



California State Coastal Conservancy – Lead Agency
Revised Notice of Preparation of
Draft Environmental Impact Report for
Eel River Estuary and Centerville Slough Enhancement Project
SCH# 2014122040

November 2015

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**Revised Notice of Preparation of Draft Environmental Impact Report
for the
Eel River Estuary and Centerville Slough
Enhancement Project
SCH# 2014122040**



California State Coastal Conservancy, Lead Agency
1330 Broadway, 13th Floor
Oakland, CA 94612-2530

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November 2015

Project Ref#: 1000298-8410882

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1. Introduction

1.1 CEQA Requirements

This proposed Project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the California State Coastal Conservancy (Coastal Conservancy), as it will be the first public decision-making body to act on the proposed project. The Coastal Conservancy is responsible for assuring the completion of the appropriate evaluation and processes required by CEQA. The Coastal Conservancy 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 Revised Notice of Preparation (Revised NOP) is to solicit participation in determining the scope of the Environmental Impact Report (EIR) which would be prepared for the Eel River Estuary and Centerville Slough Enhancement Project (Project), (formerly referred to as the Eel River Estuary Preserve Ecosystem Enhancement Project) with regard to the Project description modifications described below. The EIR is intended to satisfy the requirements of CEQA (Public Resources Code, Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Sec 15000-15387).

1.2 General Information

Protect Title: Eel River Estuary and Centerville Slough Enhancement Project

Lead Agency: California State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612-2530
Attention: Michael Bowen, Project Manager

Availability of Project Documents/Files: Project documents/files are available for review at the Coastal Conservancy, located at 1330 Broadway, 13th Floor, Oakland, California. www.scc.ca.gov and http://scc.ca.gov/webmaster/ftp/eel_river/. Document files will also be made available upon request at GHD Inc. 718 Third Street, Eureka, CA 95501.

Written Comments: Written comments on the scope of the EIR can be sent to Michael Bowen, Project Manager, California State Coastal Conservancy, located at 1330 Broadway, 13th Floor, Oakland, California, 94612-2530. They can also be sent via fax to 510-286-0470, with "Eel River Estuary and Centerville Slough Enhancement Project, Comments on Revised NOP" in the title.

Comment Period: CEQA Guidelines Section 15082 (b) provides a 30-day response period for input about the scope and content of the EIR. The comment period for the Revised NOP begins on November 13, 2015, and ends on December 18, 2015. The deadline for submitting written comments is December 18, 2015 at 5:00 p.m.

Public Scoping Meeting: A public scoping meeting to accept comments on the environmental issues germane to the Project will be held on December 9, 2015 at 3:00 PM at the River Lodge Conference Center, 1800 Riverwalk Drive, in Fortuna, California.

1.3 Previous Notice of Preparation and Scoping

On December 17, 2014, the Coastal Conservancy issued the original NOP for the original version of the Project. The NOP was issued in accordance with the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15082) with the intent of informing agencies and interested

parties that an EIR would be prepared for the above-referenced Project. A public scoping meeting for the proposed project was held in Fortuna January 12, 2015 at 3:00 P.M. The Coastal Conservancy received extensive input on the proposed Project, but the comments received did not warrant reissuance of the NOP or rescoping. However, in August 2015 adjacent property owners requested that the Project scope extend beyond the Eel River Estuary Preserve (EREP) then-defined Project area to include adjacent properties.

In response to input received during the initial scoping, as well as more recent stakeholder interest and input, the Project has since been revised by the applicant. The Project area now includes approximately 600-acres to the south. This expanded footprint is extended at the request of adjacent property owners and similar Project components are proposed for implementation on these adjacent properties. To address the addition of these properties into the Project area, the Coastal Conservancy has prepared this Revised NOP to allow for additional public and agency comment on the preparation of an EIR for this revised proposed Project. Comments provided in response to this Revised NOP will be considered and addressed in the Draft EIR. Comments provided previously, in response to the original NOP, will continue to be considered in the Draft EIR. (Please note: if you provided a comment on the original NOP, you do not need to provide a duplicate comment of that comment. However, if you have a new comment on the revised NOP, please provide your comment in response to this Notice)

1.4 Purpose of this Revised Notice of Preparation

The purpose of an NOP is to provide sufficient information about the revised proposed Project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (State CEQA Guidelines 14 CCR Section 15082[b]). The proposed Project location, description, and potential environmental effects are summarized below.

2. Project Location and Setting

The proposed Project site is approximately 1,850-acres and is located approximately four miles west of the City of Ferndale, in Humboldt County, California (Figure 1). The Project site includes the Eel River Estuary Preserve (EREP) owned by The Wildlands Conservancy (TWC) and various parcels owned primarily by Russ Ranch and Timber, LLC and Jack and Linda Russ. The Project site includes the following APN's: 10012105, 10013104, 10014201, 10013103, 10012104, 10012101, 10014209, 10014304, 10014303, 10014221, 10101114, 10014308, 10014208, 10014211, 10014302, 10014301, and 10101105.

The west side of the Project encompasses the near shore dunes of Centerville Beach and extends to the Pacific Ocean. East of the dunes the Project area supports a system of sloughs and pastures that comprise a portion of the Salt River watershed, itself a tributary to the Eel River estuary. The north property line borders the Eel River. The southern half of the Project area includes two perennial tributary streams, Russ Creek and Shaw Creek, and one seasonal drainage referred to as Creamery Ditch.

Much of the southern half of the Project area east of and including former Centerville Slough was reclaimed and has been converted to pasture for cattle grazing. Some of this land represents diked former tidelands separated from the estuarine wetlands by a series of dikes and the Cut-off Slough

tidegates. The project area and some other surrounding parcels comprise an historic reclamation district that operated with a largely unified vision of managing Eel River and Wildcat Hill stream floodwaters.¹

A partially developed upland area occupies the southeastern portion of the Project, where vehicular access is gained from Russ Lane. Few structures occur on site, but there are two residences: one at the southwestern edge of the Project and another at the southeastern edge; two barns within the upland area near Russ Lane (referred to as the Potato Barn and Quonset Hut); a third barn (North Barn) located between Cut-off Slough and the near shore dunes, approximately midway between the north and south property lines of the EREP; and a fourth barn (South Barn) located in the southwest corner of the EREP. The North and South barns are connected by unimproved roads to the Potato Barn at the Project entrance.² Watering troughs and extensive fencing occur throughout the central and southern portion of the Project area. Figure 2 shows existing conditions within the Project area.

TWC owns the EREP which includes agricultural (grazing) land, tidal salt marsh, brackish marsh, riparian scrub, sloughs/open water channels, freshwater ponds and ditches, and nearshore dune ridges and swales. Russ Ranch and Timber, LLC, Jack and Linda Russ, and Harville Ranch, LLC own the parcels of land immediately south of the EREP; this area includes grazing land with managed ditches, open water channels and mixed freshwater and brackish marsh.

The climate is Mediterranean with precipitation most abundant in the winter months, and the average annual rainfall is approximately 48.5 inches. Approximately two thirds of the year, the site is influenced by coastal fog. Prominent water features include Russ Creek, remnant Centerville Slough, Cut-off Slough, and the Western Drainage Ditch (which in turn conveys the flow of Shaw Creek and Creamery Ditch), as well as smaller (seasonal) slough channels and drainage ditches. The northern end of the EREP borders the mouth of the Eel River.

