California Department of Fish and Wildlife – Lead Agency

Notice of Preparation of a

Draft Environmental Impact Report for the

Ocean Ranch Restoration Project

June 13, 2018

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Ocean Ranch Restoration Project

Lead Agency:

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June 13, 2018

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Appendices

1. Introduction

1.1 CEQA Requirements

The Ocean Ranch Restoration Project (Project) is subject to the requirements of the California Environmental Quality Act (CEQA). The CEQA lead agency and decision-making body is the California Department of Fish and Wildlife (CDFW). The CDFW is responsible for assuring the completion of the appropriate evaluation and processes required by CEQA. The CDFW has the sole responsibility to make the appropriate findings and determinations with respect to the CEQA process and disposition of the Project. The purpose of this Notice of Preparation (NOP) is to inform responsible and trustee agencies and the public that an Environmental Impact Report (EIR) will be prepared for the Ocean Ranch Restoration Project (Project), and to solicit comments on the proposed project and potential impacts to be addressed in the EIR. The EIR being prepared is intended to satisfy the requirements of CEQA (Public Resources Code, Division 13, Section 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000-15387).

1.2 General Information

Protect Title: Ocean Ranch Restoration Project
Lead Agency: California Department of Fish and Wildlife
Northern Region (Region 1) – Eureka Field Office
619 2nd Street
Eureka, CA 95501
Attention: Gordon Leppig, Senior Environmental Scientist Supervisor

1.2.1 Availability of Project Documents/Files

This NOP is available for review during the business week at the CDFW Northern Region (Region 1) Eureka field office between the hours of 8:00 a.m. to 12:00 p.m. and 1:00 p.m. to 4:30 p.m. The CDFW Region 1 field office is located at 619 2nd Street in Eureka, California. An electronic version of this NOP is available for review on the CDFW website (https://www.wildlife.ca.gov/Notices).

1.2.2 Written Comments

Written comments on the scope of the EIR can be sent to Gordon Leppig at the CDFW Region 1 Eureka field office at the above-noted address. Additionally, comments may be submitted electronically via email to: orurestoration@wildlife.ca.gov.

1.2.3 Comment Period

CEQA Guidelines Section 15082 (b) requires a 30-day response period for input about the scope and content of the EIR. The comment period for the NOP begins on June 13, 2018, and ends on July 16, 2018. The deadline for submitting written comments is July 16, 2018 at 5:00 p.m.

1.2.4 Public Scoping Meeting

A public scoping meeting will be held to further inform agencies and interested parties about the Project, and to accept comments on the environmental issues germane to the Project. The meeting

will be held on July 9, 2018 from 5:30 p.m. to 7:00 p.m. at the Fortuna River Lodge Conference Center. The Fortuna River Lodge is located in Fortuna, California at the following street address:

1800 Riverwalk Drive

Fortuna, California 95540

2. Project Location and Setting

The Ocean Ranch Unit (ORU) of the Eel River Wildlife Area is located north of the mouth of the Eel River and northwest of the town of Loleta in Humboldt County, California. The ORU encompasses approximately 933-acres (378-hectares) and is generally bounded by the Pacific Ocean to the west, Table Bluff to the north, McNulty Slough to the east and North Bay to the south. The ORU, which is part of the approximately 2,600-acre (1,052-hectare) Eel River Wildlife Area (ERWA), is owned and managed by the CDFW as fish and wildlife habitat and public recreational uses. The Project Area described in this NOP includes all portions of the ORU where restoration and construction activities are proposed under the Project. Figure 1 Project Vicinity (Figure 1) depicts the Project Area and vicinity.

Historically, much of the area that is now the ORU was estuarine tidal marsh. Sometime between 1916 and 1948, the saltmarsh portion of the ORU (herein referred to as “Ocean Ranch”) was diked, isolated from tidal waters, and drained for pasture through tide gates to McNulty Slough. In 1968, Ocean Ranch was acquired by CDFW with Wildlife Conservation Board coastal wetland acquisition funds. Ocean Ranch was subsequently subdivided by CDFW into five distinct areas using earthen dikes. The five subdivided areas, defined as Areas A through E, were managed as shallow freshwater habitat for waterfowl and other native wildlife.

The ORU also encompasses portions of the coastal dunes that separate Ocean Ranch from the Pacific Ocean to the west. Significant areas within the dunes are dominated by invasive European beachgrass (*Ammophila arenaria*), which established on the north spit of the Eel River in the 1970’s. The prevalence and density of European beachgrass in the coastal dunes affects the ability for native plants to establish and limits dune function, including sand movement. Figure 2 Project Area (Figure 2), located in Appendix A, depicts Areas A through E of the ORU, as well as the coastal dunes portion of the Project Area targeted for European beachgrass eradication. The existing conditions in Areas A through E and the coastal dunes are described below.

2.1 Area A

Area A comprises approximately 306 acres of tidal wetlands. Area A is connected to McNulty Slough through a large breach along its eastern boundary. Three main channels drain the site. One of the three channels consists of a constructed ditch that runs along the inside of the levee system. It is likely that this channel was a “borrow ditch” from which material was excavated to improve the perimeter levee and counteract loss of elevation from settlement and for maintenance. Area A is well connected to the tides and is predominately exposed salt marsh with interspersed mudflats at low tide. Brackish marsh is present in the northern reaches of Area A near Area E. A fresh water seep is located within Area A along its southwest corner just inside of the perimeter levee. This seep is isolated by an earthen berm with dimensions similar to the perimeter levee and has formed a pond approximately 0.33 acres in size.

2.2 Area B

Area B encompasses approximately 111 acres of both remnant tidal channels and linear ditches. Area B has subsided over the last 70 years on the order of one to two feet, likely from agricultural activities in the 1940s. Area B has been managed in the past as seasonal freshwater wetlands; however a 48-inch diameter water control structure has failed, having lost its tide gate. The water control structure is now functioning as an open culvert instead of a drain, and tide water enters Area B during high tides. Currently, Area B is functioning as a muted tidal basin. In general, water elevations are shallow throughout the unit with depths around one to two feet at high tide and deeper where a historic channel is present. The tidal influence causes water levels to fluctuate throughout the day, typically within a range of one foot or less. The area has converted to a brackish marsh which is evidenced by a shift in vegetation types.

2.3 Area C

Area C consists of approximately 40 acres of remnant tidal channels and managed freshwater wetlands, and similar to Area B, has subsided one to two feet. A water control structure connects Area C to Area B and allows a small amount of water exchange between the two areas. A borrow ditch parallels the perimeter levee for most of its length and, as with Area B, elevations are on average lower than those in Area A. Area C is bound on the north by Table Bluff with the upland slope having at least two springs/seeps which have created riparian zones adjacent to the Area C wetlands.

