daily basis, having greater contact time with larger area of marsh vegetation, increases the potential for sediment trapping, toxicant and/or pathogen retention.	on-site contaminants through site remediation reduces the load of potential toxicants. Tidal waters cycling through a larger, more gently sloped and more fully vegetated wetland area on a daily basis, having greater contact time with larger area of marsh vegetation, increases the potential for sediment trapping, toxicant and/or pathogen retention.
Nutrient Removal, Retention, and/or Transformation	Yes (limited)	Yes (limited)	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Tidal waters cycling through a larger, more gently sloped, more fully vegetated wetland area on a daily basis, having greater contact time with larger area of marsh vegetation and sediments, increases the potential for Nutrient Removal, Retention, and/or Transformation.	Yes; <u>Rationale:</u> Area of tidal marsh increased through the removal of upland fill material and restoring areas to original tidal marsh elevations. Tidal waters cycling through a larger, more gently sloped and more fully vegetated wetland area on a daily basis, having greater contact time with larger area of marsh vegetation and sediments, increases the potential for Nutrient Removal, Retention, and/or Transformation.
Production Export	Yes (limited)	No	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Increased area of tidally influenced marsh vegetation allows for greater organic carbon production which can be transported into the estuary and bay ecosystem.	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Increased area of tidally influenced marsh vegetation allows for greater organic carbon production which can be transported into the estuary and bay ecosystem.

5.0 Potential Impacts and Mitigation

Wetland Function Assessed ¹	Current Wetland Habitat Conditions Assessed ²		Restored Wetland Habitat Conditions Resulting from Restoration	
	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands Restored to Tidal Wetlands
	Present?	Present?	Expected to be Present?	Expected to be Present?
Sediment/Shoreline Stabilization	Yes (limited)	No	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. The increased area allows for flatter side slopes, which, combined with increased vegetation density results in less shoreline erosion and associated sediment transport to the estuary and bay ecosystem.	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. Previously disconnected, scattered palustrine wetlands established on upland fill are restored into tidal wetlands that constitute a part of a tidal marsh shoreline. Because of flatter side slopes, and increased vegetation density these tidal wetlands aid in reducing shoreline erosion and associated sediment transport to the estuary and bay ecosystem.
Wildlife Habitat	Yes (limited)	Yes (limited)	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. A restored tidal marsh allows for greater habitat utilization by wildlife species associated with the estuary and bay ecosystem. Removal of contaminated soil/fill material reduces potential cumulative contribution to biota within the coastal ecosystem.	Yes; <u>Rationale:</u> Area of tidal marsh increased through removing upland fill material and restoring areas to original tidal marsh elevations. A restored tidal marsh allows for greater habitat utilization by wildlife species associated with the estuary and bay ecosystem. Removal of contaminated soil/fill material reduces potential cumulative contribution to biota within the coastal ecosystem.

¹ Adapted from: U.S. Army Corps of Engineers, New England Division. November 1995. *The Highway Methodology Workbook, Supplement - Wetland Functions and Values: A Descriptive Approach*. 32 pp.

² Palustrine emergent wetland habitat following classification system of the U.S. Fish and Wildlife Service (Cowardin *et al.*, 1979);

³ "Limited" notation indicates that the potential and/or opportunity to provide a specific function is constrained due to physical limitations at the site or adjacent to it.

5.0 Potential Impacts and Mitigation

Table E. Wetland Values to Result From Implementing the Wetlands Restoration /Mitigation Plan

Wetland Value Assessed ¹	Current Wetland Habitat Conditions Assessed		Restored Wetland Habitat Conditions Resulting from Restoration	
	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands Restored to Tidal Wetlands
	Present?	Present?	Expected to be Present?	Expected to be Present?
Recreation	No	No	Yes <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access.	Yes <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access.
Educational/Scientific	No	No	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation group.	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation group.
Uniqueness/Heritage	No	No	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation group.	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation group.
Visual Quality/Aesthetics	No	No	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation	Yes; <u>Rationale:</u> Value would result subsequent to site remediation and tidal marsh restoration when the site becomes a conservation area with limited public access managed by an agency - approved third party non-profit land management conservation

5.0 Potential Impacts and Mitigation

Wetland Value Assessed ¹	Current Wetland Habitat Conditions Assessed		Restored Wetland Habitat Conditions Resulting from Restoration	
	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands	Estuarine Emergent Wetlands Clark Slough Channel	Palustrine Emergent Seasonal Wetlands Restored to Tidal Wetlands
	Present?	Present?	Expected to be Present?	Expected to be Present?
			group.	group.
Threatened or Endangered Species Habitat	No	No	Yes; <u>Rationale:</u> The improved habitat conditions and establishment of the restored tidal marshlands as a conservation area with limited public access managed by an agency-approved third party non-profit land management conservation group would also increase the potential for use by special status species.	Yes; <u>Rationale:</u> The improved habitat conditions and establishment of the restored tidal marshlands as a conservation area with limited public access managed by an agency-approved third party non-profit land management conservation group would also increase the potential for use by special status species.

¹Adapted from: U.S. Army Corps of Engineers, New England Division. November 1995. *The Highway Methodology Workbook, Supplement - Wetland Functions and Values: A Descriptive Approach*. 32 pp.

5.1.3 Discussion

The mitigation goals are to replace aquatic resource functions unavoidably lost or adversely affected by the environmental cleanup and to restore wetlands to tidal marsh habitat similar to habitat that existed during the late 1800s. The mitigation design provides significant water quality and habitat benefits to the coastal ecosystem, including:

- A substantial increase in the geographic extent of tidal marsh, thus increasing the size of the Humboldt Bay coastal wetlands and estuary ecosystem.
- Reintroduction of freshwater flows from the Clark Slough watershed drainage and muted-tidal flows from Humboldt Bay onto the restored wetlands.
- Removal of contaminated soils in the Humboldt Bay watershed.
- Removal of exotic pest plant species.
- Large-scale reintroduction of native marsh vegetation that existed at the site before it was filled in the late 1800s.
- Restoration of potential habitat for special status species.

Figures 5A and 5B show the locations of the wetlands impacted by environmental remediation and the area where wetlands mitigation is proposed. A conceptual plan of the restoration is included in plan view on Figure 5C and illustrated on Figure 6.

