



CALIFORNIA OCEAN PROTECTION COUNCIL

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CALIFORNIA OCEAN PROTECTION COUNCIL

Items 6c-6h

Staff Recommendation
July 25, 2018

Proposition 1 Funding Recommendations: Habitat Restoration and Climate Resilience Projects

Marina Cazorla, Program Manager

RECOMMENDED ACTION: Authorization to disburse up to \$6,423,765 to various grantees as follows:

- 6c. \$950,000 to the State Coastal Conservancy for the Eel River Estuary and Centerville Slough Enhancement Project;
- 6d. \$2,373,241 to the Elkhorn Slough Foundation for the Elkhorn Slough Tidal Marsh Restoration;
- 6e. \$881,862 to the Redwood Community Action Agency for the Martin Slough Enhancement Project;
- 6f. \$1,038,853 to the City of Eureka for the Elk River Estuary and Tidal Wetlands Enhancement Project;
- 6g. \$355,000 to BEACON for the Surfers Point Project; and
- 6h. \$824,809 to San Francisco State University for the Restoring Eelgrass and Climate Resilience in San Francisco Bay Project

This staff recommendation together with the accompanying Proposition 1 staff recommendation for Water Quality projects (items 6a and 6b for a total of \$1,992,644) in combination represent a total Ocean Protection Council (OPC) Proposition 1 investment of \$8,416,409. Additional projects may be brought to the Council for consideration and approval at its next meeting in October.

LOCATION: The recommended projects are located throughout California as follows; see Exhibits for more detailed project-specific locations and site maps.

- Eel River Estuary and Centerville Slough project is located near Ferndale in Humboldt County.
- Elkhorn Slough Tidal Marsh Restoration project is located near Moss Landing in Monterey County.
- Martin Slough Enhancement project is in the Eureka Municipal Golf Course in Humboldt County.
- Elk River Estuary and Tidal Wetlands Enhancement project is located along the Elk River, adjacent to Highway 101 and Pound Road in the City of Eureka in Humboldt County.
- Surfers Point is located at Surfer's Point in Seaside Park in the City of Ventura in Ventura County.
- San Francisco Bay Eelgrass Restoration is at two different offshore sites in San Francisco Bay: (a) San Rafael in Marin County; and (b) Richmond in Contra Costa County, near Point Pinole Regional Park.

OPC STRATEGIC PLAN OBJECTIVES: Climate Change, Sustainable Fisheries and Marine Ecosystems, Coastal and Ocean Impacts from Land

EXHIBITS

Exhibit 6c: Eel River Estuary and Centerville Slough Enhancement Project – Supporting Documentation

- 6c1 [Site Map and Location](#)
- 6c2 [Site Photos and Graphics](#)
- 6c3 [Letters of Support](#)
- 6c4 [Final Environmental Impact Report and other CEQA documentation](#)

Exhibit 6d: Elkhorn Slough Tidal Marsh Restoration – Supporting Documentation

- 6d1 [Site Map and Location](#)
- 6d2 [Site Photos and Graphics](#)
- 6d3 [Letters of Support](#)
- 6d4 [Mitigated Negative Declaration and Mitigation Measures](#)
- 6e5 [Mitigation Measures](#)

Exhibit 6e: Martin Slough Enhancement Project – Supporting Documentation

- 6e1 [Site Map and Location](#)
- 6e2 [Site Photos and Graphics](#)
- 6e3 [Letters of Support](#)
- 6e4 [Mitigated Negative Declaration](#)
- 6e5 [31116\(c\) Agreement between State Coastal Conservancy, Redwood Community Action Agency and the City of Eureka](#)

Exhibit 6f: Elk River Estuary and Tidal Wetlands Enhancement Project – Supporting Documentation

- 6f1 [Site Map and Location](#)
- 6f2 [Site Photos and Graphics](#)
- 6f3 [Letters of Support](#)
- 6f4 [Mitigated Negative Declaration](#)

Exhibit 6g: Surfers Point Project – Supporting Documentation

- 6g1 [Site Map and Location](#)
- 6g2 [Site Photos and Graphics](#)
- 6g3 [Letters of Support](#)
- 6g4 [CEQA Documents](#)

Exhibit 6h: San Francisco Bay Eelgrass Restoration and Climate Resiliency – Supporting Documentation

- 6h1 [Site Map and Location](#)
- 6h2 [Site Photos and Graphics](#)
- 6h3 [Letters of Support](#)
- 6h4 [CEQA – Notices of Exemption](#)

FINDINGS AND RESOLUTION:

Staff recommends that the OPC adopt the following findings and direct it to file all relevant notices of determination and exemption:

Eel River Estuary and Centerville Slough Enhancement Project

“Based on the accompanying staff report and attached exhibit(s), the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed project is consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: An Environmental Impact Report for the Eel River Estuary and Centerville Slough Enhancement Project was adopted by the State Coastal Conservancy on February 2017 pursuant to the California Environmental Quality Act. OPC has considered the EIR and recommends that the mitigation and avoidance measures identified in the EIR ([Exhibit 6c4](#)). In addition, all project CEQA documents are available on the State Coastal Conservancy website and are hereby incorporated and incorporated by reference^[1] as a condition of OPC’s approval.”