2.4 Area D

Area D, consisting of approximately five acres, is isolated from Area C by an internal levee. Area D consists of a brackish tidal marsh connected to McNulty Slough by two small open culverts. The tide range within Area D is highly muted due to constriction caused by existing culverts.

2.5 Area E

Area E, consisting of approximately 13 acres, is a managed freshwater wetland separated from Area A by a levee. A large freshwater spring on Table Bluff delivers a significant amount of freshwater to this unit. Water levels are controlled by a single flashboard weir that drains to Area A. A portion of this wetland is covered by willows and other woody vegetation.

2.6 Coastal Dunes

The coastal dunes within the Project Area encompass approximately 330-acres and extend along about 3-miles of shoreline (Figure 2). The densest stands of European beachgrass (mapped in 2015 as having 61% to 100% cover) are located along the northern 2.6 miles of the Project Area; beachgrass within the southern portion of the Project Area is mapped as having less than 61% cover. Dune mat and associated native plants species, including the federal and state endangered beach layia (*Layia carnosa*) are found within the coastal dunes, but are limited (or non-existent) in areas where dense stands of beachgrass have established.

2.7 Surrounding Land Uses

The Humboldt Bay National Wildlife Refuge, Table Bluff County Park, and Table Bluff Ecological Reserve lie to the north of ORU. A cluster of residential parcels associated with the Weott Rancheria borders Area D at the northeast portion of the Project Area. The Pacific Ocean boarders

the western portion of the Project Area. State lands and tidal sloughs are located to the south and east of the Project Area. Private agricultural lands are generally located east of the Project Area.

2.8 Existing Infrastructure

The Project Area can be accessed from two locations off of Table Bluff Road. A single lane graveled interior road extends south from Table Bluff Road for approximately 0.5 miles to a barn and associated corrals/loading chutes. A flat, stable pad is found at this location which was the site of previous dairy operations. The second access is Sand Dune Road which runs south from South Jetty Road and passes just inside the dune line from Table Bluff County Park. This road is primarily sand and extends all the way to the mouth of the Eel River.

2.9 Site Physical Characteristics

2.9.1 Geology and Soils

Ocean Ranch and the rest of the Eel River estuary is an alluvial valley in the Coast Range of Northern California. The native soils are primarily dark gray, stiff clayey silt underlain by unconsolidated Holocene to Pleistocene fluvial and flood plain deposits, consisting of sand, silt, and gravel (LACO 2014).

The Project Area is within a seismically active region, which is subject to frequent moderate to large earthquakes. The Eel River Valley is a broad northwest-southeast trending syncline formed by compression tectonics. Although not located within a “Fault Rupture Hazard Zone” (Bryant and Hart 2007), or within an area currently designated as a “Seismic Hazard Zone” by the State of California (State), numerous faults of various activity levels are located within 30 miles of the Project Area.

2.9.2 Invasive Plants

The natural plant communities within the ORU have been highly altered in many areas by invasive plant infestations. Years of dairy farm operations, cattle grazing, and other disturbance regimes have facilitated the establishment and dominance of non-native and invasive species. Areas A and D have large dense stands of dense-flowered cordgrass (*Spartina densiflora*) that form vegetation monocultures and exclude native plants. Areas B, C, and E have more native plant diversity with smaller patches of dense-flowered cordgrass.

European beachgrass is a highly invasive species that is widespread in coastal dunes throughout the west coast of the United States. As with dense-flowered cordgrass, this species forms dense monoculture stands and has the ability to displace entire native plant communities. As noted above, it is prevalent within the dunes along the western boundary of the Project Area where it has displaced native dune mat habitat and continues to invade and increase in cover.

2.9.3 Special-Status Species

Numerous state-listed, federally-listed, and/or sensitive species and natural communities (e.g., state animal Species of Special Concern, and plants or communities with State Rank 1 to 3) are found in the Eel River Watershed. Some of these sensitive species and natural communities are known to occur, or have the potential to occur within the Project Area. In 2008 and 2009, CDFW conducted fish monitoring and water quality sampling in McNulty Slough. The monitoring goals were to determine the presence of juvenile salmonids in McNulty Slough and/or within the ORU; to determine the presence of other estuarine aquatic species in the ORU; and to provide baseline data to evaluate the feasibility and success of future habitat restoration. The 2008 and 2009 monitoring

documented numerous listed fish species within McNulty Slough, including Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), and longfin smelt (*Spirinchus thaleichthys*) outside the ORU boundary; however, none of these salmonid species were found within ORU. Following the completion of the 2008 and 2009 monitoring, CDFW conducted fish monitoring in 2012 to determine whether or not the tidewater goby (*Eucyclogobius newberryi*) was present within the ORU. Tidewater gobies were documented within ORU during the 2012 monitoring, with the highest quantities documented in the north end of Area A and south end of Area E. Green sturgeon (*Acipenser medirostris*) are also known to the project vicinity.

Rare plants observed in the Project Area during surveys conducted between 2014-2017 include seacoast angelica (*Angelica lucida*), Lyngbye's sedge (*Carex lyngbyei*), Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*), Point Reyes salty birds-beak (*Chloropyron maritimum* ssp. *palustre*), dark-eyed gilia (*Gilia millefoliata*), and beach layia, as well as natural communities of Coastal Brackish Marsh, Northern Coastal Salt Marsh, and Active Coastal Dunes.

Western snowy plover are also known to the coastal dunes within the Project Area.

2.9.4 Watershed

The Eel River watershed encompasses over 3,684 square miles and drains a rugged area spanning five counties within the Coast Range of California. The soils of the Eel River drainage basin are highly friable and susceptible to erosion, especially given the basin's steep geography and intense rainfall.

2.9.5 Hydrology

The Eel River discharges an average of 9,500 cubic feet of water per second (cfs) annually with peak discharges occurring during the winter months and periods of high rainfall. The drainage basin of the Eel River is uniquely situated to receive copious amounts of rainfall during atmospheric river events. These large rainfall events, combined with steep terrain and a large watershed drainage basin, produce flash flood conditions where river discharges can increase from less than 1,000 cfs to upwards of 250,000 cfs within 24 to 48 hours. The maximum river flow was recorded in December 1964 with an estimated flow of 936,000 cfs, the highest recorded in California. During flood events water levels will be elevated within the ORU on the order of one to five feet and will typically return to normal after one to two days.

The Eel River estuary is a bar built estuary. These estuaries occur around the mouths of rivers with extended periods of low flow where ocean waves and currents can form sand bars that significantly restrict the size of the mouth. The size and location of the mouth vary with a process that is driven by high river flows prevalent during the winter months. The estuary is classified as intermittent, which means the salinity profile within the estuary varies dramatically, ranging from a salt wedge to partially mixed, and is dependent upon the amount of freshwater flowing from the Eel River.