General Plan land use for the Project site is Natural Resources (NR/R) and Agriculture Exclusive (AE) which includes prime agricultural lands. Primary uses of AE are limited to the production of food, fiber, plants, timber, timber agriculturally related uses, and agriculture related recreational uses. Very-low intensity residential uses may be allowed if they are incidental to the property and if they support agricultural activities, or are necessary for the enhancement and protection of the natural resources of the area. Minimum parcel size is 60 acres except divisions to 20 acres may be permitted where the parcel is subject to an agricultural preserve contract or agreement. Zoning for the Project site is NR/R and AE-60/W,F,R,T, which is consistent with the land use designation. Combining zones include Coastal Wetland Areas (W), Flood Hazard Areas (F), Streams and Riparian Corridors Protection (R), and Transitional Agricultural Lands (T).

The EREP portion of the Project is enrolled in a Williamson Act contract entitled "Wildlands Conservancy Agricultural Preserve No. 09-05." Approximately 648 acres are identified in that

¹ This delicate balancing of conflicting forces was achieved by storing floodwaters from the Wildcat Hills to the south behind a system of levees and tidegates, and then draining that stored water northward (primarily through the Cutoff Slough tidegate) when low tide conditions in the Eel estuary permitted. The proposed project adheres to this approach. Therefore, ensuring that the proposed project does not significantly diminish the storage capacity within the system of levees is a fundamental design criterion for the project.

² The only access to the EREP is over an easement owned by TWC, which lies across APN 100-142-002 owned in fee by the Harville Ranch LLC. TWC and the Harville Ranch LLC presently do not agree on whether the easement encompasses the legal right to provide public access to the TWC property.

contract as being “Areas In Grazing.” The parcels south of the EREP, which are now included in the Project site with this Revised NOP, are also enrolled under Williamson Act contracts (APN’s 10014302, 10014303, 10014304, 10014308, 10014211, 10014221, and 10014208). Russ Ranch and Timber Co., LLC. property included in the Project under Williamson Act contract are: APNs 100-142-008, 100-142-011, 100-143-002, 100-143-003, 100-143-008, 100-142-021 and 100-143-004. A Natural Resource Conservation Service (NRCS) Wetland Reserve Easement (WRE) is proposed and will be finalized in 2016 over APN 10014308 owned by Russ Ranch and Timber Co., LLC. A Natural Resources NRCS WRE is also proposed over APN 10012104 owned by TWC.

3. Project Description

3.1.1 Project Goals and Objectives

The goal of the Project is to improve geomorphic and ecosystem function that will enhance habitats for native fisheries and aquatic species, support waterfowl and wildlife species, and benefit agricultural land management, capacity and uses by decreasing and more effectively managing onsite flooding and sedimentation through practices including passive and active sediment management. In addition to articulating habitat enhancement actions, the Project objectives also specify how the Project can design and plan for land uses, agricultural land management, productive capacity and uses, dune enhancement and vegetative communities in anticipation of future climate scenarios and sea level rise.

Specific objectives of the Project include:

- Improve access to restored aquatic habitats for salmonids and other aquatic dependent species by increasing or creating migratory access between estuarine and inland waters and by restoring overwintering and rearing habitat for juvenile salmonids
- Improve drainage efficiency and manage sediment loads more effectively using both passive natural processes and active management approaches, while enhancing tidal influences by reestablishing connectivity of Russ Creek, Shaw Creek and Creamery Ditch to a rehabilitated Centerville Slough
- Enhance agricultural land management, capacity and uses by increasing resiliency to sea level rise and reducing salt water influences to pastures, enhancing drainage and establishing avulsion management areas for Russ Creek and Shaw Creek
- Enhance tidal processes by restoring tidal prism and improve reliability of tidegate infrastructure to provide adaptability for sea level rise and varied land management
- Enhance dune formation to increase resiliency to sea level rise
- Enhance freshwater pond habitat for waterbirds and other native aquatic dependent species
- Facilitate agreement regarding access for continued passive and active agricultural land management, and nature study opportunities consistent with existing conditions
- Suppress invasive species
- Establish long-term Adaptive Management Program to facilitate future permitting of land management activities

3.1.2 Overall Concept

Proposed activities would enhance the Project area transitioning it from a landscape of mostly diked pasture land to a system of pastures and natural habitats, including estuarine and tidal slough channels, freshwater streams, freshwater waterfowl ponds and agricultural pastures. Critical to achieving this goal is an enhancement in tidal flushing to reactivate wetland functions within the Inner Marsh and Centerville Slough. The Project includes design and installation of new muted-tidegates to introduce the muted tidal prism into the Inner Marsh and Centerville Slough occupying historic tidal slough channels that have persisted despite former reclamation efforts, floods and significant tectonic activity. This will enhance aquatic organism passage from the Eel River to Centerville Slough, Shaw Creek and Russ Creek, while improving drainage efficiency. Additionally, retrofitting the existing tidegate structure on Cut-off Slough through replacement of the gates will increase reliability and drainage efficiency. Realignment and geomorphic restoration of Centerville Slough, Russ Creek and Shaw Creek are expected to support introduction of overwintering juvenile salmonids, waterbird habitat and drainage from the landscape, and maintain an existing drainage easement. Improved drainage and habitat conditions will be established along Russ Creek. Creation of sediment management areas requiring continual passive and active management and maintenance are acknowledgement that in the absence of full historic tidal and floodplain functions some processes of the Project site will require ongoing management to maintain agricultural viability, agricultural land management, capacity and uses and ecological function. Similarly, management of the flattened (breached) dune would include actions to protect an existing drainage ditch and agricultural resources, agricultural land management, capacity and uses while furthering science and projects on passive and active dune enhancement and climate change vulnerability. As a retreat strategy to reduce agricultural land vulnerability from sea level rise, proposed placement of set-back berms provide increased resiliency. The longevity of Project benefits depends upon the successful restoration of some natural ecological processes and the frequency and nature of maintenance activities, but would be heavily influenced by availability of long-term funding and uncontrollable natural events within this dynamic, highly altered and geologically unstable watershed. As a result, this Project would include an adaptive management program to provide a feedback mechanism for responses based on monitoring, and then implementation of management actions. Figure 3 illustrates Project activities from the original NOP and Figure 4 illustrates Project activities for the Revised NOP.

3.1.3 Proposed Project Activities

Retrofit Existing Cut-off Slough Tidegates

The existing tidal control structure in Cut-off Slough provides the only conduit of drainage from the project area into the Eel River. The structure is equipped with six (6) top-hinge tidegates that leak and restrict aquatic organism passage from the Eel River. The existing tidal control structure in Cut-off Slough is a dike structure built in 1979. The current structure was intended to replace a former structure installed as part of the original filed 1884 Reclamation District. The levee system is approximately 2 miles in length, and includes the Cutoff Slough tidegate that consists of six (6) top hinge flood control tidegates protecting an estimated 2,000 acres of prime agricultural land or nonprime agricultural lands owned by 5 owners comprised of: 1). Fern Cottage, Inc., 2). Russ Ranch and Timber Co., LLC, 3). The L.D. O'Rourke Foundation, 4). Harville Ranch, LLC, and 5). The Wildlands Conservancy. There is in place an existing Drainage Easement governing this flood and tide control structure. During summer months, the average water surface elevation behind the tidegates is approximately 2.5 feet (NAVD-88) and sustained by groundwater influences, occasional

dune over-wash and tidegate leakage. During winter months periods of prolonged inundation and flooding occur upstream of the tidegate as the backwater influence from the Eel River estuary prevents the gates from opening, during low tide cycles, for extended periods of time. The salt tolerant vegetative communities that have established along the banks of the slough upstream of the tidegate structure corroborate the brackish conditions in Cut-off Slough. Overland drainage from adjoining properties is collected in Western Drainage and Cut-off Slough and ultimately drains through the existing Cut-off Slough tidegates.