Elkhorn Slough Tidal Marsh Restoration

“Based on the accompanying staff report and attached exhibit(s), the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed projects are consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: A Mitigated Negative Declaration for the Elkhorn Slough Tidal Marsh Restoration was prepared by the California Department of Fish and Wildlife, which is the lead agency for CEQA compliance, and it was certified in August 2015. OPC staff recommends that the mitigation and avoidance measures identified in the MND ([Exhibit 6d4](#) and [Exhibit 6d5](#)) be adopted as a condition of OPC’s approval.”

Martin Slough Enhancement Project

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed project is consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: A Mitigated Negative Declaration for the Martin Slough Enhancement Project was adopted by the County of Humboldt on June 2017 pursuant to CEQA. The MND addresses the environmental impacts of the proposed project and identifies potentially significant impacts of the Project, but determines that they could

^[1] <http://scc.ca.gov/2016/12/06/eel-river-estuary-centerville-slough-enhancement-project/>

be mitigated to “less than significant” levels. OPC has considered the MND and recommends that the mitigation and avoidance measures identified in the MND ([Exhibit 6e4](#)) be adopted as a condition of approval.

- 4) Pursuant to Public Resources Code 31116, a ‘311116c agreement’ was required and entered into by the State Coastal Conservancy for the proposed Martin Slough Enhancement Project ([Exhibit 6e5](#)) and its requirements and commitments are hereby incorporated by reference.”

Elk River Estuary and Tidal Wetlands Enhancement Project

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed project is consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: A Mitigated Negative Declaration for Elk River Estuary and Tidal Wetlands Enhancement Project was prepared by the City of Eureka, the lead agency for CEQA, and the CEQA review was completed in February 2018. OPC has considered the MND and recommends that the mitigation and avoidance measures identified in the MND ([Exhibit 6f4](#)) be adopted as a condition of approval.”

Surfers Point Planning Project

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed project is consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: An Environment Impact Report for the Surfers Point Planning Project was certified the City of Ventura in 2003 ([Exhibit 6g4](#)). No additional CEQA review is triggered by this final Phase 2 planning and design project, which will be consistent with submitted plans. OPC has considered the EIR and all additional documents before it and all mitigation identified relative to the project shall be adopted as a condition of OPC’s approval.”

Restoring Eelgrass and Climate Resilience in San Francisco Bay Project

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

- 1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
- 2) The proposed project is consistent with the Ocean Protection Council's Proposition 1 Grant Guidelines, adopted November 2017.
- 3) The Ocean Protection Council has reviewed CEQA documents as follows: The Restoring Eelgrass and Climate Resilience in San Francisco Bay Project is categorically exempt from CEQA. Notice of Exemption (Categorical Exemption 15333) for Giant Marsh site was filed on December 21, 2016. Notice of Exemption (Categorical Exemption 15306) for the San Rafael site was filed on April 2, 2012

[Exhibit 6h4](#)). OPC has reviewed and considered these exemptions and agrees that the exemptions satisfy CEQA requirements, and will direct staff to file Notices of Exemption.”

Staff further recommends that the OPC adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

“The California Ocean Protection Council hereby approves the disbursement of up to the following amounts to the following grantees:

- \$950,000 to the State Coastal Conservancy to implement the Eel River Estuary and Centerville Slough Enhancement Project;
- \$2,373,241 to the Elkhorn Slough Foundation to implement the Elkhorn Slough Tidal Marsh Restoration;
- \$881,862 to the Redwood Community Action Agency to implement the Martin Slough Enhancement Project Phase 4;
- \$1,038,853 to the City of Eureka to implement the Elk River Estuary and Tidal Wetlands Enhancement Project;
- \$355,000 to BEACON to implement the Surfers Point Project; and
- \$824,809 to San Francisco State University to implement the Restoring Eelgrass and Climate Resilience in San Francisco Bay Project.

This authorization is subject to the condition that prior to disbursement of funds, all of the above-referenced grantees shall submit for the review and approval of the Executive Director of the OPC detailed work plans, schedules, staff requirements, budgets, and the names of any contractors intended to be used to complete the projects, as well as discrete deliverables that can be produced in intervals to ensure the projects are on target for successful completion. All projects will be developed under a shared understanding of process, management and delivery.”

PROJECT SUMMARY 6c: Eel River Estuary and Centerville Slough Enhancement Project

Project Description

This project will restore ecosystem function and resiliency for tidal marsh, freshwater wetlands, riparian habitat and coastal dunes on 990 acres of the Eel River Estuary Preserve (Preserve) through:

- Restoration of 1.5 miles of Centerville Slough for aquatic habitat and connectivity between the Eel River Estuary and Russ Creek;
- Restoration of freshwater wetlands for migratory waterfowl;
- Installation of fish-friendly tide gates and modification of existing tide gate to restore tidal exchange and provide fish passage into the restored slough network; and
- Restoration of 115 acres of salt and brackish marsh and 50 acres of coastal dunes.