The Eel River estuary is tidally dominated and, as a result, water throughout the estuary is brackish, continually ranging in salinity from fresh to saltwater (from 0 to approximately 35 parts per thousand). Mixed semidiurnal tides bring saltwater from the ocean into the estuary and associated sloughs. Tidal influence extends up the Eel River and is generally considered to reach Fernbridge, a river crossing approximately 7.5 miles upstream from the mouth of the Eel River.

2.10 Land Use, Zoning and Williamson Act

The parcels comprising the Project Area are owned by the State of California. As all Project Area parcels are state-owned, local zoning and general plan designations do not apply to the Project. The following section provides a zoning and land use designation summary for general reference; however, implementation of the Project on state-owned lands would not require land use review or permitting by Humboldt County.

The General Plan land use designation for the Project Area is Agriculture Exclusive (AE) with the exception of the northernmost parcel, which is designated as Commercial Recreation (CR) (County of Humboldt 2017). Principal uses allowed by the County for AE parcels are limited to the production of food, fiber or plants, with residence as a use incidental to this activity. Principal uses within CR designated parcels include: commercial recreation facilities, accommodations, and recreation/tourist tourist-oriented sales and services geared to local and visitor needs (County of Humboldt 2017).

Zoning for the AE-designated parcels within the Project Area is AE-60 with the combining zones of Archaeological Resource Area Outside Shelter Cove (A), Coastal Wetland Areas (W), Flood Hazard Areas (F), Streams and Riparian Corridor Protection (R), and Transitional Agricultural Lands (T)., which is consistent with the land use designation (County of Humboldt 2000). Zoning for the CR-designated parcel is CR/B, including a combining zone of Beach and Dune Areas (B) (County of Humboldt 2000).

No portion of the Project Area is enrolled in a Williamson Act contract. Parcels to the east, outside of the Project Area boundary, are under Williamson Act contract (County of Humboldt 2018).

3. Project Description

3.1 Project Goals and Objectives

The goals of the Project are:

1. To restore and expand natural estuarine function in the restoration area, and to assist in recovery and enhancement of habitat for native fish, invertebrates, wildlife and plant species.
2. To restore natural dune function, and to assist in recovery and enhancement of habitat for native species, state and federally-listed or otherwise sensitive plants, and associated natural communities.

3.2 Overall Project Concept

The Project would include restoration and enhancement of tidal estuarine and coastal dune habitats within an 805-acre (326-hectare) restoration area. Restoration and expansion of estuarine functions would be accomplished by implementing actions that increase the tidal prism, improve connectivity between the restoration area, McNulty Slough and North Bay, increase habitat complexity, and control non-native plant species.

Restoration of a portion of the ORU to tidal marsh would reduce the long-term maintenance obligations associated with ongoing management of existing infrastructure, while addressing a critical regional need for enhancement and restoration of tidal estuarine habitats both regionally and within the Eel River estuary. Enhancement of dune functions would be accomplished by eradication

of invasive species, primarily European beachgrass, and reestablishment of native dune mat natural communities.

Tidal restoration activities contemplated under the Project include:

1. Breach external and internal levees
2. Lower portions of the external levee along McNulty Slough
3. Remove portions of internal levees
4. Excavate tidal channels
5. Create transitional high marsh habitat
6. Construct habitat ridges
7. Install ditch plugs and fill internal ditches
8. Install large wood habitat structures

Invasive species management activities would include: controlling dense-flowered cordgrass with mowing, grinding, excavation, burning, and/or chemical control; controlling dwarf eelgrass using mechanical excavation and smothering; and eradicating European beachgrass using manual, mechanical, burning and/or chemical control methods. Public access improvements would include improving the access road into the restoration area, improving the existing parking area, constructing a new parking area, installing a kayak put-in, and establishing a trail system.

3.3 Proposed Project Activities

The location of the proposed Project design elements, as described in the following subsections, are illustrated on Figure 3 Restoration Project Design Elements (Figure 3) located in Appendix A.

3.3.1 Levee Breaches

The Project would construct four new external levee breaches, identified as BR-1 through BR-4, to connect the ORU to North Bay and McNulty Slough. Breach BR-1 would connect Area A to North Bay downstream of the McNulty Slough and Hawk Slough confluence. Breaches BR-2, BR-3, and BR-4 would connect Areas B, C and D, respectively, directly to McNulty Slough at historic slough locations. Areas A, B, C, and E would be interconnected through four internal levee breaches, noted as BI-1 through BI-4. The location of levee breaches are shown on Figure 3 (Appendix A).

3.3.2 Tidal Channels

Up to 8,520 linear feet (2,597 meters) of new tidal channels would be excavated in Areas A, B, C, and E, beginning at BR-1 and extending south to North Bay. A new channel would be excavated south from BR-1, connecting Area A to North Bay. The length of the new channel would be approximately 860 linear feet (262 meters). Similarly, a 2,390-foot (728-meter) long channel would be excavated north from BR-1 to facilitate water conveyance into the lower reaches of Area A. A portion of a remnant slough channel in Area B would be enlarged to connect BR-2 to the northern reaches of Area A and subsequently Area E. A tidal channel would also be extended from BR-3 through Area C to connect to McNulty Slough.

3.3.3 Levee Lowering/Removal

Sections of the perimeter levee along the east side of Areas A, B, C and D would either be left intact, or altered. Sections of the perimeter levee left intact would be used to maintain upland refugia and roosting habitat for wildlife and provide wave refraction during flood events. Altered perimeter levees would be either lowered to a crest elevation (referenced hereinafter to vertical datum NAVD 88) of eight feet, or lowered to marsh plain elevation. Portions lowered to a crest elevation of eight feet would be recontoured with varying flat, gradual slopes to provide transitional habitat. Large wood may be placed along some sections of lowered levee to provide high tide refugia for wildlife and a break from wind generated waves coming from the west. Sections of levee lowered to marsh plain elevation would be used to increase tidal exchange. Internal levees between Areas B, C, and D would be removed, including a part of the internal levee separating Areas A and B, to improve tidal exchange and water quality.

3.3.4 High Marsh Elevation Fill

Material excavated to create the tidal channel from BR-1 to North Bay and through the lower portion of Area A may be used to create higher elevation marsh habitat in Area B. Higher marsh elevations may also provide resiliency to sea level rise over time. Alternatively, if the cost or feasibility of moving excavated soils from Area A to Area B is prohibitive, excavated material may be relocated to the west side of Area A and/or placed as habitat ridges adjacent to the new tidal channel within Area A.

3.3.5 Habitat Ridges

Habitat ridges are un-engineered spoil piles that are placed along the outside meander of newly constructed channels to guide channel formation and facilitate revegetation. Habitat ridges would be placed along the new tidal channel in Area B, constructed to a crest elevation of approximately seven feet, at approximately the level of mean higher high water (MHHW), and allowed to develop as high marsh vegetation.