Upgraded tidegates retrofitted into the existing structure would allow for improved, but managed, tidal function and improved drainage efficiency in Cut-off Slough and adjoining properties. Use of modified tidegates to mute tides also protects adjacent properties while improving aquatic habitat passage.

Expand Seasonal Tidal Prism to Inner Marsh and Centerville Slough

Referred to as the Inner Marsh, this 150-acre area used now for seasonal grazing is surrounded by dikes and does not function as a closed cell currently, but would after implementation of the proposed Project. The perimeter dike provides an ideal setting for expanding tidal wetland habitat. To achieve this, tidal access would be modified to increase tidal action in this protected environment.

Install New Muted Tidegates

To introduce seasonal tidal flows that are of a higher elevation relative to Cut-off Slough, new tidegates would be installed through the existing Inner Marsh dike. This would include muted tidegate regulators that would allow a muted tidal prism to be introduced into the Inner Marsh and Centerville Slough in addition to providing a redundant outlet. The new muted tidegate would be designed to accommodate a range of muted tidal amplitudes (up to approximately 5 feet, NAVD 88) to enter the Inner Marsh and realigned Centerville Slough. The muted tidegate would be seasonally operated based on biologic, geomorphic, hydrologic and land use objectives with routine monitoring to inform operational scenarios. The EIR would analyze a broader range of tidal elevation options in addition to those recommended for the proposed Project. Under both the existing condition and proposed project alternatives, effective floodwater management necessitates full comprehension of, dedication to and cooperation in the effective actions of all parties to the existing drainage easement. The parties to the proposed Project will develop an Operating Plan that explains floodwater management strategies, and details the proposed operations of the proposed infrastructure. This Operating Plan will include specific tidegate levels and seasonal operation guidelines. The parties to the Project will attempt to finalize the Operating Plan prior to approval of the proposed Project and in collaboration with the other parties previously listed.

Enhance Centerville Slough and Reestablish Connectivity to Russ and Shaw Creek

Historically, Centerville Slough extended south from Cut-off Slough, parallel to the dune network to the community of Centerville at the base of the Wildcat Mountains. Reclamation and the associated reduction in the tidal prism, coupled with actively directed Russ Creek avulsions, resulted in a significant reduction in aquatic capacity. The Western Drainage Ditch is all that remains as a remnant drainage feature. Russ Creek and Shaw Creek which once flowed into Centerville Slough now terminate with avulsion and overland sheet flows over existing pastures.

Enhance Centerville Slough

Freshwater runoff from the Wildcat Hills is collected and conveyed through Creamery Ditch, Shaw Creek and Russ Creek. Western Drainage Ditch running north along the backside of the dunes, collects dune over wash, Creamery Ditch and Shaw Creek flows. The Western Drainage Ditch lies in the path of disturbed dunes and is vulnerable to continued dune over wash and sedimentation.

Approximately 3,000 feet of Western Drainage Ditch would be realigned into the former Centerville Slough. It would then be reconnected to the existing downstream Western Drainage Ditch, and this portion of Western Drainage Ditch would be enhanced and widened for ecological benefit and drainage efficiency. The reestablishment of Centerville Slough would reconnect Shaw Creek, Creamery Ditch and Russ Creek and be re-aligned into the Inner Marsh providing seasonal tidal connectivity separate from Cut-off Slough. During high freshwater run-off events during winter months, the runoff would occupy lands adjoining Cut-off Slough similar to current conditions. Centerville Slough channel would be sized to enable the slough to serve as flood storage, conveyance, and brackish aquatic habitat. The primary sediment area for Russ Creek will be on the EREP.

Reconnection of Russ Creek to Centerville Slough

A graded channel would reconnect Centerville Slough with Russ Creek, thereby improving site drainage, creating in-channel flood storage, reestablishing a long tidal to freshwater ecotone and providing a wetland prism that includes freshwater wetland and/or riparian habitat, as well as habitat connectivity for anadromous fish.

Reconnection of Shaw Creek to Centerville Slough

The realignment of Shaw Creek would re-connect to Centerville Slough providing a long freshwater-brackish water ecotone thereby improving site drainage, creating in-channel flood storage as well as habitat connectivity for anadromous fish.

Develop Primary Sediment Management Area on Russ Creek and Shaw Creek

Leveraging natural flood processes, sediment management areas would be established in avulsion prone areas on both Russ Creek and Shaw Creek. Sediment deposits on the EREP would remain or be seasonally relocated to approved areas and project locations as needed. The sediment management areas themselves would then be seeded and irrigated as needed to enhance agricultural productivity in those areas. Sediment deposited and/or excavated and sediment management on the lands of Russ Ranch and Timber Company, LLC and Jack and Linda Russ would be tilled, seeded, fertilized and irrigated to reestablish or enhance livestock forage and grazing areas.

Develop Secondary Sediment Management Area and Floodplain Swales

Given the highly dynamic nature of Russ Creek and limited capacity of primary sediment management areas, only secondary sediment management areas would be designated on the Russ Creek reach through Russ Ranch and Timber Co., LLC or Jack and Linda Russ properties. Floodplain swales or drainage facilities would allow overland release of over-bank flows to be directed to the secondary sediment management areas, directing

flow and sediment to low lying areas and thereby reducing flood frequency of nearby residents and properties.

Enhance Existing and Create New Off-Channel Habitat

The lack of tidal connectivity across the proposed Project area has led to infilling and reduced availability of brackish and freshwater ponds for waterfowl and fish habitat. Existing depressions in the landscape currently serve as freshwater ponds managed for waterfowl which would be enhanced by deepening and re-configuring with controlled inlets/outlets to minimize maintenance and continue a long tradition of waterfowl hunting on the site. Seasonal rainfall would be the primary means of filling the ponds, while existing wellheads would provide backup supply. New brackish water ponds for overwintering juvenile salmonids would also be created by deepening other existing depressions in the floodplain of a restored Centerville Slough/Russ Creek.

Protect and Enhance Drainage, Land Uses and Habitats

Threats to the richness of existing habitat and land uses include disturbances of dunes; saltwater intrusion; loss of cold water storage capacity and timing; sedimentation of watercourses; subsidence and natural conversion of agricultural pasture; and invasive species. Neighboring properties require drainage through the proposed Project area, and can be negatively impacted by management activities on the proposed Project site. Actions to balance these needs while retaining habitat include active implementation projects, passive restoration, and ongoing management.

Re-establish Dune Configuration

While dunes are generally self-maintaining, their form and dynamics are influenced by vegetation, sediment recruitment, and other factors. Non-native invasive vegetation such as *Ammophila arenaria* (European beachgrass) alters dune mobility and shape. Both natural and anthropogenic influences can disturb dune formation. Over time, the processes of vegetative colonization and wind would likely result in rebuilt dunes. The timescale of this recovery is not known.