5.0 Potential Impacts and Mitigation

To ensure that the mitigation/restoration satisfies project goal and objectives, the following mitigation conditions are required:

1. Prior to site grading approval, the applicant shall submit to the City a detailed mitigation plan prepared in accordance with the U.S. Army Corps of Engineers (Corps) guidance for the restoration of 8.98 acres of tidal marsh. The plan will include:
 - a. An Implementation Plan for restoration, monitoring of restoration by a qualified wetland scientist, and restoration worker training by the wetland scientist to ensure that the Mitigation Plan is followed.
 - b. A Mitigation Site Management Plan that includes periodic management inspections and, if necessary, maintenance actions to ensure Mitigation Plan success.
 - c. Mitigation Monitoring Plans for collecting and analyzing data to determine if agency-approved success criteria have been met for the restored wetlands.
 - d. Contingency Measures in the event that remediation is necessary to meet mitigation success criteria.
 - e. Long-Term Protection Plan. An open space wetland preserve consisting of the restored 8.98-acre tidal marsh and 2.91-acre upland protective buffer area will be established protected from future development by a conservation easement in accordance with California Civil Code Sections 815 – 816. The holder of fee title (CUE VI, LLC) will be the Grantor. The Grantee will be a City of Eureka, RWQCB, and Corps-approved entity or organization authorized under Civil Code Section 815.3 to hold conservation easements as the Grantee. The City of Eureka will be established as a third-party beneficiary to ensure that the area remains as an open space wetland preserve in perpetuity. The conservation easement will protect against land use changes for other than conservation purposes. Prohibited uses will be listed in the conservation easement. The applicant will provide the Grantee an endowment in order to establish a non wasting fund for “in-perpetuity” long-term management and protection of the wetland preserve.
2. In compliance with LCP Policy 6.A.19, the 8.98 acres of restored wetlands shall be separated from future developed land uses by a 2.91-acre upland buffer planted with native vegetation to provide protection from indirect impacts from adjacent developed areas. Buffers will be 100 feet wide except where existing streets, existing rail rights of way, or planned pedestrian trails adjacent to Clark Slough necessitate narrower buffers (minimum width = 25 feet) as long as they provide visual screening (e.g., earthen berms and native vegetation to minimize disturbing water birds).
3. The applicant shall submit an application to the Corps of Engineers for a Nationwide Permit (NWP) 38 for “Cleanup of Hazardous and Toxic Waste.” The application will include the plan for the proposed wetland preserve (restoration of 8.98 acres of wetlands and creation of 2.91 acres of vegetated buffer). The applicant must also apply for the necessary State 401 Water Quality Certification as part of the Corps approval process and obtain a 1602 Streambed Alteration Agreement from the California Department of Fish and Game for restoration work within the remnant Clark Slough Channel.

5.0 Potential Impacts and Mitigation

Given existing site restrictions along Washington Street and the rail road tracks and required easement set back a buffer of 25 feet is all that can be established without reducing the size of the restoration project, a buffer of 10 feet is all that can be established at the beginning of Clark Slough on the eastern side of the channel entrance onto the Marina Center property with established parking lot and building to the east for a distance along the channel of approximately 200 feet. A buffer of 50 feet is proposed along the eastern boundary of the preserve abutting the Marina Center development.

Potential substantial adverse effects of reducing these buffers below 100 feet include:

1. Sediment and oil and grease moving into the wetlands from the adjacent street or the railway/pedestrian path.
2. Human (pedestrian and bike) movement which may disturbed water birds utilizing the restored wetlands habitat

Item one above can be dealt with effectively using a system of variable 3 to 5 foot high mounds with the slope tipped back towards the roadway directing runoff into concave (depressional) bio swales located in a linear fashion between the road and path areas.

With regards to item two, above, the following can be utilized to mitigate for visual movement impacts to a less than one having a substantial adverse effect.

1. For buffers ranging from 25 to 50 feet symbolic fencing (split rail) and walls constructed of natural materials (3 to 4 feet high) will be used to alert individuals not access wetland and protective buffer habitat. For buffers between 10 and 24 feet 6 foot solid no see through wood or rock fencing will be used in conjunction with dense willow or other suitable native shrub plantings will be placed and maintained in perpetuity along the slough side of the buffer.
2. Use native black berry species on the edges of the buffer area (planted on mounds and bio swale areas) adjacent to pedestrian access points to discourage access
3. Post restrictive signage to alert pedestrians to keep out of the preserve except at designated viewing points
4. Provide adequate viewing points with wildlife screening to mitigate for movement impacts.
5. Post signs that state that no pets are allowed in the preserve and must be on a leash on the adjacent pedestrian/bike paths
6. Adjacent Street and path lighting is to be directed away from the preserve
7. Marina Center parking area, street and building lighting within 300 feet of the preserve is to be directed away from the preserve.

5.2 VEGETATION IMPACTS

5.2.1 *Potential Impacts*

Project landscaping could inadvertently introduce non-native exotic pest plants, some of which

may not exist in the area. Without mitigation, this is a potentially significant impact. Once established, invasive species can have an indirect impact on the survival of wildlife species; for example, exotic plant species could displace native species that provide food and habitat for those species.

5.2.2 Mitigation Measures

- Prior to construction, plants considered by the State of California to be exotic pest plants will be destroyed using environmentally suitable methods, which may include the application of an herbicide approved by USEPA for use near and within aquatic environments.
- The use of native species is encouraged. Native plants are generally more valuable as wildlife food sources and require less irrigation, fertilizers, and pesticides than exotic pest species. Existing native vegetation will be retained and replanted, if appropriate.
- Non native vegetation that may be used in the developed portion of the Marina Center Project shall not include plants considered by the State of California to be exotic pest plants.
- Landscape maintenance planning will include an annual program to remove any exotic pest plants that may become established on developed or undeveloped portions of the project site.

5.3 SPECIAL STATUS SPECIES IMPACTS

No special status plants are expected to occur at the Balloon site given:

- The virtual lack of native soils that could support rare native botanical species
- The highly disturbed nature of the project area
- Special status plant species found within the region require habitat conditions not found on the property
- An April 2006 survey of the site was negative for presence of target species or their habitats.

Given the remote likelihood that special status plants are present onsite, development will not result in significant impacts to special status species of plants. Further surveys are not warranted.

Although two federally listed bird species, western snowy plover and California clapper rail, have been known to occur in the vicinity of the project, neither species has been documented in recent years. Habitat at the Balloon Track Property is not suitable to support either species. Therefore, it can definitively be stated that neither species occurs at the site. Development of the Marina Center could occur without causing adverse effects to these species. There would also be no impacts to critical habitat for the western snowy plover located on Humboldt Bay South Spit, over 3 miles away.

Suitable habitat for tidewater goby also does not occur at the site, and the nearest critical habitat for the species is in Southern California. Tidewater goby has been found at various places around Humboldt Bay, such as the area at the mouth of Mad River Slough and Jacoby Creek, but not in the vicinity of the project area. Impacts to tidewater goby are not expected.

5.0 Potential Impacts and Mitigation

Migrating individuals of special status anadromous fish (chinook salmon, coho salmon, steelhead or Coast cutthroat trout) could pass by the site during migration through Humboldt Bay. If construction activities were to cause downstream sedimentation in Humboldt Bay, this could result in increased turbidity and effects to gill function or forage success in these individuals. Implementation of a construction Stormwater Pollution Prevention Plan, with implementation of Best Management Practices to prevent erosion, and a post-construction Stormwater Management Plan (see discussion under Water Quality Impacts below) will minimize the potential for pollutant discharge and thus mitigate the potential for project-related adverse impacts to these species. In addition, construction activities with considerable vibrations such as pile driving can generate intense underwater sound pressure waves that can injure or kill fish. The most likely time that any special status salmonid individuals would be passing near the site would be during the December 1 through June 30 migratory period. Therefore, pile driving should only be conducted during the period from July 1 to November 30.