This landscape-scale project is split into two phases to accommodate multiple construction seasons. Phase Two, the reconnection of Russ Creek and re-excavation of Centerville Slough, will result in increased essential fish habitat, and drainage improvements to benefit anadromous fish habitat, historic agriculture uses and short-grass habitat for waterfowl. This will be accomplished through the re-establishment and enhancement of Centerville Slough, reconnection of Russ Creek and its associated riparian corridor, and the associated floodplain and side channel habitat around both.

Site Description

The Eel River is the third largest river in California (3,684 square miles) and contains approximately 3,488 stream miles. The proposed project is located on the Eel River Estuary Preserve, located at the southwestern edge of the Eel River Delta, abutting the Pacific Ocean. It is four miles west of the City of Ferndale, Humboldt County. The Preserve occupies over 1,255 acres of the Salt River and Lower Eel River watersheds within California's fourth largest, and one of its most valuable and productive, coastal estuaries. The project area includes agricultural and grazing land, remnant tidal salt marsh, residual brackish marsh, riparian scrub, diminished sloughs/open water channels, such as the "Western Drainage Ditch", freshwater ponds and ditches, Russ Creek disconnected from the estuary, and nearshore dune ridges and swales, as well as smaller seasonal slough channels and drainage ditches. Freshwater wetland ponds are maintained in the interior northern half of the Preserve. The northern end of the project area borders the mouth of the Eel River. The project area ranges in elevation from below sea level to an approximate elevation of 30 feet.

The western boundary of the project encompasses the nearshore dunes of Centerville Beach and extends to the Pacific Ocean. East of the dunes, the property supports a remnant system of sloughs and pastures that comprise a portion of the Salt River watershed, reclaimed for agriculture in the nineteenth and early twentieth century following the installation of the Cutoff Slough tide gate. It is here that the westward press of reclamation reduced once-navigable Centerville Slough to its current form as the three-foot-wide and three-foot-deep Western Drainage Ditch, now pressed up against the dune base.

Centerville Slough once extended from the base of the Wildcat Hills to its confluence on the Salt River, near the mouth of the Eel River, and was navigable to ocean going vessels. The installation of the tide gate separated the entire Centerville Slough complex, including Russ Creek, from the Eel River estuary. With the reduction in tidal prism, most of the slough channels aggraded with sediment, hydrologic connectivity was interrupted, and the aquatic habitat value of most of the Occidental Marsh, and nearly 20% of the Eel River estuarine marsh, was lost. Providing virtually no aquatic habitat, and even less

function for hydraulic conveyance, the Western Drainage Ditch is proposed for abandonment in favor of the proposed restored Centerville Slough. Among other things, this will provide space for dune transgression and the formation of an interior dune marsh network.

Project History

The Eel River estuary was identified in 1974 as a top acquisition priority for the California Department of Fish and Wildlife (CDFW), but decades passed before this vision could be realized. The 1,171-acre Connick Ranch was purchased with private funds by The Wildlands Conservancy in 2008 to enhance habitat and provide recreational and educational opportunities for youth. The 84-acre Palco Property consisting of coastal dunes was subsequently acquired in a series of transactions and consolidated into the Preserve. Extensive restoration and enhancement planning amongst various stakeholders and The Wildlands Conservancy occurred from 2009 to 2015. The project's planning and design phase was funded in part by the State Coastal Conservancy and CDFW. The project is part of a broader effort to restore the Eel River estuary, including the Salt River Ecosystem Restoration Project, the CDFW Ocean Ranch Unit, and the Cannibal Island Enhancement Area.

The project is adjacent and closely related to the OPC-funded Salt River Ecosystem Restoration Project (OPC Proposition 1 funding Round 1, approved in 2016). Prior to filling, Centerville Slough was historically the largest tributary to the Salt River. The extensive Eel estuary encompassed both the project area of the Salt River and the proposed Eel River project. The proposed project will expand and amplify the benefits of the adjacent Salt River project.

Project Timeline

Construction will commence in Spring 2019. Due to the size of the project and the estuarine setting, construction will most likely be staged in two years, with project completion extending from Fall of 2020 to Spring 2021. Mitigation monitoring and reporting will extend 5 years from project completion date.

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$950,000 to the State Coastal Conservancy to implement the Eel River and Centerville Slough Enhancement Project. The proposed project may not require expenditure of the full \$950,000.