Significant disturbance has occurred at two distinct locations within the proposed Project area, a northern area approximately 15 acres located on EREP, and a southern area approximately 20 acres on the Russ Ranch and Timber, LLC property. The movement of this sand unconfined in any remaining dune network threatens the Western Drainage Ditch with infilling, a trend that threatens the safety and land use of the Project site and properties to the south, all of whom are parties to a formal drainage easement over the Project site.

Dune management remains somewhat experimental. Conflicting land use needs often influence restoration/stabilization debates. This proposed Project seeks to create passive and active techniques to identify best practices for maintaining a balance in ecological function and change and limiting land use impacts in dune management. The integrity of the dunefield west of the proposed Project would be reconfigured through actions taken in the proposed Project. The project design will allow for dune migration inland as part of its recovery process.

Improve Quality of Agricultural Pasture

Sea level rise alters groundwater composition and vegetation communities. As soils become increasingly saline and brackish, salt marsh vegetation would dominate. Periodic

dune breaches exacerbate this effect. This is already being observed in the EREP portion of the proposed Project (historic Centerville Slough section), and on approximately 250-acres of the Russ Ranch and Timber, LLC property (Angels Camp). While some areas within the Project site are targeted for wetland increases, other areas would be preserved and protected for agricultural pasture.

Set-back Berms.

Existing berms would be enhanced and new berms constructed to improve overland drainage efficiency and increase resiliency of agricultural land from wave over-wash. The berms would be constructed of excavated soils with gradual side slopes to allow for grazing.

Raise soil elevation.

Sediment excavated from Russ Creek and Shaw Creek would be spread annually over agricultural pasture to improve soil quality, keep grasses above the influence of saltwater within the water table, and thereby support freshwater grasses. Sediment deposited and or excavated and sediment management areas on the lands of Russ Ranch and Timber Company, LLC, and Jack and Linda Russ property would be tilled, seeded, fertilized and irrigated to reestablish or enhance livestock forage and grazing areas.

Designated access routes, culverts and bridges.

Project implementation and future management would require durable yet limited access routes that minimize impacts to the proposed Project area. Some existing access routes, culverts and bridges would be improved and maintained, while others may be decommissioned. Routes would be designed to accommodate a range of vehicle types and weight classes and culverts replaced as needed to increase access reliability for agricultural and proposed Project operations.

Invasive Species Removal

The proposed Project would provide the basis for ongoing invasive species management and suppression using passive and active restoration techniques, and participating when appropriate with local and regional programs.

Public Education and Access

Public access to the entire proposed Project site is currently limited. Russ Ranch and Timber, LLC, and Jack and Linda Russ properties are managed exclusively for agricultural production. TWC property is managed for agricultural production and for outdoor recreation and education opportunities. The EREP hosts an historic private duck hunting club, welcomes invited guests and docent-led group site visits, and uses the site to educate elementary school children about wetland and estuary systems and agriculture as practiced in the coastal zone.³

It is unknown whether access will significantly increase as a result of the proposed Project. The Recreation chapter will evaluate this question in detail and propose suitable mitigation and monitoring measures as warranted. The proposed Project includes the following activities

³ The only access to the EREP is over an easement owned by TWC, which lies over APN 100-142-002 owned in fee by the Harville Ranch LLC. TWC and the Harville Ranch, LLC presently do not agree on whether the easement encompasses the legal right to provide public access to the TWC.

North Barn Parking Area and Interpretive Signage

Minor improvements to the North Barn Parking Area and signage limiting visitors to existing trails will facilitate TWC's outreach and education efforts while minimizing impacts to the proposed Project area. Signs about the cultural, agricultural and natural heritage of the area would interpret the landscape for viewers. A vault toilet would be installed to reduce impacts and traffic back to the entrance.

Dune Walk and Overlook

A short boardwalk and trail with an overlook would take visitors along an existing trail into an intact dunefield for birding and natural observation.

Kayak Put In and Take Out

A kayak put in and take out would be installed near the proposed bridge over restored Centerville Slough and new muted tidegate in order to facilitate post-project monitoring of the Inner Marsh, aquatic educational programs and limited recreational use by visitors.

Road and Pasture Improvements

In order to ensure the viability of continued agricultural operations within and around the proposed Project site, a variety of minor appurtenant structures are proposed, such as new gates, road improvements, lighting and fencing.

No public education or access is proposed for any proposed Project area outside of TWC's property, which constitutes the EREP portion of the proposed Project.

Sediment Re-use

Based on the final outcome of sediment sampling and salinity measurements (anticipated to be completed prior to completion of the Draft EIR), a decision would be made on the potential for sediment reuse for beneficial uses during construction such as:

- Dune reconfiguration and formation of sand dune cores,
- Application to agricultural areas including spreading, tilling, seeding & fertilization, and irrigation, subject to rising saline groundwater,
- Construction of new berms and rehabilitation of the existing berms and roads, and
- Off haul to other beneficial reuse areas.

4. Probable Environmental Effects

The following discussion evaluates potential adverse effects by resource category based on preliminary review of the proposed Project. The environmental categories presented below are from Appendix G of the CEQA Guidelines. Mitigation measures would be developed in the EIR and presented along with additional and specific site information and analysis. There is the potential for significant impacts to occur as a result of the proposed Project, even with the use of mitigation measures; therefore, an EIR would be prepared to evaluate potential environmental effects as a result of the proposed Project, and would also evaluate alternatives. The EIR would recommend mitigation measures, as feasible, to lessen the significance of any impacts identified as potentially

significant. Per CEQA Guidelines Section 15082 (a)(1)(c), the probable environmental effects of the Project are summarized below.

4.1.1 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 nighttime views in the area?

The Project site is in a highly scenic area and includes tidal wetlands, freshwater marsh, sand dunes, grass lands, agricultural pastures, and beach frontage. Project activities are not anticipated to substantially degrade scenic resources in the Project area, rather they are intended to enhance habitats and provide for community education and enjoyment (on TWC's property and the EREP only). However, the EIR would analyze the potential impacts to aesthetic resources, and if appropriate, include feasible mitigation measures to reduce any potentially significant impacts to a less than significant level.

4.1.2 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?
- 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?

The proposed Project seeks to strike a balance between restoration of critical ecosystem functions and preservation of agricultural resources, including sustaining Prime Agricultural lands and Nonprime Agricultural lands, agricultural land management, capacity and uses. An Agricultural Baseline Assessment is being prepared in cooperation with the UC Extension Service Farm Advisor and will be used by the Coastal Conservancy to help determine the impacts/benefits to agricultural land resources on the Project site and potentially impacted assessment areas and would be used as supporting information for the EIR. A portion of the proposed Project site's agricultural lands are under Williamson Act contract and are intended to remain under contract post-implementation of the proposed Project. Potential impacts could be the loss of Prime Agricultural Land and Nonprime Agricultural lands or the conversion of Prime Agricultural lands and Nonprime Agricultural lands to another use. The EIR would analyze the proposed Project's potential effects on agricultural resources, zoning and potential conversions of uses 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 site does not include any forest land or land zoned timberland.

4.1.3 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 (PM₁₀). The EIR would discuss the temporary impacts from construction activities and identify potential mitigation measures if needed. The EIR would discuss the proposed Project's conformity with applicable air quality plans and exposure of sensitive receptors to criteria air pollutants and odors, and mitigation measures would be included where applicable.