Although a peregrine falcon was observed perched on a transmission tower onsite during the December 29, 2005 field survey, and another was observed on July 31, 2007, appropriate nest sites do not occur in the project area. American peregrine falcons are known to winter in the general vicinity of Humboldt Bay, and sporadic use of the undeveloped but disturbed project area as a winter foraging area would be expected. Significant foraging area for this species is present in the marshes, mudflats and open water habitats within the greater Humboldt Bay area. Development of the Marina Center would not result in significant adverse impacts to this species.

Development of the Marina Center would not directly affect the heron and egret rookery approximately ½ mile away on Indian Island. Construction noise is unlikely to impact the rookery given its distance and direction from the site and intervening noise sources. Nor does the heavily disturbed project site provide foraging habitat for herons and egrets nesting nearby. Ample foraging habitats (salt marsh, mudflats, and open water habitats) for herons and egrets nesting at the Indian Island rookery are present in the greater Humboldt Bay area.

5.4 WATER QUALITY IMPACTS

- ***Sediment Discharge.*** Ground-disturbing activities associated with project site cleanup, restoration, and development could promote soil erosion that might result in sediment discharges into wetlands adjacent to the Clark Slough Channel, the channel itself, and eventually into Humboldt Bay where potential adverse impacts to coastal fish and wildlife species could occur. Sediment could contain contaminants released during environmental remediation activities. Citizen groups have claimed in the United States District Court for the Northern District of California that contamination from the Site is impacting water quality, fish, and wildlife in Humboldt Bay.

Mitigation. The applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to ensure compliance with state water quality requirements through the implementation of Best Management Practices (BMPs).

- ***Stormwater Runoff.*** Once the project is constructed, fish and wildlife populations in wetlands and other aquatic habitats could be indirectly affected by pollutants (e.g., oil,

5.0 Potential Impacts and Mitigation

grease, brake dust) in stormwater runoff.

Mitigation. Final project design shall include a post-construction Stormwater Management Plan that incorporates BMPs such as grass-lined swales and oil and grease traps to pre-treat stormwater runoff from hard surfaces before it exits the site. Restored wetland habitats shall not be used in the treatment process.

- **Trash and Debris.** Trash and debris that moves to Humboldt Bay via the Clark Slough Channel could be harmful to fish and wildlife species associated with the restored onsite wetlands, Clark Slough, and Humboldt Bay.

Mitigation. The Stormwater Management Plan will require removal of trash and debris that accumulates in the restored Clark Slough and adjacent wetlands each year before the start of the rainy season.

6.0 REFERENCES

- Adamus, P.R., E.J. Clairain, R.D. Smith, and R.E. Young. 1987. *Wetland Evaluation Technique (WET), Volume II: Methodology*. Department of the Army, Waterways Experiment Station. Vicksburg, MS. NTIS No. ADA 189968.
- Bartoldus, C., 1999. *A Comprehensive Review of Wetland Assessment Procedures: A Guide for Wetland Practitioners*, Environmental Concern, Inc., St. Michaels, MD. 196 pp.
- Behler, John L. and F. Wayne King. 1979. *Field Guide to Reptiles and Amphibians of North America*. National Audubon Society. 18th printing, October 2000. Chanticleer Press, Inc. New York, N.Y.
- Brinson, MM. 1993. *A Hydrogeomorphic Classification for Wetlands*. Wetlands Research Program Technical Report WRP-DE-r. Department of the Army. Waterways Experiment Station, Vicksburg, MS 79 pp. + appen.
- California Coastal Commission. 1981. *Statewide Interpretative Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas*.
- California Department of Fish and Game. 1984. *Guidelines for Assessing Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities*. State of California, The Resources Agency. May 4.
- California Department of Fish and Game. 1997. *List of Terrestrial Natural Communities Recognized by the Natural Diversity Database*. December.
- California Department of Fish and Game, Biogeographic Data Branch. 2007. California Natural Diversity Data Base, (<http://www.dfg.ca.gov/bdb/html/cnddb.html>) for the Eureka, Tyee City, Arcata North, Arcata South, McWhinney Creek, Fields Landing and Cannibal Island 7.5-minute quadrangle maps. Database obtained December 31, 2007.
- California Native Plant Society. 2007. *CNPS Inventory of Rare and Endangered Plants*. Published on-line at <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Updated quarterly.
- Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe, 1979. *Classification of Wetlands and Deepwater Habitats of the United States* for Office of Biological Services, Fish and Wildlife Service., U.S. Department of the Interior.
- Eureka Redevelopment Agency. 1993. *Westside Industrial Area Development Plan, Public Review Draft, Existing Conditions, Reconnaissance and Strategies Report*. October.
- Eureka, City of. 1984. *General Plan Policy Document, Section 6, Natural Resources*. City of Eureka General Plan and Local Coastal Plan.

- Geomatrix Consultants. 1991. *Summary Report Soil and Groundwater Investigation*, Volume I of II. November 12. San Francisco, CA.
- Hickman, James C., ed. 1993. *The Jepson Manual - Higher Plants of California*. University of California Press, Berkeley.
- Holland, R. F. 1986. *Preliminary descriptions of the terrestrial natural communities of California*. State of California, The Resources Agency, Department of Fish and Game, Sacramento.
- Humboldt Bay Watershed Advisory Committee and the Natural Resources Services Division of the Redwood Community Action Agency. 2005. *Humboldt Bay Watershed Salmon and Steelhead Conservation Plan*, Prepared for the California Department of Fish and Game and the California Coastal Conservancy. March 2005
- Mayer, E. Kenneth, and William F. Laudenslayer, Jr. (eds.). 1988. *A Guide to Wildlife Habitats of California*.
- Moyle, P. B. 2002. *Inland Fishes of California*. University of California Press, Berkeley. 502 pp.
- National Geographic Society. 2002. *Field Guide to North American Birds. Fourth Edition*. National Geographic Society. Washington, D.C.
- Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: National Summary*. U.S. Fish and Wildlife Service, Washington, D.C. Biol. Rpt. 88(24). 244 pp.
- Reed, Porter B. 1988. *National List of Plant Species that Occur in Wetlands: California (Region O)*.
- Reid, F. A. 2006. *Mammals of North America*. Fourth Edition. Peterson Field Guide Series. Houghton Mifflin Company, New York, N.Y. 584 pp.
- Sawyer, J. O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. In cooperation with The Nature Conservancy and the California Department of Fish and Game. California Native Plant Society. Sacramento.
- Sibley, David A. 2000. *The Sibley Guide to Birds*. First Edition. National Audubon Society. Chanticleer Press, Inc. New York, N.Y. 544 pp.
- Stebbins, R.C. 2006. *Western Reptiles and Amphibians*. Peterson Field Guides. Houghton Mifflin Co., New York, N.Y. 538 pp. .
- U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1. Prepared by the Environmental Laboratory, Department of the Army, Waterways Experiment Station, Vicksburg, Miss.