3.3.6 Ditch Block and Ditch Fill

A ditch block is a small plug constructed of compacted earthen fill that is used to block the path of water, help guide natural channel formation, and accelerate accretion of sediment in isolated portions of a ditch. Ditch blocks would be installed at strategic locations in several borrow ditches in Area A and Area B. Some ditches would also be filled to facilitate channel formation.

3.3.7 Placement of Large Wood

Large wood would be placed in Areas A, B and C to increase habitat complexity in tidal channels. Logs would be embedded into the channel bank and pinned to limit movement. Large wood would also be installed along the lowered sections of the perimeter levee of McNulty Slough to increase habitat complexity and provide wave attenuation.

3.3.8 Beneficial Reuse of Excavated Sediments

All soil excavated to construct the tidal estuary restoration project elements, including soil excavated during levee breaching, levee lowering, and tidal channel excavation, would be reused onsite. Proposed onsite soil reuses include: creating high marsh habitat, filling internal ditches and lower elevation areas, installing ditch plugs, and repairing damaged levees and berms not proposed

for removal. Excess soil not used for one of the above Project components may be spread as a thin layer (less than six-inches [15-centimeters] deep) in lower elevation saltmarsh.

In all instances, excavated soil reused onsite would be placed at an elevation to ensure wetland habitat characteristics persist (i.e., mudflats or saltmarsh would be converted to higher elevation estuarine marsh, not to upland). No fill material would be imported to the restoration area.

3.3.9 Invasive Species Management

Dense-Flowered Cordgrass Management

Under the Project, up to 326 acres (132 hectares) of cordgrass would be treated after the tidal restoration project is complete using one or more of the methods described in the following subsections. The methods utilized to control cordgrass would be carried out using a comprehensive integrated pest management program comprised of a series of treatments implemented over time based on seasonality, weather, tides, and labor availability.

Dense-flowered cordgrass treatment methods would include one or more of the following methods: top mowing, grinding, tilling, excavation, flaming, prescribed burning, and/or chemical control. In general, treatments would occur between February 1 and March 15, or after August 1, to avoid the nesting bird season. It is anticipated that the first treatment of cordgrass would occur after implementation of the tidal restoration project has been completed.

Dwarf Eelgrass Management

Under the Project, if observed during ongoing eelgrass surveys of McNulty Slough, dwarf eelgrass would be removed using mechanical control or smothering. Control of dwarf eelgrass would occur, if observed, on the Ocean Ranch side (west side) of McNulty Slough, from the edge of the perimeter levee to mean low water. Control of dwarf eelgrass is not proposed along the eastern portion of the slough. Control of dwarf eelgrass would likely occur between June and August, concurrent with eelgrass surveys timed to correlate with the flowering period of the species.

Dwarf eelgrass treatment methods would include manual removal and/or smothering (i.e., covering stands with burlap and clean mud).

European Beachgrass Management

Under the Project, up to 232 acres (94 hectares) of beachgrass would be removed from the restoration area. Management efforts would be concentrated in an area defined as the “Primary Treatment Area”. The Primary Treatment Area would extend along approximately 2.6 miles (4.2 kilometers) of shoreline and generally correspond with the 155 acres (63 hectares) where the densest stands of beachgrass (61 percent to 100 percent cover) are located. Removal of beachgrass from a supplemental area, defined as the “Secondary Treatment Area”, would occur in coordination with USFWS to ensure impacts to western snowy plover are minimized. The Secondary Treatment Area would include an 0.3 miles (0.5 kilometers) of shoreline along the southern portion of the restoration area and generally encompasses 77 acres (31 hectares).

Removal of beachgrass within the restoration area would be phased temporally and spatially to reduce edge effects and provide natural communities time to re-establish and ameliorate susceptibility to foredune erosion. In general, beachgrass treatments in both treatment areas would occur between February 1 and March 15, or after August 1, to avoid the nesting bird season.

Treatment methods would include one or more of the following: manual removal, mechanical removal, burning, and/or chemical control. Treatment methods would generally be used in

combination, meaning that a treatment area may be initially burned to remove thatch, followed by an herbicide application to kill rhizomes, with remaining plants manually removed or chemically treated if they re-sprout after initial treatments.

3.4 Public Access Improvements

The Project would include improvements to an existing access road and parking area, construction of a new parking area, construction of a pedestrian trail system, and construction of a kayak put-in. These improvements would be designed and located to be wildlife-friendly, with some uses prohibited or seasonally restricted to minimize impacts to wildlife.

A 0.5-mile (0.8-kilometer) segment of the modified levee separating Areas A and B would be managed as a pedestrian trail, extending from the new parking area to the levee breach between Areas A and B. A second 0.25-mile (0.4-kilometer) trail would extend from the new parking area to Sand Dune Road, utilizing the modified levee between Areas A and E. This trail would provide access between the restoration area and the Pacific Ocean. Construction of the trail system would include a bridge crossing having a span of about 50 feet (15 meters) over the BI-3 breach, as well as a box culvert crossing at BI-4.

Under the Project, the existing parking area at the north end of Table Bluff Road and the existing gravel access road would be improved, including grading and resurfacing. A new parking area would be established near the south end of the access road to accommodate vehicle parking in association with the proposed pedestrian trail system. A kiosk and interpretive display would be located in the parking area. A second kiosk and interpretive display would be installed at the entrance to the sand road off of South Jetty Road.

A kayak put-in would be constructed in Area B near the new parking area and pedestrian trail system. The launch would provide kayakers with water access during most tides and would connect to the tidal channel system in Area B.

3.5 Project Implementation

Primary access to the restoration area during construction of the tidal restoration project would be from the existing single-lane gravel road on the north end of the ORU. Construction equipment would be staged in the existing improved parking area on the north side of the restoration area, as well as in the adjacent uplands north of the tidal restoration area. Construction equipment would access individual work sites from the top of existing levees and berms, where possible, and along the sand road, where necessary. Low-ground pressure equipment, and/or equipment staged from barges, would be used in discrete restoration areas that are not accessible from existing levees or berms. Construction equipment would not be stored in or near water or inundation areas.

Vegetation management under the Project would utilize the same access roads and parking areas as those described for the tidal restoration component of the project. All areas disturbed by temporary staging and access would be de-compacted and naturalized as needed prior to Project completion.

Tidal restoration project construction would be phased into two construction seasons based on available funding and sequencing earthwork. Construction work may occur year-round, if feasible, but would likely occur primarily between May and October. Construction is currently anticipated for years 2019 and 2020. Initial phases of construction would include isolating Areas B, C and D and constructing interior site elements, such as channel excavation, habitat ridges, and ditch blocks. Public access elements would likely be implemented concurrent with the interior site work.

Subsequent phases would include excavation of the BR-1 breach and channel to North Bay, followed by breaching and lowering levees throughout the remainder of the site.