4.1.4 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?

A wide variety of wildlife, including special-status species inhabit the Project area, utilize the site and may be affected by implementation of the proposed Project. The Project area also includes wetlands, riparian areas, coastal dunes and uplands that support a diverse array of aquatic and terrestrial biological resources. The EIR would utilize a number of special studies in the preparation of this section such as habitat mapping, rare plant and animal studies, wetland delineations,

vegetation mapping, Biological Evaluations, and other existing reports/studies. The EIR would analyze potential impacts to special status-species, wetlands, riparian habitat, and coastal dunes and include feasible mitigation measures to reduce any potentially significant impacts to a less than significant level. The EIR would also discuss the proposed Project's conformity with local policies or plans protecting biological resources.

4.1.5 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 has been prepared for the proposed Project by Roscoe and Associates to inventory cultural resources and assess potential impacts on these resources from proposed Project activities. Potential impacts may include the destruction of unknown cultural resources. The EIR would include the results from this investigation and include mitigation measures for the inadvertent discovery of cultural resources and the inadvertent discovery of human remains.

4.1.6 Geology & Soils

Would the project:

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

A geotechnical investigation, prepared by LACO, will be utilized for the preparation of this section. Geologic and soils issues include potential erosion and sedimentation during and after construction due to proposed grading, dredging, channel reconfiguration, levee reconfiguration, armoring, subsidence, rise of sea level, dune breaches sediment removal, spreading, tilling, seeding & fertilization, and irrigation. The EIR would describe the site's existing geologic conditions and soils based on existing information and technical reports prepared for the proposed Project. Potential

impacts could include soil erosion or the loss of topsoil. The EIR would include an analysis of the geology of the site as it relates to slope stability, earthquake hazards, landslides, subsidence, rise of sea level, dune breaches and any other potential geologic hazards, and recommend appropriate mitigation measures if applicable.

4.1.7 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?

Construction of the proposed Project would cause release of GHG emissions as a result of combustion of fossil fuels used in construction equipment and vehicles from workers commuting to and from the site. The proposed Project construction would require the use of several pieces of heavy earthmoving equipment, and construction commute and utility vehicles. 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 would be further discussed in the EIR and appropriate mitigation measures would be included if applicable. The EIR would also discuss climate change projections and the potential effects of climate change on the proposed Project.

4.1.8 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?
- 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?

Phase I and II Environmental Site Assessments were completed for the EREP portion of the proposed Project and a Phase I Environmental Site Assessment would be prepared for the Russ Ranch and Timber, LLC and Jack and Linda Russ properties portion of the proposed Project. The

information from these assessments would be used in the analysis of this resource category and appropriate mitigation measures would be incorporated if applicable. Potential impacts could include the discovery of unknown hazardous materials during construction or the release of hazardous materials associated with transport, use and disposal. The EIR would discuss the existing conditions with regard to potential hazards in the Project area, identify appropriate spill prevention measures, identify potential impacts to project workers and recreation users due to potential soil contamination and other potential hazards at the site, and describe necessary mitigation measures.

4.1.9 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 proposed Project could affect water quality through release of contaminants and sediment from construction activities. The proposed Project could alter hydrodynamic processes, which control local salinity levels. The proposed Project could increase turbidity during and after construction, adversely affecting water quality. The proposed Project and water quality could be impacted by subsidence, rise of sea level and ongoing and or new dune beaches. In addition, flows in Centerville Slough and Cut-off Slough are likely to change with the changed tidal prism following restoration; these changed flows could affect water quality, erosion and channel configuration along these waterways, and fisheries use of these waterways. The EIR will discuss these issues and potential effects and incorporate mitigation measure if applicable to reduce potentially significant impacts to a less than significant level.

4.1.10 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 proposed Project would require a Conditional Use Permit from Humboldt County and a Coastal Development Permit from the Coastal Commission per the Coastal Act. The EIR will describe existing land uses in the Project area, assess proposed Project impacts and identify any potential land use conflicts. The EIR will review the County's General Plan and the Eel River Area Plan and summarize applicable goals and policies and assess the proposed Project's consistency with applicable General Plan and Eel River Area Plan goals and policies, land use designations, and the County Zoning Ordinance. The EIR will detail, address, assess and mitigate as necessary public access issues to the EREP and potential impacts to adjoining private properties.

4.1.11 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 mining operations in the Project area. The proposed Project would not require the use of a substantial amount of any mineral resource, and would not result in the loss of availability of known mineral resources of value to the state, region or locally. The EIR would analyze potential effects to mineral resources and incorporate mitigation measures if applicable.

4.1.12 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?

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 site. The EIR would describe the existing noise levels in the Project area and identify any noise sensitive receptors. The EIR would evaluate the potential for temporary noise impacts from construction, including any construction noise impacts to noise-sensitive biotic species. Future noise levels would

be compared to existing noise levels to determine if the proposed Project would cause a significant increase in ambient noise levels and mitigation measures would be included if applicable.

4.1.13 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 neither add either new homes nor businesses, nor housing units on the site and no new housing is proposed. The proposed Project would not displace any housing or people, on or adjacent to the site. The impacts are anticipated to be less than significant; however, the EIR will discuss these issues in more detail.

4.1.14 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?

As otherwise anticipated in the event of an emergency, the proposed Project may place increased material demand on fire and police services from the proposed Project's nominal increases in recreation, education and access opportunities. The proposed Project would not place additional demands on schools, parks, or other services. The proposed Project does not include the construction of residential or commercial structures, and the proposed Project is not anticipated to result in substantial population growth in the area; and therefore would not substantially increase the need or use of public services and amenities.

4.1.15 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 proposed Project is not anticipated to place additional demands on recreational facilities and the proposed Project does not require recreational facility construction or expansion. The proposed Project does include four features, described above, that relate to recreation. These include: 1) North Barn Improvements; 2) the construction of a trail and short boardwalk with an overlook which would take visitors into an intact dunefield for birding and natural community observation on the EREP portion of the Project (Figure 4); 3) A kayak put in and take out in the Inner Marsh and new muted tidegate, and; 4) Minor improvements to existing infrastructure intended to avoid interactions between recreational and agricultural operations. The EIR would analyze potential impacts to recreational resources and identify feasible mitigation and monitoring measures if significant impacts are identified.

4.1.16 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 proposed Project would result in increased traffic during construction and may result in increased traffic post construction, potentially affecting levels of service on local streets. The EIR would discuss existing and post-implementation proposed Project traffic volumes and level of service in the Project area and recommend mitigation measures (such as the implementation of a traffic control plan) that would ensure any potential significant environmental impacts on transportation would remain less than significant.

4.1.17 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?