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| Ocean Protection Council | \$950,000 |
| State Coastal Conservancy | \$1,511,462 |
| U.S. Fish and Wildlife Service NCWC Grant | \$950,000 |
| Wildlife Conservation Board | \$4,800,000 |
| North American Wetlands Conservation Act (NAWCA) USFWS | \$1,000,000 |
| TOTAL | \$9,211,462 |

PROJECT SUMMARY 6d: Elkhorn Slough Tidal Marsh Restoration

Project Description

This project would complete the last 30 acres of a 91-acre tidal marsh restoration at Hester Marsh, where historical salt marsh habitat has almost entirely disappeared, with only sparse fringing marsh in narrow bands along the shoreline and on dikes still high enough to have infrequent tidal inundation. Specifically, the project would add 100,000 cubic yards of sediment to bring the marsh back to a functional and sustainable elevation. This will restore lost habitat, improve water quality, reduce tidal scour, sequester carbon, and enhance climate change resilience. The habitat restoration will also address water quality impairment in the slough and reduce impacts to the fish nursery functions of Elkhorn Slough. By addressing local issues of habitat loss, water quality and tidal scour, the project will benefit the Elkhorn Slough State Marine Conservation Area as well as the Elkhorn Slough State Marine Reserve.

The primary threat being addressed by this project is the extensive loss of salt marsh due to historic diking. Modeling suggests most of Elkhorn Slough's remaining marshes will be lost within 50 years due to sea-level rise; this project will create one of the only marshes high enough to persist for at least 100 years. Another threat addressed by the project is water quality impairment caused by agricultural runoff. The Central Coast Regional Water Quality Control Board lists 14 distinct impairments in the Elkhorn Slough watershed warranting Total Maximum Daily Loads. Increased primary production and nutrients fueled by runoff of fertilizers has led to extensive eutrophication in Elkhorn Slough, including hypoxia demonstrated to kill fish locally and expansive mats of green algae shown to cause marsh dieback. Local studies have shown that salt marsh is effective at taking up nitrogen and increasing dissolved oxygen.

Site Description and Project Location

Elkhorn Slough is an estuary near Moss Landing in Monterey County that extends inland for seven miles from Monterey Bay. The project will occur on the tidal wetlands and uplands of the Elkhorn Slough National Estuarine Research Reserve (ESNERR). ESNERR is owned by the California Department of Fish and Wildlife and managed in partnership with the National Oceanic and Atmospheric Administration. The proposed project will take place in the Hester Marsh area of the Elkhorn Slough. The project site was historically a rich coastal ecosystem, with grassland transitioning to extensive salt marshes drained by narrow, meandering tidal creeks.

In the 1930s and 1940s, all salt marsh in the project area was diked and drained for agricultural use. The act of draining the wetlands led to sediment compaction and land subsidence, from 12 to 30 inches. Decades later, the dikes began to fail, reintroducing tidal waters to the reclaimed wetlands. Rather than converting back to salt marsh, the area converted to a high elevation intertidal mudflat, as the lowered landscape was inundated too frequently to support tidal marsh. Today this site bears little resemblance to its past state – the native grasslands are gone and the salt marsh has been replaced by shallow eutrophic mud pans. The closest neighboring marsh, Yampah Marsh, serves as a sea otter nursery and important haul out area; restoration of Hester Marsh will support these key functions.

Project History

The project is the outcome of an ecosystem-based management initiative. Since 2004, the Elkhorn Slough Tidal Wetland Program has engaged over 100 scientists, agency staff, and elected officials in

estuary-wide strategic planning, including the general design and implementation of this project. The Hester tidal marsh complex is approximately 91 acres. Phase 1 (restoration of the first 61 acres) was funded as follows: Coastal Conservancy (\$1,100,000), California Department of Water Resources (\$913,339), CDFW (Greenhouse Gas Cap and Trade) (\$2,996,768), USFW National Coastal Wetlands Conservation (administered by California State Coastal Conservancy) (\$980,000) and the Wildlife Conservation Board (\$1,380,000).

Project Timeline

The first phase of the project’s planning and permitting began in 2011. Phase 1 construction commenced in December of 2017 and is almost complete. OPC funding will support Phase 2 final designs and permitting, followed by construction. Once final design and final permit amendments for Phase 2 are complete, construction can begin - tentatively scheduled for 2021.

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$2,373,241 to the Elkhorn Slough Foundation to implement the Elkhorn Slough Tidal Marsh Restoration project. The proposed project may not require expenditure of the full \$2,373,241.

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| Ocean Protection Council | \$2,373,241 |
| NOAA NERR | \$350,000 |
| TOTAL | \$2,723,241 |

PROJECT SUMMARY 6e: Martin Slough Enhancement Project

Project Description

The Martin Slough Enhancement project will restore brackish marsh and riparian habitat, reintroduce a muted tidal prism, and enlarge and enhance several off-channel ponds, including one of the proposed OPC-funded project areas (Pond E) to provide high flow refugia and rearing habitat for endangered Coho salmon, tidewater goby, and other diadromous fish. Pond E was identified by CDFW as one of the most productive off-channel rearing ponds for juvenile Coho salmon in Humboldt Bay. OPC funds would also support enhancement of Reach 5 for fish passage, sediment routing, and tidal and flood conveyance. The project area consists of diked former tidelands currently used as pasture and a municipal golf course. The project will improve community resiliency to climate change by improving flood flow routing and drainage. CDFW's recommendations from analysis of multiple use of fish use monitoring in Martin Slough suggest that reduction of fish passage barriers, increased tidal prism, and enhanced habitat will increase the abundance of already relatively impressive numbers of Coho in the Martin Slough sub-watershed (as per Mike Wallace, CDFW).