4. Probable Environmental Effects

Per CEQA Guidelines Section 15082 (a)(1)(c), the probable environmental effects of the Project, are summarized below based on a preliminary review of the Project. Probable environmental effects are organized by the environmental resource categories identified in Appendix G of the CEQA Guidelines. Because there is the potential for significant impacts to occur as a result of the Project, even with the use of mitigation measures, CDFW has determined that an EIR will be prepared. The EIR will provide site specific information and analysis relevant to the Project; evaluate Project alternatives; and will identify mitigation measures where significant impacts are identified.

For the reasons described below, CDFW does not anticipate the Project will have any impact on three environmental resource categories: Mineral Resources, Population and Housing, and Public Services. These resource categories will not be analyzed in the EIR unless input from responsible agencies, trustee agencies, or the public during the scoping period indicate an analysis is warranted.

4.1 Aesthetics

Would the project:
a) Have a substantial adverse effect on a scenic vista?
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
c) Substantially degrade the existing visual character or quality of the site and its surroundings?
d) Create a new source of substantial light or glare which would adversely affect day or night time views in the area?

The Project Area is in a highly scenic area and includes coastal dunes, riparian woodlands, tidal mudflats, tidal slough channels, salt marshes, and freshwater marshes. Project activities are not anticipated to substantially degrade scenic resources in the Project Area, rather they are intended to restore and expand natural estuarine and dune functions, including the recovery and enhancement of native species (estuarine fish, invertebrates, wildlife, and plants) and their habitats and provide public access. However, the EIR will analyze the potential impacts to aesthetic resources, and if appropriate, include feasible mitigation measures.

4.2 Agricultural and Forestry Resources

Would the project:
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
d) Result in the loss of forest land or conversion of forest land to non-forest use?

Would the project:
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Agriculture began on the prairies of Table Bluff around 1850. Sometime between 1916 and 1948, the Ocean Ranch site was diked, isolated from tidal waters and drained for pasture through tide gates to McNulty Slough. Historical use consisted primarily of livestock grazing and dairy farming, although imagery from 1948 shows that some areas of Ocean Ranch were actively farmed for agriculture. Active farm practices on Ocean Ranch ceased when it was acquired by CDFW in 1968, to be managed as a Wildlife Area.

No project site parcels are under Williamson Act contract, however there are Williamson Act parcels located east of the Project Area (County of Humboldt 2018). According to the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey, the majority of the ORU is located on soils that are not designated as prime farmland. The only exception is the Weott soil unit, which is prime farmland if irrigated. Although, irrigated or non-irrigated, this soil has a 5w capability class designation, which typically is not considered prime as defined by the Local Coastal Program (LCP) or the Coastal Act. Weott soils are found in a small north-south band within Area A of the ORU and most likely are much saltier than depicted in the current NRCS mapping unit.

The EIR will analyze the potential effects to agricultural resources from implementation of the Project and include feasible mitigation measures, if needed, to reduce any potentially significant impacts to a less than significant level. The Project Area does not include any forest land or land zoned timberland. A Land Evaluation Site Assessment (LESA) will be prepared to aid in the analysis of agricultural resources impacts and be included as an Appendix in the DEIR.

4.3 Air Quality

Would the project:
a) Conflict with or obstruct implementation of the applicable air quality plan?
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
c) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
d) Expose sensitive receptors to substantial pollutant concentrations?
e) Create objectionable odors affecting a substantial number of people?

The Project Area is located within the North Coast Air Basin (NCAB), which is under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The NCAB is currently in attainment (or is unclassified) for all state and federal ambient air quality standards, with the exception of the state standard for particulate matter less than ten micrometers in diameter (PM_{10}). The EIR will discuss temporary air quality impacts from construction of the Project (e.g., equipment and vehicle exhaust emissions) and restoration activities, including invasive species management activities (e.g., controlled burning). The EIR will also discuss the Project's conformity with applicable air quality plans and exposure of sensitive receptors to criteria air pollutants and odors. Mitigation measures for significant impacts will be included where applicable and feasible.

4.4 Biological Resources

Would the project:
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Project Area includes wetlands, riparian areas, coastal dunes and uplands that support a diverse array of aquatic and terrestrial biological resources. The EIR will utilize a number of special studies in the preparation of this section, including a site-specific wetland delineation, rare plant assessment and sensitive plant surveys, natural community map and report, invasive plant map and report, and fish assemblage surveys, among others. The EIR will analyze potential impacts to special status-species, wetlands, riparian habitat, and coastal dunes and will include feasible mitigation measures if significant impacts are identified. The EIR will also discuss the Project's conformity with other federal and state policies and plans protecting biological resources.

4.5 Cultural Resources

Would the project:
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
d) Disturb any human remains, including those interred outside of formal cemeteries?

A Cultural Resources Investigation is being prepared to inventory cultural resources in the Project Area, and to assess potential impacts on these resources from Project activities. Potential impacts could include the destruction of known or unknown cultural resources. The EIR will include the results from this investigation and identify mitigation measures if significant impacts would occur.

4.6 Geology & Soils

Would the project:
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

Would the project:
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
ii) Strong seismic ground shaking?
iii) Seismic related ground failure, including liquefaction?
iv) Landslides?
b) Result in substantial soil erosion or the loss of topsoil?
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Geologic and soils issues include potential erosion, loss of topsoil, and sedimentation during and after construction due to proposed grading, dredging, channel reconfiguration, and levee reconfiguration, as well as changes in sand movement associated with removal of European beachgrass from the coastal dunes. The EIR will describe the site's existing geologic conditions and soils based on existing information and technical reports prepared for the Project. The EIR will include an analysis of the geology of the site as it relates to slope stability, earthquake hazards, landslides, and other potential geologic hazards, and recommend appropriate mitigation measures if significant impacts are identified.

4.7 Greenhouse Gas Emissions

Would the project:
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The EIR will evaluate climate change and sea level rise projections and the potential effects of those projections on the proposed Project, as well as any potential effects the Project may have on sea level rise or greenhouse gas (GHG) emissions. Potential GHG emissions resulting from the Project would also be estimated and quantified using CalEEMod emissions modeling software. The NCUAQMD has not adopted a threshold for construction-related GHG emissions against which to evaluate significance and has not established construction-generated criteria air pollutant screening levels above which quantitative air quality emissions would be required; however, this potential impact will be further discussed in the EIR.

4.8 Hazards & Hazardous Materials

Would the project:
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Would the project:
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The EIR will discuss potential hazards in the Project Area, identify appropriate spill prevention measures, identify potential impacts to construction workers and recreation users due to potential soil contamination and other potential hazards at the site. Phase I and II Environmental Site Assessments were not completed for the Project and are not assumed to be needed; however, a database search through Environmental Data Resources, Inc. (EDR) will be conducted to access the California Department of Toxic Substances Control (DTSC) Cortese List, and to assess the proximity of known contaminated sites to the Project Area. This information will be used in the analysis and appropriate mitigation measures incorporated if significant impacts are identified.