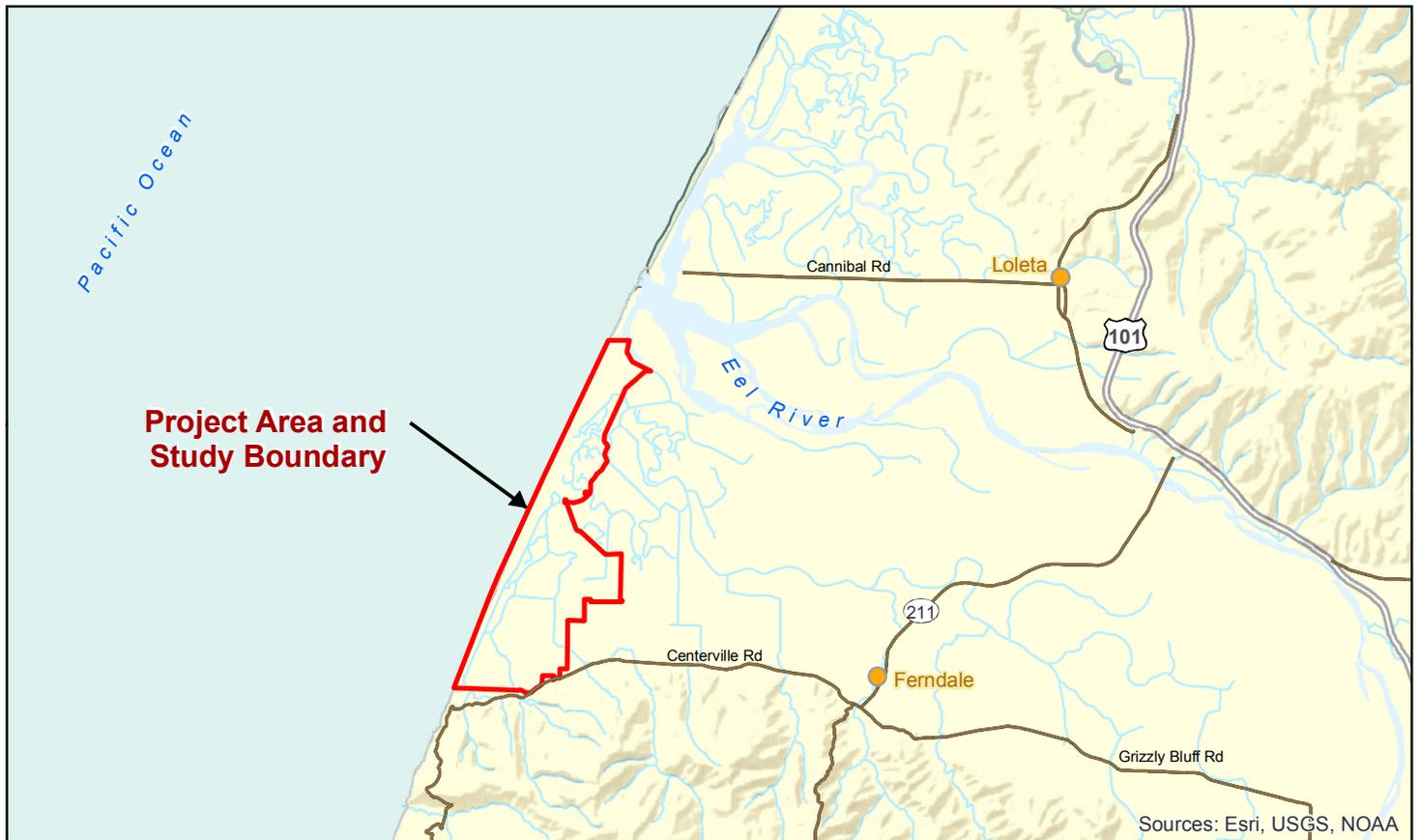
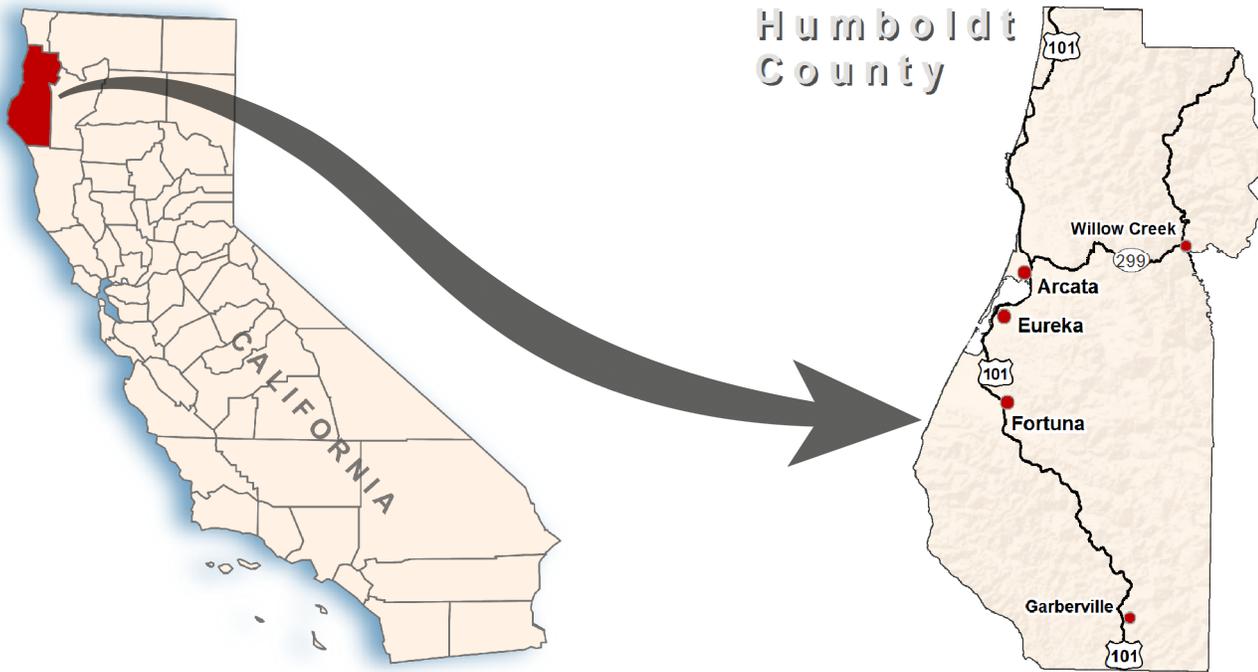
The proposed Project does not include the construction of facilities (residential, commercial, or industrial) that would place additional demands on public water systems, wastewater systems, or landfills. The EIR would include information obtained from the County of Humboldt and applicable utility providers regarding any potential constraints, and if any significant impacts are identified then mitigation measures would be incorporated to reduce any potentially significant impacts to less than significant.