Pond E is in the lower-middle of Reach 5 on the northwest side of the channel. The current channel will be roughly doubled in width from 20 feet to 40 feet with an inset wetland bench and a minimum of four woody debris habitat structures. Invasive reed canary grass rooted in the bottom of the channel will be removed from the channel during excavation. Pond E will be expanded in depth and size and will be excavated and shaped to create a larger area of open water habitat and emergent wetland than currently exists. After grading is complete, native riparian and emergent wetland plants will be installed as appropriate on the wetland benches in the channel and in the fringes of Pond E.

This project is necessary to address problems associated with the impacts of dikes and levees built in the early 1900s across the mouth of Martin Slough and the installation of tide gates. These modifications partially blocked fish passage and interrupted the tidal exchange that moved sediment through the system and fed the tidal wetlands with brackish water and sediment to sustain marsh communities. At the same time, the slough and its drainage network were confined to a single channel with limited capacity to accommodate high flows. Off-channel and backwater habitat, which had provided high quality, high flow refugia and rearing habitat for Coho salmon and other diadromous fish, were virtually eliminated. This project restores tidal flows and aquatic, wetland, and riparian habitat and associated functions lost due to these modifications. The project will also reduce flooding in the project area, enhancing agricultural productivity and public recreation.

Site Description

Martin Slough is in the southeast portion of the City of Eureka and is the lowest tributary to the Elk River via Swain Slough, though it is separated from Swain Slough by a levee and tide gate. Through the Elk River, Martin Slough connects to Humboldt Bay. As the largest bay between San Francisco and Coos Bay, Humboldt Bay provides resting, refuge, and nesting habitat for more than 100,000 shorebirds and thousands of migrating birds along the Pacific Flyway. Humboldt Bay supports one of the best wild salmon runs left in northern California.

Martin Slough, and the tidal and freshwater wetlands historically surrounding the slough, once provided substantial aquatic and riparian habitat for anadromous fish and other important species. However, Martin Slough's extensive modification over the past century by channelization and installation of tide

gates restricted fish passage and sediment transport. In 2014, new tide gates allowing muted tidal influence and improved fish passage partially addressed this problem. Significant habitat value remains in Martin Slough and its floodplain as evidenced by very large numbers of juvenile Coho documented using ponds in Pond E. The lower portion of the watershed flows through low gradient bottomland containing the Municipal golf course and pastureland. Many of the stream channels flow from gulches that contain mature second-growth redwood forests. The upper portions of the watershed are either in urban settings, or are recently harvested timberlands slated for future residential and commercial development. The Martin Slough watershed includes both City and County jurisdictions, with the project area owned by the City of Eureka (approximately 120 acres) and the North Coast Regional Land Trust (39 acres). The project area is partially within the coastal zone.

The downstream end of the project area consists of grazing land acquired by the Northcoast Regional Land Trust in 2011 through a State Coastal Conservancy grant. The acquisition was intended to facilitate the wetland restoration. The upstream end of the project area consists of the Eureka Municipal Golf Course. The grazing land consists of 39 acres of grasslands dominated by species such as annual bluegrass and perennial ryegrass. Much of these grasslands are seasonal wetlands. Lyngbye's sedge, listed by the California Native Plant Society as a rare plant (List 2), is found along the banks of Martin Slough within the property. This area is currently leased for grazing, and includes a barn located at the east end of Pine Hill Road. The golf course consists primarily of grassland. Like the grazing land, much of the golf course grasslands are wetlands, with smaller areas of uplands dominated by Kentucky bluegrass, white clover, and sweet vernal grass.

Project History

The State Coastal Conservancy granted \$115,000 to RCAA in 2002 to prepare the Martin Slough Enhancement Plan Feasibility Study, which was completed in 2005. As part of the planning effort, RCAA convened a Technical Advisory Committee, including representatives from the City of Eureka, the private landowner who later sold the property to Northcoast Regional Land Trust (NRLT), State Coastal Conservancy, the U.S. Army Corps of Engineers, NOAA Fisheries, USFWS, CDFW, County of Humboldt, and the Coastal Commission. The project participants agreed on a preferred alternative in 2006. CDFW provided funding for developing 100% project designs in 2012. To further the restoration project, NRLT acquired the Senestraro Property downstream third of the project area in 2011, funded by a \$315,000 Conservancy grant. The State Coastal Conservancy provided \$30,000 to fund permitting for the tide gate replacement component of the project in 2013, and new muted tide gates were installed in 2014 with funding from the SWRCB and DWR. The remaining project construction was delayed due to difficulties in raising \$3 million in funding for the decommissioning and realignment of two of the three gas lines that cross the property. PG&E agreed to pay for costs associated with the gas lines in winter 2016, allowing the project to move forward. NOAA, USFWS NCWC program, and SCC awarded grants to Redwood Community Action Agency for project implementation in 2017.