4.9 Hydrology & Water Quality

Would the project:
a) Violate any water quality standards or waste discharge requirements?
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off- site?
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
f) Otherwise substantially degrade water quality?
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
j) Inundation by seiche, tsunami, or mudflow?

The Project could affect water quality through the release of contaminants and sediment from construction activities. The Project could also alter hydrodynamic processes, which control local salinity levels, or increase turbidity during and after construction, adversely affecting water quality. In addition, flows in McNulty Slough are likely to change with the increased tidal prism following restoration; these increased flows could affect water quality, erosion along this waterway, and fisheries use of this waterway. The EIR will discuss these issues and potential effects and incorporate mitigation measure if significant impacts are identified.

4.10 Land Use & Planning

Would the project:
a) Physically divide an established community?
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The Project is within the Coastal Zone and will require a Coastal Development Permit or Federal Consistency Determination from the California Coastal Commission per the California Coastal Act and Coastal Zone Management Act. The EIR will describe existing land uses in the Project Area, assess Project impacts and identify any potential land use conflicts. The EIR will summarize applicable goals and policies and assess the Project's consistency with the Eel River Area Plan and the Coastal Act. As noted above, because the Project would be located solely within state-owned lands, local land use and zoning review by Humboldt County is not required.

4.11 Mineral Resources

Would the project:
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

There are no existing mining operations in the Project Area. The Project Area is primarily comprised of fine silt, sand and water, and contains no known mineral resources available for extraction. There are no Surface Mining and Reclamation Act (SMARA)-designated parcels located within the Project Area. Although Humboldt County has not yet been included in the California Mineral Land Classification System by the State Mining & Geology Board (SMGB) to designate lands containing mineral deposits of regional or statewide significance, it seems evident that the Project Area would not rise to the level of significance for sand or gravel extraction. Therefore, the Project is not anticipated to result in a loss of mineral resources.

4.12 Noise

Would the project:
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Would the project:
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Noise levels would increase temporarily during construction activities at the Project Area. The EIR will describe the existing noise levels in the Project Area and identify any noise sensitive receptors in the Project vicinity. The EIR will evaluate the potential for temporary noise impacts from construction. Future noise levels will be compared to existing noise levels and applicable noise standards to determine if the Project will cause a significant increase in ambient noise levels. Appropriate mitigation measures will be incorporated if significant impacts are identified.

4.13 Population & Housing

Would the project:
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The proposed Project would not add any new homes or businesses, nor extend any roads or other infrastructure on the site. The Project would not displace any housing or people, on or adjacent to the site. No aspect of the Project would induce substantial population growth or displace substantial numbers of housing or people. Therefore, the Project is not anticipated to impact population and housing.

4.14 Public Services

Would the project:
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
Fire Protection?
Police protection?
Schools?
Parks?
Other public facilities?

The Project would not directly increase population, therefore, it is not anticipated that the Project would increase the need for public services. The Project would not place additional demands on schools, parks, or other services. The Project does not include the construction of residential or

commercial structures, and the Project is not anticipated to result in population growth in the area. Therefore, the Project is not anticipated to impact public services.

4.15 Recreation

Would the project:
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The Project is not anticipated to place additional demands on recreational facilities, or require recreational facility construction or expansion. The Project would include improvements to the trail system and parking area, construction of a new boat/kayak launch, and the addition of other public access amenities, such as viewing platforms and interpretive signage. The EIR will analyze potential impacts to recreational resources and identify feasible mitigation measures if significant impacts are identified.

4.16 Transportation & Traffic

Would the project:
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
e) Result in inadequate emergency access?
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The Project would result in increased traffic during construction, which may temporarily decrease the overall performance and safety of local roadways. The Project may also result in increased operational traffic, potentially affecting levels of service on local streets. The EIR will discuss existing and proposed project traffic volumes and level of service in the Project Area and recommend mitigation measures if significant impacts are identified.

4.17 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources; or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. The Project may potentially encounter known or as-of-yet unknown archaeological materials during Project-related construction activities. If such resources were to represent "tribal cultural resources" as defined by CEQA, any substantial change to or destruction of such resources would be a significant impact. The EIR will analyze tribal cultural resources per Public Resources Code Section 21080.3.1, and include mitigation measures, if applicable, per Public Resources Code Section 21080.3.2.

4.18 Utilities & Service Systems

Would the project:
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
g) Comply with federal, state, and local statutes and regulations related to solid waste?

The Project does not include the construction of facilities (residential, commercial, or industrial) that would place additional long-term demands on public water systems, wastewater systems, or landfills. Landfills may be used for disposal of damaged water control infrastructure removed from the Project Area. The EIR will include information obtained from the County of Humboldt and applicable utility providers regarding any potential constraints, and feasible mitigation measures would be incorporated if significant impacts are identified.