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Appendices

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Appendix A - Figures



- Project Area
- Humboldt County
- Counties
- Freeway
- Highway
- Roadway
- Streams



Eel River Estuary and Centerville Slough Enhancement Project Revised NOP

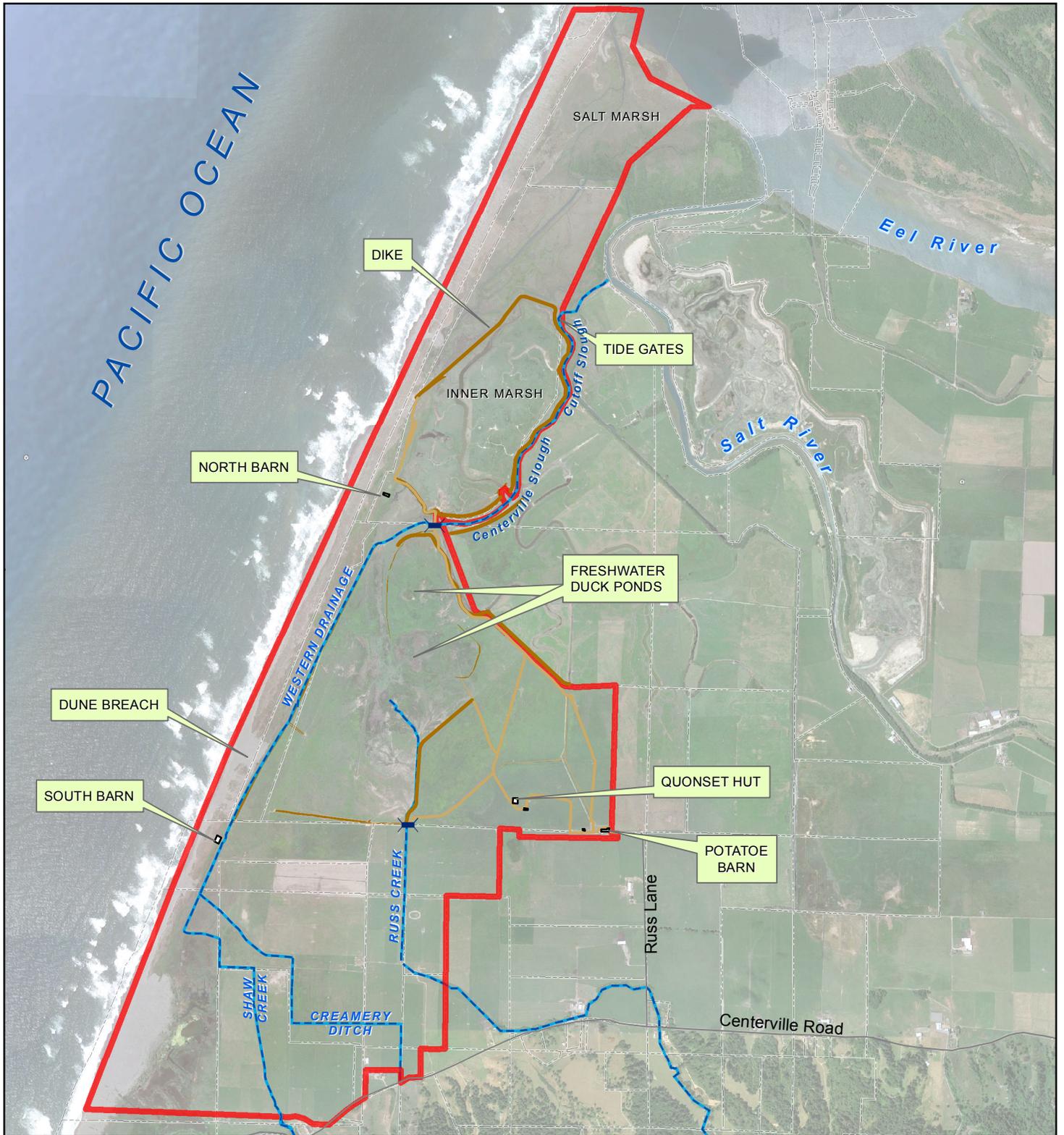
Job Number: 8410882.03
Revision: 2
Date: 09 Nov 2015

Project Vicinity and Location

Figure 1

718 Third Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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Data source: USA Base Maps; USA Census; Humboldt County transportation data, 2008. Created by: JClark2



- Project Area
- Property Boundary (Reference: Humboldt County Parcel Data)
- Bridge
- Buildings
- Local Roads
- Existing Drainage
- Existing Access Roads
- Existing Levee/Berm

Paper Size ANSI A
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 Grid: NAD 1983 2011 StatePlane California 1 FIPS 0401 Ft US

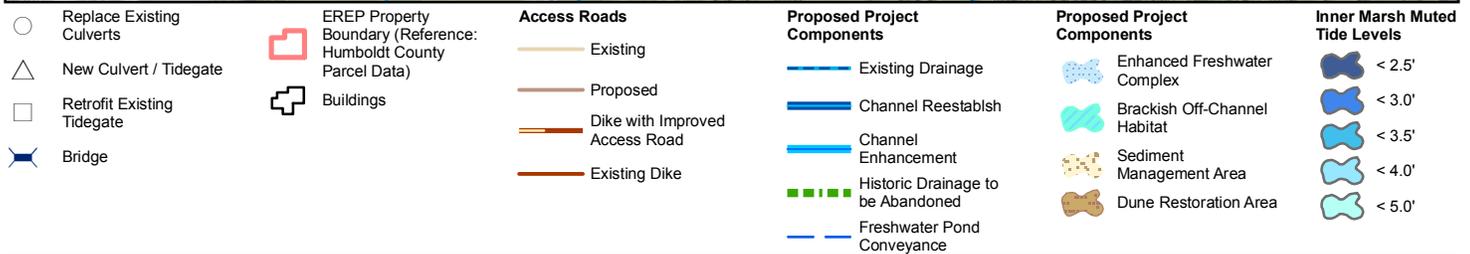
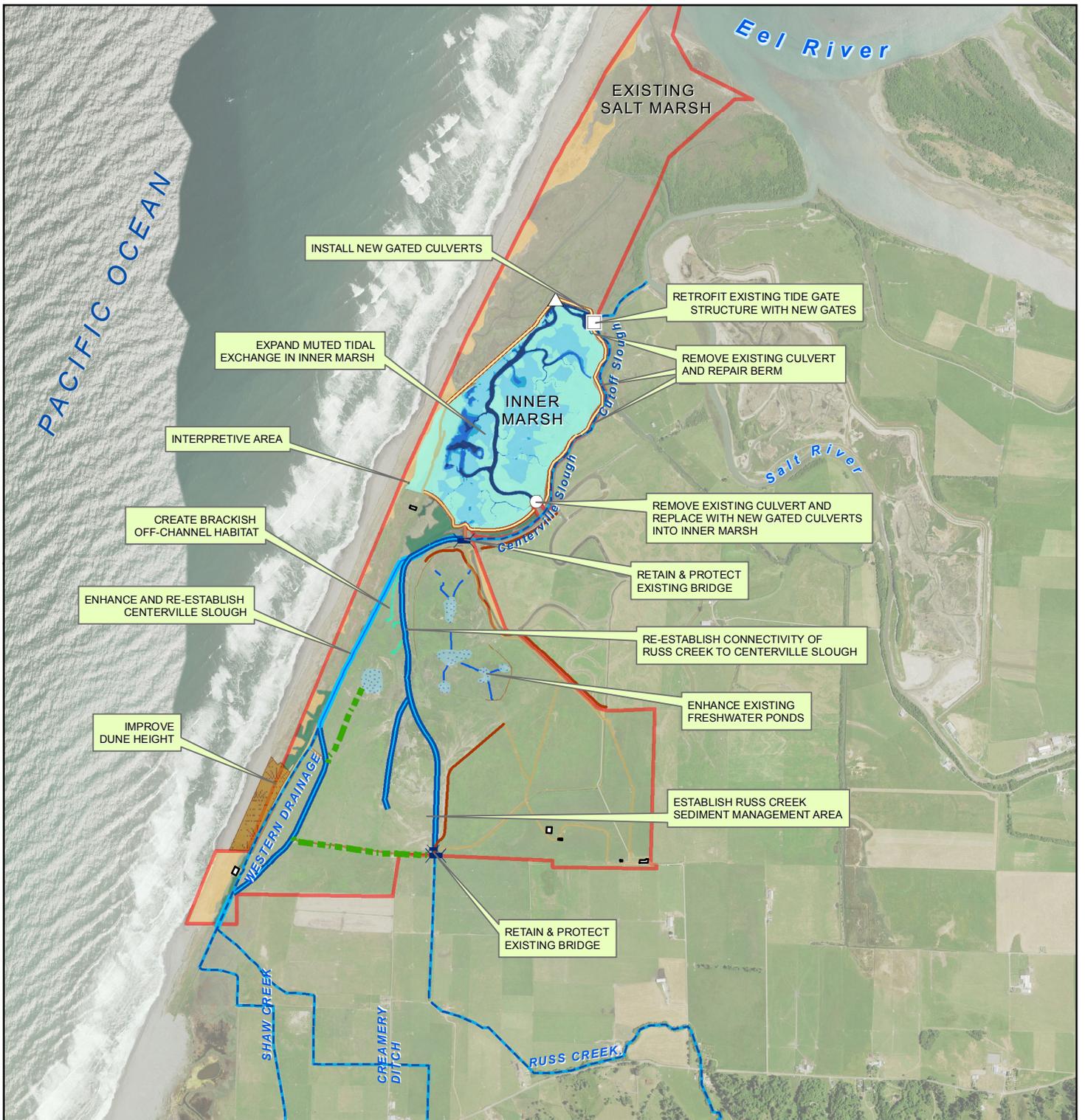