- U.S. Army Corps of Engineers, New England Division. 1995. *The Highway Methodology Workbook, Supplement - Wetland Functions and Values: A Descriptive Approach*. November 1995. 32 pp.
- U.S. Department of Agriculture, Soil Conservation Service (now the Natural Resources Conservation Service [NRCS]). 1977. *Soil Survey of Humboldt County, California*.
- U.S. Fish and Wildlife Service. 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed Proposed and Candidate Plants*. January. 2 pages
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1988. *California's Wildlife, Volume I. Amphibians and Reptiles*. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990a. *California's Wildlife, Volume II: Birds*. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990b. *California's Wildlife, Volume III: Mammals*. State of California, the Resources Agency, Department of Fish and Game, Sacramento, California.

ATTACHMENT 1.

FIGURES

- Figure 1. Project Site Vicinity, Balloon Track Property, Eureka, CA
- Figure 2. Location of the Balloon Track Property, Eureka, CA
- Figure 3. Aerial Photograph of the Balloon Track Property, Eureka, CA
- Figure 4. Location of Areas Subject to Jurisdiction as Wetlands Under the California Coastal Act Based on the Presumptive Evidence of a Predominance of Hydrophytic Vegetation, Balloon Track Property, Eureka, CA
- Figure 5a. Project Development Plan for Marina Center Project, Eureka, CA
- Figure 5b. Project Development Impacts, Marina Center Project, Eureka, CA
- Figure 5c. Proposed Clark Slough Wetlands Restoration, Marina Center Project, Eureka, CA
- Figure 6. Wetland Restoration Plan for Marina Center Project, Eureka, CA

ATTACHMENT 2.

SUPPLEMENTAL BIOLOGICAL INFORMATION

- Table 1. Plant List for the Balloon Track Property
- Table 2. Animal Species Observed on the Project Site or Expected to Utilize the Project Site
- Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles
- Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

Table 1. Plant List for the Balloon Track Property ¹

Family	Scientific Name	Common Name	Wetland Indicator ^{2 & 3}
<i>Apiaceae</i>			
	<i>Daucus carota</i>	carrot	NI
	<i>Foeniculum vulgare</i>	fennel	FACU-
	<i>Oenanthe sarmentosa</i>	Pacific oenanthe	OBL
<i>Apocynaceae</i>			
	<i>Vinca major</i>	greater periwinkle	NI
<i>Asteraceae</i>			
	<i>Aster chilensis</i>	common California aster	FAC
	<i>Baccharis pilularis</i>	coyote brush	NI
	<i>Cotula coronopifolia</i>	brass-buttons	FACW+
	<i>Hypochaeris radicata</i>	rough cat's ear	FACU*
	<i>Picris echioides</i>	bristly ox-tongue	FAC
	<i>Sonchus arvensis</i>	perennial sow thistle	FACU
	<i>Taraxacum officinale</i>	common dandelion	FACU
<i>Brassicaceae</i>			
	<i>Brassica rapa</i>	field mustard	NI
	<i>Raphanus sativus</i>	wild radish	UPL
<i>Callitrichaceae</i>			
	<i>Callitriche heterophylla</i>	varied-leaved water-starwort	OBL
<i>Caryophyllaceae</i>			
	<i>Cerastium glomeratum</i>	mouse-ear chickweed	FACU
<i>Crassulaceae</i>			
	<i>Crassula aquatica</i>	aquatic pygmy-weed	OBL
<i>Cyperaceae</i>			
	<i>Cyperus eragrostis</i>	tall flatsedge	FACW
	<i>Eleocharis macrostachya</i>	common spikerush	OBL
	<i>Scirpus cernuus</i>	annual tule	OBL
	<i>Scirpus pungens</i>	three-square	OBL
<i>Dipsacaceae</i>			
	<i>Dipsacus fullonum</i>	wild teasel	FACW-
<i>Equisetaceae</i>			
	<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail	OBL
	<i>Equisetum hyemale</i> ssp. <i>affine</i>	rough horsetail	FACW
<i>Fabaceae</i>			
	<i>Lotus corniculatus</i>	bird's-foot trefoil	FAC
	<i>Lupinus bicolor</i>	miniature lupine	NI
	<i>Lupinus rivularis</i>	riverbank lupine	FAC
	<i>Medicago polymorpha</i>	California burclover	FACU-
	<i>Trifolium campestre</i>	hop clover	NI
	<i>Trifolium hirtum</i>	rose clover	NI
	<i>Trifolium repens</i>	white clover	FAC
	<i>Trifolium subterraneum</i>	subterranean clover	NI
	<i>Vicia benghalensis</i>	purple vetch	NI

Table 1. Plant List for the Balloon Track Property ¹

Family	Scientific Name	Common Name	Wetland Indicator ^{2 & 3}
	<i>Vicia villosa</i>	hairy vetch	
Geraniaceae			
	<i>Erodium cicutarium</i>	red-stemmed filaree	NI
	<i>Geranium dissectum</i>	cut-leaved geranium	NI
Hypericaceae			
	<i>Hypericum perforatum</i>	Klamath weed	NI
Juncaceae			
	<i>Juncus bufonius</i>	toad rush	FACW+
	<i>Juncus effusus</i>	common bog rush	FACW+
	<i>Juncus patens</i>	common rush	FAC
Juncaginaceae			
	<i>Triglochin maritima</i>	seaside arrow-grass	
Lamiaceae			
	<i>Mentha pulegium</i>	pennyroyal	OBL
Liliaceae			
	<i>Nothoscordum inodorum</i>	false garlic	NI
Linaceae			
	<i>Linum usitatissimum</i>	common flax	NI
Lythraceae			
	<i>Lythrum hyssopifolium</i>	hyssop loosestrife	
Malvaceae			
	<i>Malva sylvestris</i>	high mallow	NI
Onagraceae			
	<i>Epilobium ciliatum</i>	willowherb	FACW
Papaveraceae			
	<i>Eschscholzia californica</i>	California poppy	NI
Pinaceae			
	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas-fir	NI
Plantaginaceae			
	<i>Plantago coronopus</i>	cut-leaf plantain	FAC
	<i>Plantago lanceolata</i>	English plantain	FAC-
	<i>Plantago major</i>	common plantain	FAC
Poaceae			
	<i>Alopecurus geniculatus</i>	water foxtail	OBL
	<i>Anthoxanthum odoratum</i>	sweet vernal grass	FACU
	<i>Avena barbata</i>	slender wild oats	NI
	<i>Briza maxima</i>	big quaking grass	NI
	<i>Bromus diandrus</i>	ripgut brome	NI
	<i>Cortaderia selloana</i>	pampas grass	NI
	<i>Distichlis spicata</i>	saltgrass	FACW
	<i>Glyceria occidentalis</i>	western mannagrass	OBL
	<i>Phragmites australis</i>	common reed	FACW
	<i>Poa annua</i>	annual blue grass	FAC