5. References

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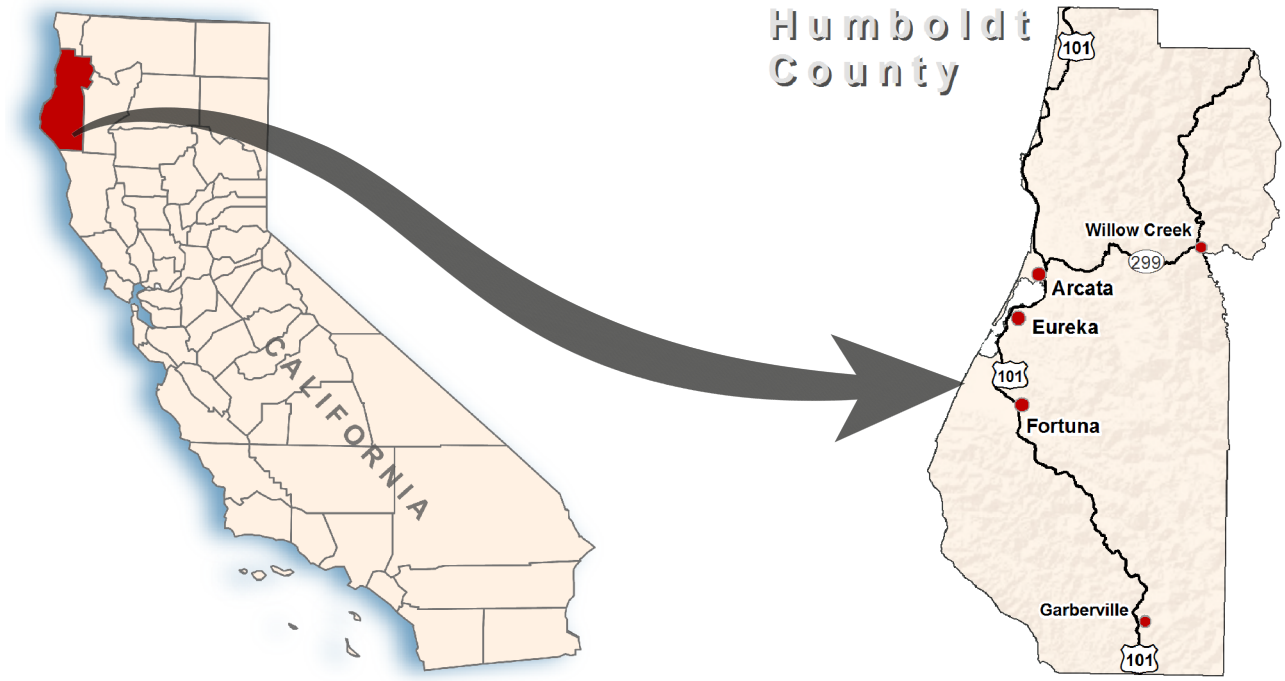
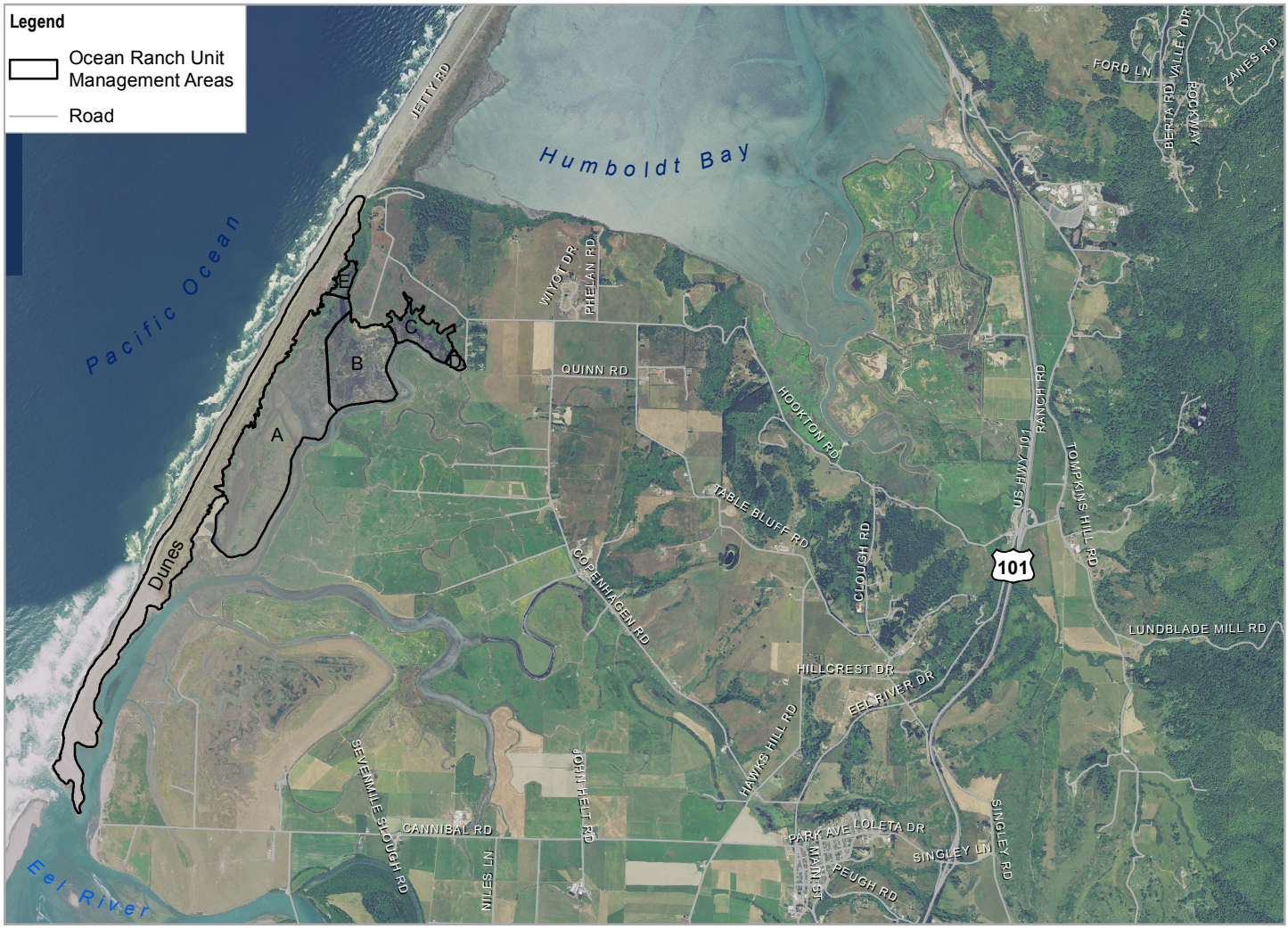
Ducks Unlimited, Inc. (DU), 2015.Feasibility Study for the Restoration of the Ocean Ranch Unit of the Eel River Wildlife. Prepared for California Department of Fish and Wildlife, December, 2015.

LACO, 2014. McNulty Slough Levee Assessment, Ocean Ranch Restoration Project. Eureka, California.

Appendices

Appendix A - Figures





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California Department of Fish and Wildlife
Ocean Ranch Restoration Project