Eel River Estuary and Centerville Slough Enhancement Project Revised NOP Job Number 8410882.03
 Revision B
 Date 13 Nov 2015

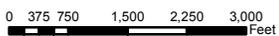
Project Area and Existing Conditions

Figure 2

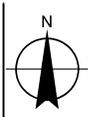
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 Data source: Google Earth Aerial, 2014; County of Humboldt: administrative boundaries. Created by: porgers



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Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US

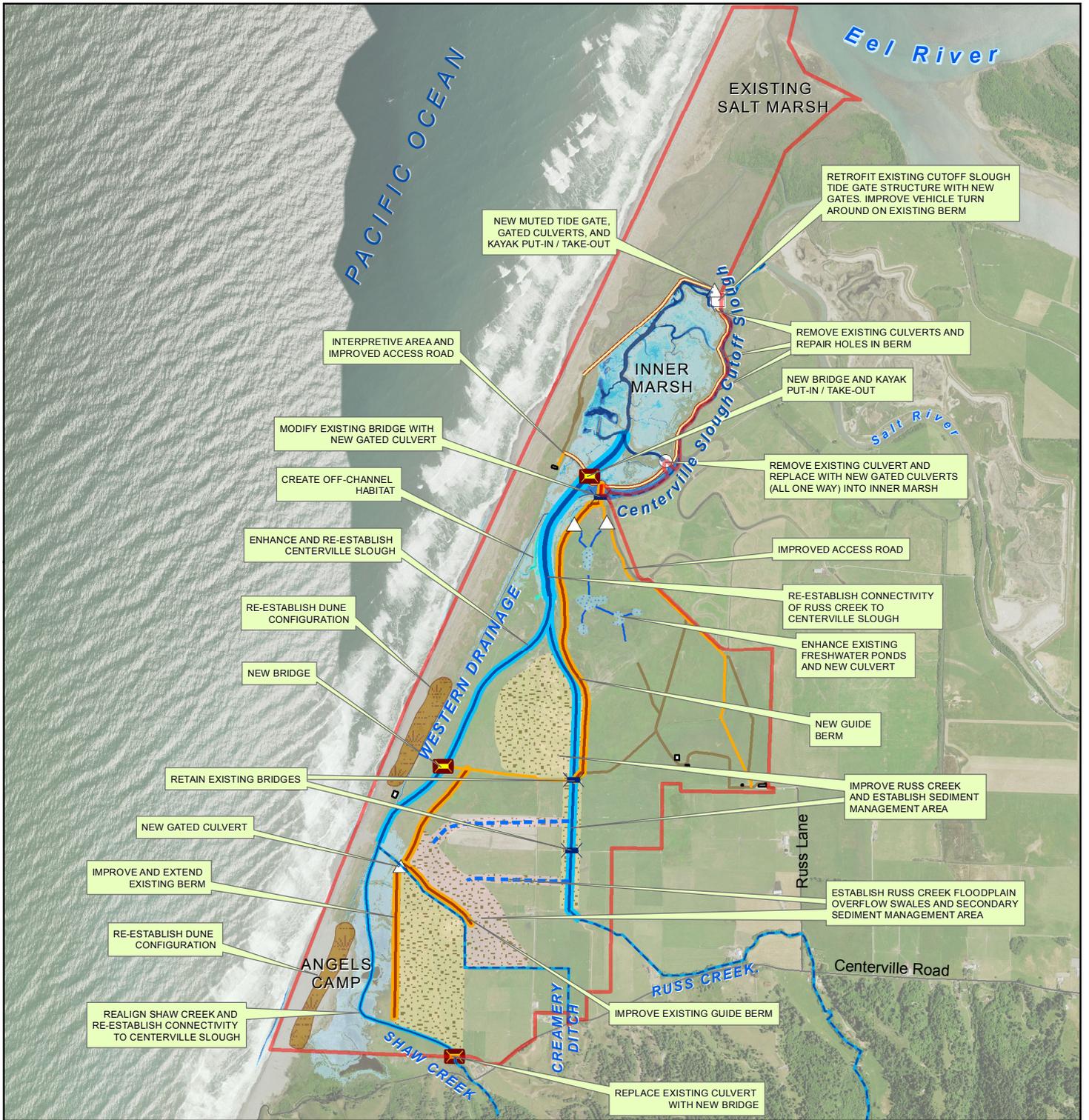


Eel River Estuary and Centerville Slough
Enhancement Project Revised NOP

Original NOP Conceptual
Project Components

Job Number | 8410882
Revision | A
Date | 13 Nov 2015

Figure 3



Existing Features

- Project Area (Reference: Humboldt County Parcel Data)
- Buildings
- Existing Bridge
- Existing Drainage
- Existing Access Route

Proposed Project Components

- Replace Existing Culverts
- New Culvert/Tidegate
- Retrofit Existing Tidegate
- Proposed Bridge
- Improved Access Road
- Berm with Improved Access Road
- Proposed Berm / Guide Berm

- Channel Re-establishment
- Channel Realignment
- Floodplain Overflow Swale
- Freshwater Pond Conveyance

- Enhanced Freshwater Complex
- Brackish Off-Channel Habitat
- Primary Sediment Management Area
- Secondary Sediment Management Area
- Re-establish Dune Configuration
- Existing Ag Exclusive Area Available for Future Sediment Management

Seasonal Muted Tide Levels

- (Reference: NOAA Lidar)
- <2.5'
 - <3.0'
 - <3.5'
 - <4.0'
 - <5.0'

Paper Size ANSI A
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 Map Projection: Lambert Conformal Conic
 Horizontal Datum: NAD 1983 2011
 Grid: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US



Eel River Estuary and Centerville Slough
 Enhancement Project Revised NOP

Job Number 8410882
 Revision A
 Date 13 Nov 2015

Conceptual Project Components

Figure 4

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