Table 1. Plant List for the Balloon Track Property ¹

Family	Scientific Name	Common Name	Wetland Indicator ^{2 & 3}
	<i>Spartina densiflora</i>	dense-flowered cord grass	OBL
	<i>Vulpia myuros</i> var. <i>myuros</i>	rattail fescue	FACU*
<i>Polygonaceae</i>			
	<i>Rumex acetosella</i>	common sheep sorrel	FAC-
	<i>Rumex crispus</i>	curly dock	FACW-
<i>Ranunculaceae</i>			
	<i>Ranunculus orthorhynchus</i> var. <i>bloomeri</i>	Bloomer's beaked buttercup	FACW
<i>Rosaceae</i>			
	<i>Fragaria chiloensis</i>	beach strawberry	NI
	<i>Potentilla anserina</i>	silver-weed cinquefoil	OBL
	<i>Rubus discolor</i>	Himalaya-berry	FAC+
<i>Salicaceae</i>			
	<i>Salix drummondiana</i>	Drummond's willow	OBL
<i>Scrophulariaceae</i>			
	<i>Triphysaria versicolor</i>	yellow owl's clover	NI
<i>Typhaceae</i>			
	<i>Typha latifolia</i>	broadleaf cattail	OBL
<i>Urticaceae</i>			
	<i>Urtica dioica</i> ssp. <i>holosericea</i>	hoary nettle	FACW

¹ List compiled by Virginia Dains, botanist, and Dr. Terry Huffman, Wetland Plant Ecologist

² Reed, P.B. 1988. *National List of Plant Species that Occur in Wetlands: California (Region O)*. Biological Report 88 (26.10). May. U.S. Fish and Wildlife Service, National Ecology Research Center. St. Petersburg, FL.

³ KEY to abbreviations:

OBL = Obligate wetland: Species, which, under natural conditions, occur almost always in wetlands (estimated probability >99 %).

FACW = Facultative Wetland: Usually occur in wetlands (estimated probability 67% – 99%), but occasionally found in nonwetlands.

FAC = Facultative: Equally likely to occur in wetlands or nonwetlands (estimated probability 34% – 66%).

FACU = Facultative Upland: Usually occur in nonwetlands (estimated probability 67% – 99%), but occasionally found in wetlands (estimated probability 1% – 33%).

UPL = Obligate Upland: Occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in nonwetlands in the region specified.

NL = Not Listed: If a species does not occur in wetlands in any region, it is not on the National List and is designated as "not listed".

NI = No Indicator: Sufficient information on which to base an indicator status not available.

A positive (+) sign indicates a frequency toward the higher end of the category, and a negative sign indicates a frequency toward the lower end of the category.

**Table 2. Animal Species Observed on the Project Site
or Expected to Utilize the Project Site**

<u>MAMMALS</u>	
Virginia Opossum	<i>Didelphis virginiana</i>
Townsend's Mole	<i>Scapanus townsendii</i>
California Myotis	<i>Myotis californicus</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Black-tailed Hare	<i>Lepus californicus</i>
Desert Cottontail	<i>Sylvilagus audubonii</i>
California Ground Squirrel	<i>Spermophilus beecheyi</i>
Botta's Pocket Gopher	<i>Thomomys bottae</i>
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Townsend's Vole	<i>Microtus townsendii</i>
Norway Rat	<i>Rattus norvegicus</i>
Black Rat	<i>Rattus rattus</i>
House Mouse	<i>Mus musculus</i>
Raccoon	<i>Procyon lotor</i>
Long-tailed Weasel	<i>Mustela frenata</i>
Striped Skunk	<i>Mephitis mephitis</i>
Mule Deer	<i>Odocoileus hemionus</i>

<u>REPTILES AND AMPHIBIANS</u>	
California Slender Salamander	<i>Batrachoseps attenuatus</i>
Western Toad	<i>Bufo boreas</i>
Pacific Treefrog	<i>Hyla regilla</i>
Western Fence Lizard	<i>Sceloporus occidentalis</i>
Western Skink	<i>Eumeces skiltonianus</i>
Racer	<i>Coluber constrictor</i>
Gopher Snake	<i>Pituophis melanoleucus</i>
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>
Common Garter Snake	<i>Thamnophis sirtalis elegans</i>
Western Aquatic Garter Snake	<i>Thamnophis couchi</i>

BIRDS

Brown Pelican	<i>Pelecanus occidentalis</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Great Blue Heron	<i>Ardea herodias</i>
Green Heron	<i>Butorides virescens</i>
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>
Great Egret	<i>Casmerodius albus</i>
Snowy Egret	<i>Egretta thula</i>
Canada Goose	<i>Branta canadensis</i>
Mallard	<i>Anas platyrhynchos</i>
Turkey Vulture	<i>Cathartes aura</i>
White-tailed Kite	<i>Elanus caeruleus</i>
Northern Harrier	<i>Circus cyaneus</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Cooper's Hawk	<i>Accipiter cooperi</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
American Kestrel	<i>Falco sparverius</i>
Merlin	<i>Falco columbarius</i>
Peregrine Falcon	<i>Falco peregrinus</i>
California Quail	<i>Callipepla californica</i>
Virginia Rail	<i>Rallus limicola</i>
Sora	<i>Porzana carolina</i>
American Coot	<i>Fulica Americana</i>
Black-bellied Plover	<i>Pluvialis squatarola</i>
Killdeer	<i>Charadrius vociferous</i>
Semipalmated Plover	<i>Charadrius semipalmatus</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Whimbrel	<i>Numenius phaeopus</i>
Long-billed Curlew	<i>Numenius americanus</i>
Marbled Godwit	<i>Limosa fedoa</i>
Least Sandpiper	<i>Calidris minutilla</i>
Western Sandpiper	<i>Calidris mauri</i>
Dunlin	<i>Calidris alpina</i>
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>
Wilson's Snipe	<i>Gallinago delicate</i>
Red Phalarope	<i>Phalaropus</i>
Mew Gull	<i>Larus Canus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
California Gull	<i>Larus californicus</i>
Herring Gull	<i>Larus argentatus</i>

BIRDS

Western Gull	<i>Larus occidentalis</i>
Glaucous-winged Gull	<i>Larus glaucescens</i>
Caspian Tern	<i>Sterna caspia</i>
Rock Pigeon	<i>Columba livia</i>
Mourning Dove	<i>Zenaida macroura</i>
Band-tailed Pigeon	<i>Columba fasciata</i>
Barn Owl	<i>Tyto alba</i>
Great Horned Owl	<i>Bubo virginianus</i>
Virginia Rail	<i>Rallus limicola</i>
Vaux's Swift	<i>Chaetura vauxi</i>
Anna's Hummingbird	<i>Calypte annas</i>
Allen's Hummingbird	<i>Selasphorus sasin</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Black Phoebe	<i>Sayornis nigricans</i>
Western Wood-pewee	<i>Contopus sordidulis</i>
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
Barn Swallow	<i>Hirundo rustica</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Western Scrub-jay	<i>Aphelocoma californica</i>
Common Raven	<i>Corvus corax</i>
American Crow	<i>Corvus brachyrhynchos</i>
Chestnut-backed Chickadee	<i>Parus rufescens</i>
Common Bushtit	<i>Psaltriparus minimus</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Marsh Wren	<i>Cistothorus palustris</i>
American Robin	<i>Turdus migratorius</i>
Hermit Thrush	<i>Hylocichla guttata</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
American Pipit	<i>Anthus rubescens</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
European Starling	<i>Sturnus vulgaris</i>
Hutton's Vireo	<i>Vireo huttoni</i>
Orange-crowned Warbler	<i>Vermivora celata</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>
Townsend's Warbler	<i>Dendroica townsendi</i>
Common Yellowthroat	<i>Geothlypis trichas</i>