Project No. **11152100**
Revision No. **-**
Date **6/11/2018**

Vicinity Map

FIGURE 1

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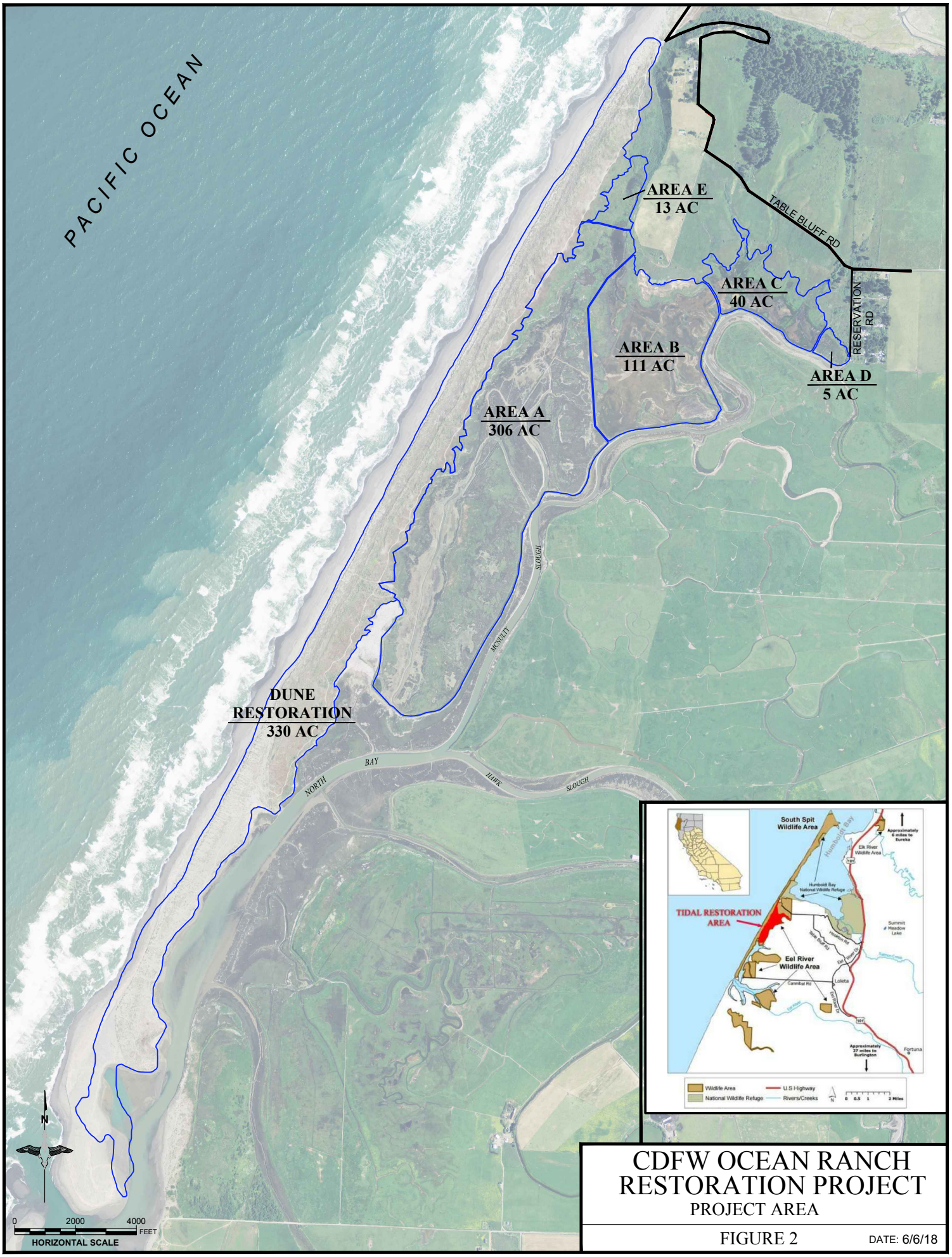
Data source: Humboldt County roads, 2008; NAIP orthoimagery 2016; . Created by: gldavidson

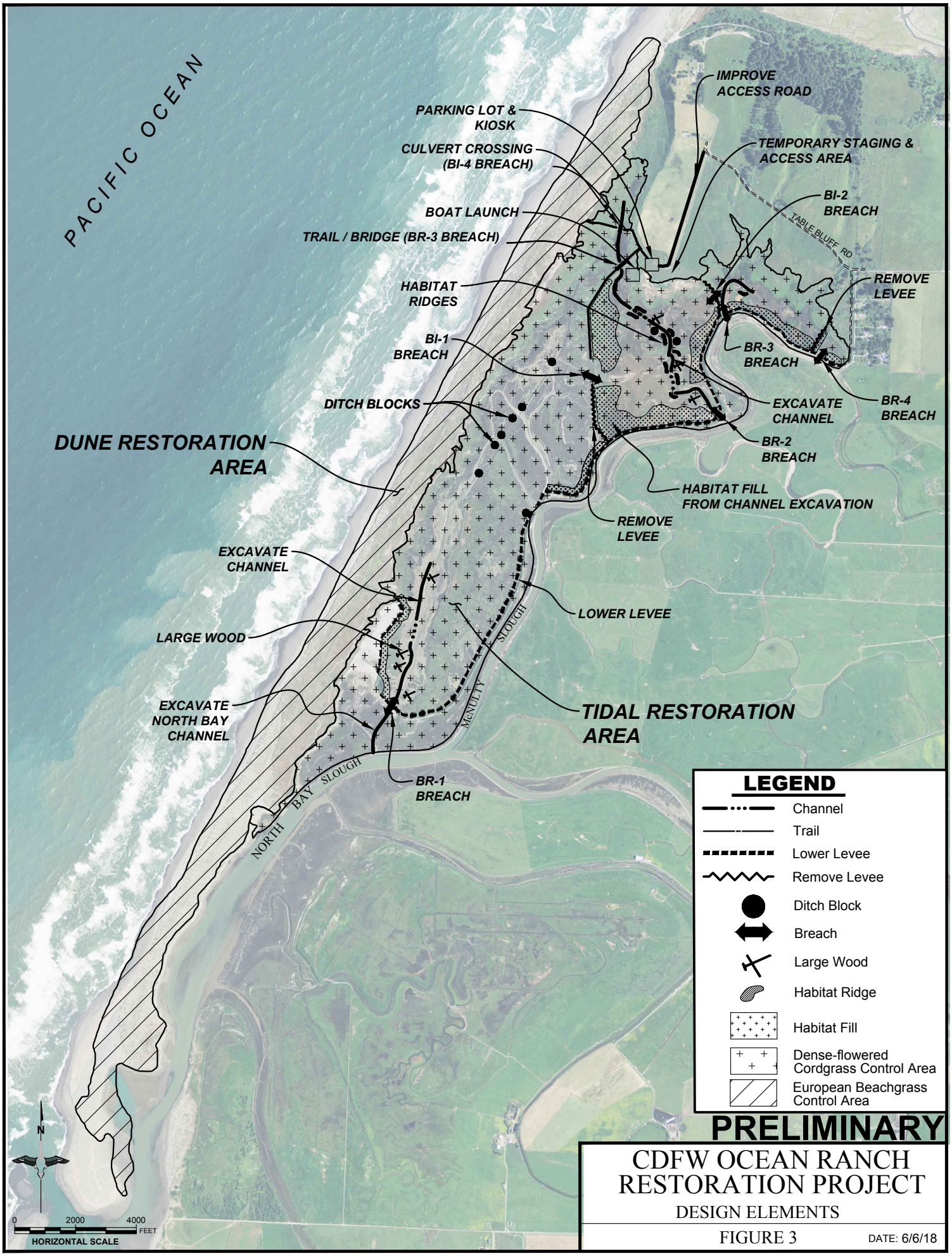


CDFW OCEAN RANCH RESTORATION PROJECT

PROJECT AREA

FIGURE 2

DATE: 6/6/18



PRELIMINARY

CDFW OCEAN RANCH RESTORATION PROJECT

DESIGN ELEMENTS

FIGURE 3 DATE: 6/6/18