Project Timeline

The new tide gate was constructed in 2014. Earlier phases of construction (Reaches 1-4, marsh plains A and B, and ponds C and D) are already underway this summer. The proposed OPC-funded portion of the project would not begin until the summer of 2019, when the channel flows are lowest and there is much less fish use of this habitat.

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$881,862 to the Redwood Community Action Agency to implement the Martin Slough Enhancement Project Phase 4. The proposed project may not require expenditure of the full \$881,862.

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| Ocean Protection Council | \$881,862 |
| State Coastal Conservancy | \$750,000 |
| National Oceanographic and Atmospheric Administration (NOAA) | \$1,091,045 |
| U.S. Fish and Wildlife Service – NCWC | \$988,000 |
| Natural Resources Conservation Service | \$100,000 |
| PG&E | \$3,010,500 |
| Department of Water Resources | \$210,400 |
| Environmental Enhancement and Mitigation (Resources Agency) | \$500,000 |
| In-Kind (RCAA, City of Eureka) | \$38,876 |
| TOTAL | \$7,570,683 |

PROJECT SUMMARY 6f: Elk River

Project Description

The City of Eureka Parks and Recreation Department is proposing to restore and enhance approximately 80 acres of salt marsh habitat, 13 acres of open water, and 13 acres of upland riparian habitat in the lower estuary of the Elk River. This involves a net increase of approximately 58 acres of salt marsh, 12 acres of open water, and 13 acres of riparian habitat). The City proposes to: 1) remove the two tide gates, increasing tidal influence into the area; 2) increase the width and depth of existing channels to maximize potential eelgrass habitat; 3) spread excavated material onto the area and grade to marsh plain elevation, and create new tidal channels, freshwater marsh, wetland pond habitat, and bird habitat islands; 4) create four acres of riparian habitat; and 5) eradicate invasive *Spartina*. In Area 2, the City proposes to: 1) breach the dike along the Elk River to restore tidal influence; 2) excavate a new Elk River tributary channel and intertidal channel network, and fill existing ditches; 3) spread excavated material onto the area and grade to marsh plain elevation; create wetland pond habitat, bird habitat islands; and construct tidal ridges on the eastern edge of the project area alongside Highway 101, and on the western edge of the railroad right of way; 4) create nine acres of riparian habitat; 5) remove invasive *Spartina*; and 6) remove an existing road to expand the tidal wetland area.

Post-construction monitoring will include invasive *Spartina*, eelgrass, and biological and physical surveys. OPC funding would support two years of monitoring. More funding will be pursued by the grantee to continue monitoring for an additional five to ten years. Sea-level rise monitoring (by multiple entities), monitoring of sediment accretion (pending grant proposals), and vegetation monitoring will provide information about marsh transgression and resiliency to sea-level rise.

Site Description

The approximately 112-acre project site is located at the mouth of the Elk River, where it enters Humboldt Bay. Highway 101 runs along the eastern border of project site, and an abandoned railroad runs along the western border. The project area is part of the Elk River Slough Complex and consists of emergent wetlands, slough channels and uplands. The site consists of two areas on the north and south banks of the Elk River that are owned by the City of Eureka, except for an approximately 1.2-acre strip of land, which the City is negotiating to purchase. Area 1, on the north bank of the Elk River, is an approximately 24-acre undeveloped parcel separated from the river by an unfortified dike with two tide gates. It is characterized by low-quality salt marsh dominated by invasive *Spartina*, shallow tidal channels, and upland areas. The double tide gate allows a muted tide cycle, but fish passage and sediment transport is highly limited. Area 2, on the south bank, is an approximately 88-acre parcel separated from the river by a natural sand dune feature and a dike. It is comprised of degraded seasonal wetlands dominated by non-native grasses and is currently leased for livestock grazing.

The Elk River is the largest and most ecologically significant river entering Humboldt Bay. However, the river suffers from poor water quality due to large sediment loads, poor sediment routing, and nutrient inputs from livestock grazing, and is a sediment-impaired waterbody. In addition, the tidelands of Humboldt Bay were extensively diked in the late 1800s, and converted to marginal farmland. This resulted in significant losses of salt marsh, primary productivity, and natural hydrology, and changes to sedimentation, deposition, currents, habitat, and water quality. This project will provide multiple benefits by: restoring salt marsh, creating critical rearing and winter habitat for Coho salmon and other anadromous fish and habitat for salt marsh-dependent species, improving water quality, enhancing

sediment transport, increasing resiliency of the Elk River estuary, and protecting nearby critical infrastructure from sea-level rise impacts.