<u>BIRDS</u>	
Wilson's Warbler	<i>Wilsonia pusilla</i>
Western Tanager	<i>Piranga ludoviciana</i>
Spotted Towhee	<i>Pipilo maculatus</i>
Chipping Sparrow	<i>Spizella passerina</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>
Fox Sparrow	<i>Passerella iliaca</i>
Song Sparrow	<i>Melospiza melodia</i>
Lincoln's Sparrow	<i>Melospiza lincolni</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Western Meadowlark	<i>Sturnella neglecta</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Purple Finch	<i>Carpodacus purpureus</i>
House Finch	<i>Carpodacus mexicanus</i>
Pine Siskin	<i>Carduelis pinus</i>
American Goldfinch	<i>Spinus tristis</i>
Lesser Goldfinch	<i>Spinus psaltria</i>
House Sparrow	<i>Passer domesticus</i>

Behler and King (1979)
Mayer and Laudenslayer (1988)
National Geographic Society (2002)
Reid (2006)
Sibley (2000)
Stebbins (2006)
Zeiner, et al. (1990)

Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

SPECIES*	FED/STATE/ CNPS STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
PLANTS			
Minute Pocket-Moss (<i>Fissidens pauperculus</i>)	--/--/1B.2	North Coast coniferous forest. Moss growing on damp soil along the coast. 10 – 100 m.	Unlikely. Suitable habitat is not present on the site.
Pink Sand-Verbena (<i>Abronia umbellata</i> ssp. <i>breviflora</i>)	--/--/1B.1	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. This species is usually the plant closest to the ocean. 0 – 12 m. Observed on Samoa Peninsula.	Unlikely. Suitable habitat is not present on the site.
Coastal Marsh Milk-Vetch (<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>)	--/--/1B.2	Coastal dunes, coastal salt marshes. Mesic sites in dunes or along streams or coastal salt marshes. 0 – 30 m.	Unlikely. Suitable habitat is not present on the site.
Northern Clustered Sedge (<i>Carex arcta</i>)	--/--/2.2	Bogs and fens, North Coast coniferous forest. Mesic sites. 60 – 1,400 m.	Unlikely. Suitable habitat is not present on the site.
Lyngbye's Sedge (<i>Carex lyngbyei</i>)	--/--/2.2	Marshes and swamps (brackish or freshwater). 0 m.	Unlikely. Suitable habitat is not present on the site.
Flaccid Sedge (<i>Carex leptalea</i>)	--/--/2.2	Bogs and fens, meadows, marshes and swamps. Mostly known from bogs and wet meadows. 0 – 790m.	Unlikely. Suitable habitat is not present on the site.
Meadow Sedge (<i>Carex praticola</i>)	--/--/2.2	Meadows. Moist to wet meadows. 0 – 3,200m.	Unlikely. Suitable habitat is not present on the site.
Dwarf Alkali Grass (<i>Puccinellia pumila</i>)	--/--/2.2	Meadows and seeps, marshes and swamps. Mineral spring meadows and coastal salt marshes. 1 – 10 m.	Unlikely. Suitable habitat is not present on the site.
Oregon Coast Indian Paintbrush (<i>Castilleja affinis</i> ssp. <i>litoralis</i>)	--/--/2.2	Coastal bluff scrub, coastal dunes, coastal scrub. Sandy sites. 15 – 100 m.	Unlikely. Suitable habitat is not present on the site.
Humboldt Bay Owl's-Clover (<i>Castilleja ambigua</i> ssp. <i>humboldtiensis</i>)	--/--/1B.2	Coastal salt marsh. In coastal salt marsh with <i>Spartina</i> , <i>Distichlis</i> , <i>Salicornia</i> , <i>Jaumea</i> . 0 – 3 m.	Unlikely. Suitable habitat is not present on the site.

Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

SPECIES*	FED/STATE/ CNPS STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Point Reyes Bird's-Beak (<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>)	--/--/1B.2	Coastal salt marsh. Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. 0 – 15 m.	Unlikely. Suitable habitat is not present on the site.
Humboldt Bay Wallflower (<i>Erysimum menziesii</i> ssp. <i>eurekaense</i>)	FE/CE/1B.1	Coastal dunes. Foredunes with <i>Artemisia pycnocephala</i> , <i>Solidago spathulata</i> , <i>Lathyrus</i> sp., etc. 0 – 10 m.	Unlikely. Suitable habitat is not present on the site.
Coast Fawn Lily (<i>Erythronium revolutum</i>)	--/--/2.2	Bogs and fens, broadleaved upland forest, North Coast coniferous forest. 0 – 1,065 m.	Unlikely. Suitable habitat is not present on the site.
Western Lily (<i>Lilium occidentale</i>)	FE/CE/1B.1	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest. Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 2 – 185 m.	Unlikely. Suitable habitat is not present on the site.
Running-pine (<i>Lycopodium clavatum</i>)	--/--/2.2	North Coast coniferous forest, marshes and swamps. Forest understory; mesic sites with partial shade and light. 45 – 1640 m.	Unlikely. Suitable habitat is not present on the site.
Leafy-stemmed Mitrewort (<i>Mitella caulescens</i>)	--/--/4.2	Broadleaved upland forest, lower montane coniferous forest, meadows and seeps, north coast coniferous forest. Mesic sites. 6 – 1,710 m.	Unlikely. Suitable habitat is not present on the site.
Pacific Gilia (<i>Gilia capitata</i> ssp. <i>pacifica</i>)	--/--/1B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 5 – 300 m.	Unlikely. Suitable habitat is not present on the site.
Dark-Eyed Gilia (<i>Gilia millefoliata</i>)	--/--/1B.2	Coastal dunes. 2 – 20 m.	Unlikely. Suitable habitat is not present on the site.
Short-leaved Evax (<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>)	--/--/2.2	Coastal bluff scrub, coastal dunes. Sandy bluffs and flats. 0 – 200 m.	Unlikely. Suitable habitat is not present on the site.

Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

SPECIES*	FED/STATE/ CNPS STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Sand Pea (<i>Lathyrus japonicus</i>)	--/--/2.1	Coastal dunes. 1 – 30 m.	Unlikely. Suitable habitat is not present on the site.
Marsh Pea (<i>Lathyrus palustris</i>)	--/--/2.2	Bogs and fens, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest. Coastal prairie, coastal scrub. Moist coastal areas. 1 – 100 m.	Unlikely. Suitable habitat is not present on the site.
Beach Layia (<i>Layia carnosa</i>)	FE/CE/1B.1	Coastal dunes. Hugely reduced in range along California's North Coast dunes. On sparsely vegetated semi-stabilized dunes, usually behind foredunes. 0 – 75 m.	Unlikely. Suitable habitat is not present on the site.
Indian-Pipe (<i>Monotropa uniflora</i>)	--/--/2.2	Broadleaved upland forest, North Coast coniferous forest. Often under redwoods or western hemlock. 10 – 200 m.	Unlikely. Suitable habitat is not present on the site.
Howell's montia (<i>Montia howellii</i>)	--/--/2.2	Meadows, North Coast coniferous forest, vernal pools. Vernal wet sites; often on compacted soil. 0 – 400 m.	Unlikely. Suitable habitat is not present on the site.
Maple-Leaved Checkerbloom (<i>Sidalcea malachroides</i>)	--/--/4.2	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest. Woodlands and clearings near coast; often in disturbed areas. 2 – 760 m.	Unlikely. Suitable habitat is not present on the site.
Siskiyou Checkerbloom (<i>Sidalcea malviflora</i> ssp. <i>patula</i>)	--/--/1B.2	Coastal prairie, broadleaved upland forest. Open coastal forest. 15 – 65 m.	Unlikely. Suitable habitat is not present on the site.
Coast Checkerbloom (<i>Sidalcea oregana</i> ssp. <i>eximia</i>)	--/--/1B.2	Meadows and seeps, North Coast coniferous forest, lower montane coniferous forest. Nears meadows, in gravelly soil. 0 – 1,800 m.	Unlikely. Suitable habitat is not present on the site.
Western Sand-Spurrey (<i>Spergularia canadensis</i> var. <i>occidentalis</i>)	--/--/2	Coastal salt marsh. 0 – 3 m.	Unlikely. Suitable habitat is not present on the site.

Table 3. Special Status Plant Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

SPECIES*	FED/STATE/ CNPS STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Marsh Violet (<i>Viola palustris</i>)	--/--/2.2	Coastal scrub, bogs and fens. Swampy, shrubby places in coastal scrub or coastal bogs. 0 – 15 m.	Unlikely. Suitable habitat is not present on the site.

Source: California Department of Fish and Game, Biogeographic Data Branch. 2007. California Natural Diversity Data Base (<http://www.dfg.ca.gov/bdb/html/cnddb.html>) for the Eureka, Tyee City, Arcata North, Arcata South, McWhinney Creek, Fields Landing and Cannibal Island 7.5-minute quadrangle maps, database obtained December 31, 2007).

* Plants in **bold type** are listed for the Eureka quadrangle.

Status Codes:

Federal and State Rankings:

FE Federal Endangered
 FT Federal Threatened
 FPE Federal Proposed Endangered
 FPT Federal Proposed Threatened

CE California Endangered
 CT California Threatened

California Native Plant Society Ranking System

List 1A Plants Presumed Extinct in California
 List 1B Plants Rare, Threatened, or Endangered in California and elsewhere
 List 2 Plants Rare, Threatened or Endangered in California, but more common elsewhere
 List 3 Plants about Which We Need More Information – A Review List
 List 4 Plants of Limited Distribution – A Watch List

A new Threat Code extension has been added following CNPS Listings (e.g., 1B.1, 2.2).
 .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
 .2 – Fairly endangered in California (20-80% occurrences threatened)
 .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Sandy Beach Tiger Beetle (<i>Cicindela hirticollis gravida</i>)	--/--	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to Northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action. Known to occur along the Eureka shoreline from a historical record from 1905; the species is thought to be extirpated from this area.	Unlikely. Suitable habitat is not present on the site.
Tidewater Goby (<i>Eucyclogobius newberryi</i>)	FE/CSC	Brackish water habitats along the Calif. Coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Known from the area around the mouth of Mad River Slough and Jacoby Slough in Humboldt.	Unlikely. Suitable habitat is not present on the site. Impacts to individuals that may pass near the site mitigated by proposed contaminated soil remediation and implementation of SWPPP and BMPs.
Coast Cutthroat Trout - Southern Oregon/California ESU (<i>Oncorhynchus clarkii clarkii</i>)	--/CSC	Small coastal streams from the Eel River to the Oregon border. Small, low gradient coastal streams and estuaries Well-oxygenated streams with riffles; loose, silt-free gravel substrate Known from Elk River and Freshwater Creek and their tributaries.	Unlikely. Suitable habitat is not present on the site. Impacts to individuals that may pass near the site mitigated by proposed contaminated soil remediation and implementation of SWPPP and BMPs.
Coho Salmon – Southern Oregon/Northern California ESU (<i>Oncorhynchus kisutch</i>)	FT/CT	Well-oxygenated streams with riffles; loose, silt-free gravel substrate. Federal listing refers to populations between Cape Blanco, Oregon, and Punta Gorda, Humboldt County, CA. State listing	Unlikely. Suitable habitat is not present on the site. Impacts to individuals that may pass near the site mitigated by proposed

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
		refers to populations between the Oregon border and Punta Gorda, CA.	contaminated soil remediation and implementation of SWPPP and BMPs.
Chinook Salmon – California Coast ESU <i>(Oncorhynchus tshawytscha)</i>	FT/--	Well-oxygenated streams with riffles; loose, silt-free gravel substrate. Federal listing refers to populations from Redwood Creek in Humboldt County to the Russian River in Sonoma County.	Unlikely. Suitable habitat is not present on the site. Impacts to individuals that may pass near the site mitigated by proposed contaminated soil remediation and implementation of SWPPP and BMPs.
Steelhead – Northern California ESU <i>(Oncorhynchus mykiss)</i>	FT/--	Well-oxygenated streams with riffles; loose, silt-free gravel substrate. Federal listing refers to populations from Redwood Creek in Humboldt County to the Gualala River in Sonoma County.	Unlikely. Suitable habitat is not present on the site. Impacts to individuals that may pass near the site mitigated by proposed contaminated soil remediation and implementation of SWPPP and BMPs.
Southern Torrent Salamander <i>(Rhyacotriton variegatus)</i>	--/CSC	Coastal redwood, Douglas fir, mixed conifer, montane riparian, montane hardwood-conifer habitats, old growth forest. Cold, well-shaped, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	Unlikely. Suitable habitat is not present on the site.
Western Tailed Frog <i>(Ascaphus truei)</i>	--/CSC	Occurs in montane hardwood-conifer, redwood, Douglas fir and Ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15° C.	Unlikely. Suitable habitat is not present on the site.

