

Public Posting

Humboldt Bay National Wildlife Refuge

Mad River Slough Restoration Project

Project Summary

The California Department of Transportation (Caltrans) purchased the 73.19-acre parcel containing the Project Area with the intention of developing a wetland mitigation bank for regional wetland impacts from highway construction. Caltrans completed extensive site investigations of the Project Area during a 10-year period, including plant surveys, hydraulic monitoring, and wetland delineations. Eventually, Caltrans abandoned the wetland banking project because they determined that the project would not meet Caltrans requirements for wetland mitigation credits.

In September 2022, U.S. Fish and Wildlife Service (USFWS) acquired the land from Caltrans. The parcel is adjacent to and shares boundaries with the Humboldt Bay National Wildlife Refuge (NWR) Lanphere Dunes Unit (Figure 1). In addition, the parcel contains rights-of-way that USFWS utilizes for access to the Lanphere Dunes office, main public trailhead to Lanphere Dunes, and public parking area for Lanphere Dunes. Not only does acquiring this parcel allow USFWS to better manage and develop its public use access, it also allows USFWS to restore habitat on the parcel for fish, wildlife, and plants found within the area.

USFWS plans to complete the project in the summer of 2024. In 2023, USFWS will complete National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA) and National Historic Preservation Act (NHPA) compliance requirements. Once compliance is complete, USFWS will obtain the required permits for the project. Further details are found in the project narrative to follow.

Project Narrative

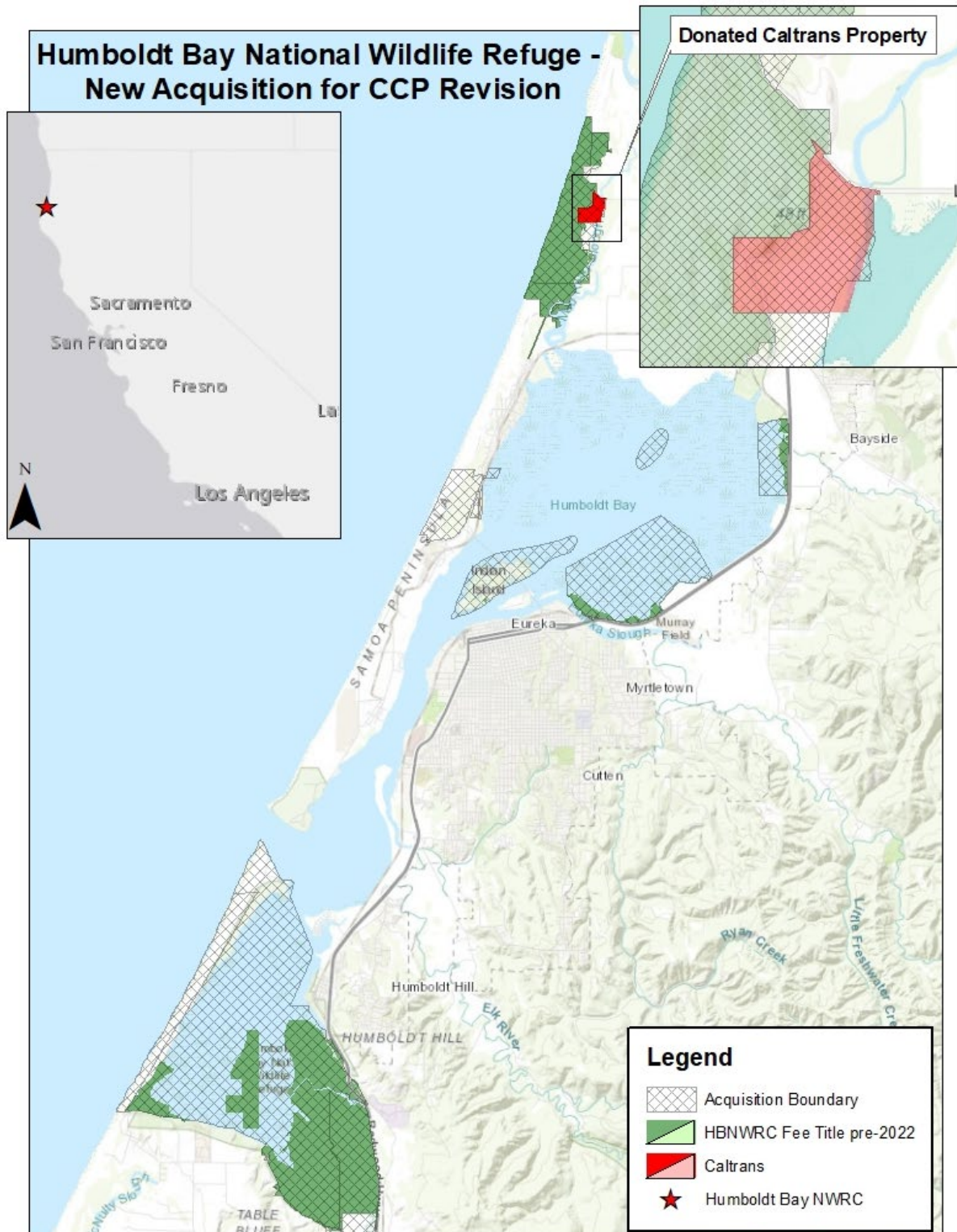
1. **Project Need:** The project is necessary because human activities altered the habitat of the Mad River Slough through diking and draining. Once drained, the salt marsh and open water areas were used for agricultural production. Over time, the drained lands subsided due to decaying organic soils. The project will restore historical wetland types, increase adaptation to sea level rise (SLR), and provide protection as part of the Humboldt Bay NWR in perpetuity. The project will also assist the recovery of four federally listed endangered fish species, as well as special status bird and plant species.