Project Benefits

The new tidal ridges will serve as living shorelines and green infrastructure that provide wetland and transition habitat along their gradual side slopes, while reducing flooding impacts to Highway 101. Highway 101, a critical transportation artery for the region, sits at a low elevation in this area, and will be increasingly vulnerable to flooding with sea-level rise. The ridge will protect the highway embankment from erosion, while the gradual slope of the tidal ridge will allow for the upslope migration of wetland vegetation with sea-level rise and prolong the persistence of wetlands.² In addition, restoration of tidal influence will restore sediment deposition, further allowing the wetlands to keep up with sea-level rise. The project will be the first living shoreline protect to be implemented in Humboldt Bay and would serve as a demonstration pilot for the region.

The overall project would also provide recreational and education opportunities for the public (not included in this funding recommendation). This includes construction of a non-motorized boat launch to provide access to Elk River Slough and Humboldt Bay, extension of the City’s Waterfront Trail through Areas 1 and 2 to increase public access and recreation, and a trailhead parking area.

Project Timeline

The project consists of four phases. Phase I included stakeholder meetings, 30% design documents, permit applications and CEQA documentation. Phase II includes completion of design, construction cost estimates, construction and bid documents, and completion of required permits. The project is currently in this phase, which is anticipated to be complete during winter of 2018; designs will be 100% complete by the end of 2018. The recommended OPC funding would apply to Phase III of the project, which involves restoration, construction and monitoring; construction would occur in Summer 2019. The last stage, Phase IV, includes construction of a section of coastal trail, trailhead parking and a kayak launch ramp (not included in this funding recommendation).

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$1,038,853 to the City of Eureka Parks and Recreation Department for Phase III of the project, which is for restoration construction and two years of performance monitoring.

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|--|--------------------|
| Ocean Protection Council | \$1,038,853 |
| National Coastal Wetlands Conservation Grant Program | \$906,200 |
| City of Eureka Conservation Easement | \$177,300 |
| TOTAL | \$2,122,353 |

² Current salt marsh plain elevations range from 5.8 to 8.8 feet NAVD 88. In the 2018 State of California Sea-Level Rise Guidance, medium-high (risk aversion) sea-level rise projections are 2.3 feet for 2050 and 7.6 feet for 2100 at the nearby North Spit tide gauge. The tidal ridge will be constructed at elevations ranging from 9 to 12 feet, providing elevation for upslope migration.

PROJECT SUMMARY 6g: Surfers Point Project

Project Description

BEACON will complete the second phase of the Surfers’ Point project. The initial project was one of the first managed retreat projects to be implemented in California in response to coastal erosion, and it serves as a model of sustainable shoreline management for other similar projects up and down the California coast. Despite limited funding, implementation of Phase 1 - which began in 2010 - has demonstrated many of the multiple benefits of the managed retreat approach. Phase 2 will address outstanding issues and include development of a final design and engineering plan ready for implementation.

Site Description and Project History

Surfer's Point is an approximately 20-acre shoreline area located within the City of Ventura, California north of Los Angeles. It includes a beach, parking area, bikeway, public roadway, and facilities managed by the Ventura County Fairground. The bike path and parking lot cover approximately 1,800 lineal feet of shoreline. The bike path was impacted by erosion just two years after the City of Ventura opened the path and adjacent parking lot to the public in 1989. A multiagency stakeholder working group convened in 1995 worked for over several years to develop the innovative "Managed Shoreline Retreat" project as an alternative to structural protection in response to the erosion problem.

The City of Ventura secured funding from the U.S. Department of Transportation's Transportation Equity Act for the 21st Century (TEA-21) program combined with a grant from the State Coastal Conservancy and a grant from the Department of Interior’s Coastal Impact Assistance Program (CIAP). These grants combined to cover less than half the project, so a phasing plan was adopted to take advantage of available funding. Phase 1 construction began in 2010 and was completed in July 2011. In 2012, sand dunes were constructed using sand imported from nearby Pierpont beach, and seeded with native dune plants. Although Phase 1 has demonstrated the effectiveness of the managed retreat approach, only approximately half of the threatened shoreline infrastructure has been relocated to date. Additionally, several features of the initial project remain outstanding or require modification as a result of lessons learned. Phase 2 will address outstanding issues and develop a final design ready for implementation.

Project Timeline

The project will start upon award of grant funds. It is estimated that project will be completed within 15-18 months of initiation.

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$355,000 to BEACON for the Surfers Point Project. The proposed project may not require expenditure of the full \$355,000.