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Northern Red-Legged Frog (<i>Rana aurora aurora</i>)	--/CSC	Humid forests, woodlands, grasslands, and streamsid es in northwestern California, usually near dense riparian cover. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	Unlikely. Suitable habitat is not present on the site.
Northwestern Pond Turtle (<i>Emys [=Clemmys] marmorata marmorata</i>)	--/CSC	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water.	Unlikely. Suitable habitat is not present on the site.
Double-Crested Cormorant (<i>Phalacrocorax auritus</i>) [Rookery }	--/CSC	(Rookery) Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Unlikely. Suitable habitat for a rookery is not present on the site.
Great Blue Heron (<i>Ardea herodias</i>) [Rookery]	--/--	(Rookery) Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows. Rookery on nearby Indian Island.	Unlikely. Suitable habitat for a heron rookery is not present on site.
Great Egret (<i>Ardea alba</i>) [Rookery]	--/--	(Rookery) Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. Rookery on nearby Indian Island.	Unlikely. Suitable habitat for a rookery is not present on the site.
Snowy Egret (<i>Egretta thula</i>) [Rookery]	--/--	(Rookery) Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes,	Unlikely. Suitable habitat for a rookery is not present on the site.

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
		tidal-flats, streams, wet meadows, and borders of lakes. Rookery on nearby Indian Island.	
Black-Crowned Night Heron (<i>Nycticorax nycticorax</i>) [Rookery]	--/--	(Rookery) Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots. Rookery on nearby Indian Island.	Unlikely. Suitable habitat for a rookery is not present on the site.
White-tailed Kite (<i>Elanus caeruleus</i>) [Nesting]	--/CFP	(Nesting) Open grassland and agricultural areas throughout Central California.	Nesting unlikely. Appropriate nesting habitat is not present in the project area.
Northern Harrier (<i>Circus cyaneus</i>) [Nesting]	--/CSC	(Nesting) Coastal salt marsh and freshwater marsh; nests and forages in grasslands; nests on ground in shrubby vegetation, usually at marsh edge.	Nesting unlikely. Appropriate nesting habitat not present in the project area. Species may forage on site in winter.
Cooper's Hawk (<i>Accipiter cooperii</i>) [Nesting]	--/CSC	(Nesting) Nests primarily in deciduous riparian forests; forages in open woodlands.	Nesting unlikely. Suitable nesting habitat is not present on site. Species may forage on site, especially in winter.
Sharp-shinned Hawk (<i>Accipiter striatus</i>) [Nesting]	-/CSC	(Nesting) Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. North-facing slopes, with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert used in winter.	Nesting unlikely. Appropriate nesting habitat not present on site. Species likely forages on or near the site, especially in winter.

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Osprey (<i>Pandion haliaetus</i>) [Nesting]	--/CSC	(Nesting) Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in treetops, primarily in Ponderosa pine through mixed conifer habitats, within 15 miles of good fish-producing body of water. Breeds in northern California from the Cascade Range south to Lake Tahoe, and along the coast south to Marin County. Associated strictly with large, fish-bearing waters. Some nesting records around Humboldt Bay.	Unlikely. No nest sites known for the project site.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	FT/CE	(Nesting and Wintering) Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Nesting unlikely. Appropriate nesting habitat is not present in the project area.
Peregrine Falcon** (<i>Falco peregrinus</i>)	Delisted/CE/CFP	Nests in woodland, forest and coastal habitats, on cliffs or banks, and usually near wetlands, lakes, rivers, sometimes on human-made structure. In non-breeding seasons found in riparian areas and coastal and inland wetlands. Species was observed at the site in December 2005 and July 2007.	Possible. Species nests and winters in the area and foraging individuals have been observed (December 2005 and July 2007). Significant foraging area for this species is present in the marshes, mudflats and open water habitats in the greater Humboldt Bay area.

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Merlin (<i>Falco columbarius</i>) [wintering]	-/CSC	Breeds in Canada, winters in a variety of California habitats, including grasslands, savannahs, wetlands, etc.	Unlikely. Sporadic use of the site by this species as a winter foraging habitat is possible.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT/--	(Nesting) Federal listing applies only to the Pacific coastal population. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting. Historical breeding records for North Humboldt Bay Spit and Elk River Spit.	Unlikely. No records in the project area in many years. Appropriate nesting habitat not present on site.
California clapper rail (<i>Rallus longirostris obsoletus</i>)	FE/CE	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs. A breeding population existed on Indian Island in 1932, although no confirmed breeding records have been reported since.	Unlikely. No habitat for this species present at the site.
Short-eared Owl (<i>Asio flammeus</i>) [Nesting]	--/CSC	(Nesting). Forages and nests in perennial marsh and grassland habitat; occurs in the Central Valley, coast, and east Sierra regions.	Unlikely. Sporadic use of the site by this species as a winter foraging habitat is possible.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	--/CSC	Habitat includes open areas such as desert, grasslands and savannah. Nests in thickly foliaged trees or tall shrubs. Forages in open habitats that contain trees, fence posts, utility poles, and other perches.	Unlikely. Suitable habitat not present on the site. Species may be seen in winter or on site as a transient.

Table 4. Special Status Animal Species Listed in the California Natural Diversity Data Base as Occurring or Having Occurred in the Eureka 7.5-Minute Quadrangle and Adjacent Quadrangles

ANIMAL SPECIES*	FED/STATE STATUS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Humboldt marten (<i>Martes americana humboldtensis</i>)	--/CSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefers forests with low, overhead cover.	Unlikely. No habitat for this species present at the site.
Long-Eared Myotis (<i>Myotis evotis</i>)	--/--	Found in all brush, woodland and forest habitats from sea level to about 9000 feet. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Unlikely. Suitable habitat is not present on the site.
Humboldt marten (<i>Martes americana humboldtensis</i>)	--/CSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefers forests with low, overhead cover.	Unlikely. No habitat for this species present at the site.
White-Footed Vole (<i>Arborimus albipes</i>)	--/CSC	Mature coastal forests in Humboldt and Del Norte counties. Prefers areas near small, clear streams with dense alder and shrubs. Occupies the habitat from the ground surface to the canopy, feeds in all layers, and nests on the ground under logs or rock.	Unlikely. No habitat for this species present at the site.
Sonoma tree vole (<i>Arborimus pomosus</i>)	--/CSC	North Coast fog belt from Oregon border to Sonoma County in Douglas fir, redwood, and montane hardwood-conifer forests. Feeds almost exclusively on Douglas fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	Unlikely. Suitable habitat is not present on the site.

Source: California Department of Fish and Game, Biogeographic Data Branch. 2007. California Natural Diversity Data Base

(<http://www.dfg.ca.gov/bdb/html/cnddb.html>) for the Eureka, Tyee City, Arcata North, Arcata South, McWhinney Creek, Fields Landing and Cannibal Island 7.5-minute quadrangle maps, database obtained December 31, 2007).

** Peregrine falcon observed onsite December 2005 and July 2007; is not listed in CNDDDB.

Status Codes:

FE	Federal Endangered	CE	California Endangered
FT	Federal Threatened	CT	California Threatened
FPE	Federal Proposed Endangered	CR	California Rare
FPT	Federal Proposed Threatened	CFP	California Fully Protected
		CSC	California Species of Special Concern