Humboldt Bay has lost 90 percent of its salt marshes since 1900, largely through diking and draining. More than 75 percent of Humboldt Bay's shoreline has been armored or otherwise altered. Humboldt Bay's loss of shoreline and salt marshes resulted in significant loss of ecosystem services essential to the environment, flora, fauna, and people. Ecosystem services of salt marshes include wildlife food and habitat, water quality, recreation, buffering against SLR impacts, and carbon sequestration. The project will support state and federal goals for restoring and conserving 30 percent of coastal waters by 2030.

2. **Project Objectives:** The project goals are to restore the full tidal prism with connectivity to Mad River Slough by dike removal and lowering to create suitable conditions for salt and brackish marsh through placement of fill and eelgrass habitat through excavation, and to restore and protect riparian habitat by creating a natural shoreline buffer between freshwater wetlands and the slough, thereby creating a resilient complex of estuarine and palustrine wetlands.
3. **Restoration Approach:** Key components of the restoration are discussed in the following list.
 - a. Restore 48.6 acres of agricultural wetland through placement of fill, excavation, and removal or lowering of exterior levees on Mad River Slough. The components of the project include:
 - i. Restoring 9.6 acres of intertidal salt and brackish marsh through the placement of fill. This area will consist of fringing wetlands, which will act as a living-shoreline buffer adjacent to the privately owned dike to the south.
 - ii. Excavating 10.8 acres of the agricultural wetland to a suitable elevation for supporting eelgrass.
 - iii. Excavating 16.5 acres of subtidal/permanently flooded areas supporting eelgrass development and replicating the conditions of a perched pool to provide low-tide refugia for multiple fish species, including Coho Salmon, tidewater goby, and longfin smelt.
 - iv. Restoring or enhancing 11.5 acres of riparian habitat by creating a protective buffer of freshwater and salt marsh, removing invasive species, including reed canary grass and Himalayan blackberry; and planting native willow and alder.
 - v. Increasing public awareness through educational and interpretive opportunities. The Friends of the Dunes and Audubon Society will each lead two guided tours per year. Each group has committed to a total of six guided tours over the course of three years.
4. **Compliance:** Permits per U.S. Army Corps of Engineers (USACE) §404, State Water Resources Control Board §401, California Department of Fish and Wildlife §1600 and consultations per Federal Endangered Species Act (ESA) and NHPA Section 106 will be required. On-site cultural surveys were completed by USFWS archaeology staff in May 2023 and a NHPA consultation has been initiated with the State Historic Preservation Officer (SHPO) and local Native American tribes. A consistency determination will be completed with the California Coastal Commission. The Humboldt Resource Conservation District and USFWS will be CEQA and NEPA leads, respectively. USFWS Refuge staff will request to apply National Oceanic and Atmospheric Administration's (NOAA) *Programmatic Environmental Impact Statement for Habitat Restoration Activities Implemented Throughout the Coastal United States* (Available online at <https://www.fisheries.noaa.gov/resource/document/restoration-center-programmatic-environmental-impact-statement>) through the USFWS Coastal PEIS Review Team. Previous permitting work by Caltrans has already resolved many permitting issues with regulatory agencies. Project site design could be modified based on consultation and compliance results.
5. **Public Involvement and Interagency Coordination:** The collaborative project includes the California State Coastal Conservancy, Humboldt Resource Conservation District (CEQA lead), Caltrans, USFWS, Wiyot Tribe (education and ecocultural interpretation), Friends of the Dunes

(education outreach), and Redwood Regional Audubon Society (education outreach). The project team is also consulting with NOAA National Marine Fisheries Service on development of eelgrass restoration components. The team met with neighbors during the preliminary development of the plan and plans to meet again during the public outreach portion of the process to address any questions or concerns about the plans. The public will have an opportunity to comment on the plans during a 30-day public comment period from December 27, 2023 through January 26, 2024.

6. **CCP Revision Posting.** The addition of the acquired property to the Humboldt Bay NWR is considered a minor revision to the 2009 Humboldt Bay NWRC CCP. Therefore, a revision to the Humboldt Bay NWRC CCP to incorporate the Caltrans property is required under the National Wildlife Refuge System Improvement Act of 1997 and Service policy. Since the Humboldt Bay NWRC CCP is not scheduled to be revised for several years, the Humboldt Bay NWRC CCP will be revised to integrate the Caltrans property into the Humboldt Bay NWR and implemented with approved management strategies.



CCP = Comprehensive Conservation Plan California. Caltrans = Department of Transportation. HBNWRC = Humboldt Bay National Wildlife Refuge Complex. NWRC = National Wildlife Refuge Complex

Figure 1. Location of the Donated Caltrans Property on Lanphere Road in Arcata, California, in Relation to Other Refuge Lands Around Humboldt Bay, California.