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| Ocean Protection Council | \$355,000 |
| City of Ventura | \$50,000 |
| TOTAL | \$405,000 |

PROJECT SUMMARY 6h: Restoring Eelgrass and Climate Resilience in San Francisco Bay

Project Description

San Francisco State University, in partnership with the State Coastal Conservancy, proposes to restore eelgrass (*Zostera marina*) at two locations in San Francisco Bay. Eelgrass would be planted adjacent to restored native oyster reefs in a living shoreline design, which uses natural systems rather than “gray” infrastructure to decrease risk and increase resiliency in the face of sea-level rise. The project would provide many benefits including: shoreline protection, habitat restoration and expansion, water quality improvement, and potentially carbon storage, carbon sequestration, and ocean acidification amelioration. The project’s objectives are to:

- Restore eelgrass at two living shorelines sites in San Francisco Bay.
- Gather some of the first measurements of eelgrass blue carbon in restoration projects, and determine if initial planting density benefits establishment and, in turn, carbon storage and sequestration.
- Use co-location of eelgrass with native oysters at living shoreline projects to evaluate oyster reef protection of eelgrass from wave disturbance and feedbacks to ecosystem functions and services, including capacity to buffer pH and sequester carbon.
- Assess effects of eelgrass on pH and carbonate chemistry that may benefit shell formation in native oysters and other species as ocean acidification intensifies.

In addition to the enhancing habitat and improving water quality, the project will have lasting benefits in the development of restoration methodologies that enhance the success of eelgrass restoration while increasing the magnitude of its effects on reducing climate change stressors to ecosystem resilience. The proposed project would quantitatively assess the provision of multiple ecosystem services from these types of living shoreline projects, and would help clarify the extent and conditions under which eelgrass may locally decrease vulnerabilities to ocean acidification and sea-level rise.

Site Description and Project History

The San Rafael living shorelines site is approximately 200 m from shore at a depth of -0.5m MLLW, which is suitable for both eelgrass and native oysters. The project footprint is roughly one acre and lies entirely within a parcel owned by The Nature Conservancy. This site includes the first living shorelines project in San Francisco Bay and one of the first in California. At this site, oyster shell bag mounds were installed in 2012 in a checkerboard array in two large plots (Exhibit 6h2). Eelgrass planting established well and native oysters recruited quickly. Species diversity of animals using the habitat was also shown to be greater when both eelgrass and oysters were restored together, compared to when restored alone. In 2016, a small-scale planting of eelgrass at this site revealed more and taller shoots when eelgrass was protected on the shoreward side by oyster shell bag. However, the record, extended period of rainfall in early 2017 led to loss of both eelgrass and oysters throughout much of central San Francisco Bay, including at this site. Since then, oysters are recruiting again, but eelgrass is not, prompting this proposal to conduct eelgrass restoration. Results from a biophysical model (Merkel and Associates 2005) and nine years of eelgrass test plots (small plantings used to determine site suitability) suggest the site is favorable for eelgrass, absent extreme events.

The Giant Marsh living shorelines site will include oyster reef installation by summer 2018 with Coastal Conservancy funding in an array that is approximately 300 m from shore at -0.5 m depth relative to MLLW. The project footprint of roughly 3.5 acres is nearly evenly split across East Bay Regional Park and

State Lands Commission parcels. This living shorelines project is only the second to be constructed in the subtidal zone of San Francisco Bay, and has been designed to incorporate lessons learned from the original project at San Rafael. For example, the preliminary finding that oyster reefs may protect eelgrass and increase its restoration success if planted on the shoreward side of the reef was used to inform the design of the Giant Marsh project, which will have replicate plantings of eelgrass both offshore and onshore of the oyster reefs. The eelgrass planting funded by OPC Proposition 1 funds would be part of a much larger project that includes numerous elements for sea-level rise adaptation extending up to the estuarine-upland transition zone.

Project Timeline

Restoration implementation will begin between March and April 2019, with assessment of eelgrass growth parameters, light attenuation, blue carbon occurring periodically through spring 2022. Water quality monitoring of ocean acidification will begin in December 2019 and continue through spring 2022.

Project Financing

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$824,809 to San Francisco State University to implement the Restoring Eelgrass and Climate Resilience in San Francisco Bay project. The proposed project may not require expenditure of the full \$824,809.

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| Ocean Protection Council | \$ 824,809.00 |
| State Coastal Conservancy | \$115,000.00 |
| San Francisco State University (in-kind) | \$306,677.00 |
| TOTAL | \$1,247,486.00 |

**FUNDING SOURCE FOR ALL PROJECTS AND CONSISTENCY WITH PROPOSITION 1 GRANT GUIDELINES
(Water Quality, Supply, and Infrastructure Improvement Act of 2014; Water Code §79700 et. seq.)**

The expected source of funds for these projects is the Ocean Protection Council’s appropriation pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code §79700 et. seq.). Funds appropriated to the Ocean Protection Council derive from Chapter 6 (commencing with §79730) and may be used “for multibenefit water quality, water supply, and watershed protection and restoration efforts for the watersheds of the state” (Water Code §79731). Section 79732 identifies specific purposes for Chapter 6, which include protecting and restoring coastal watersheds, including, but not limited to, bays, marine estuaries, and nearshore ecosystems. The proposed projects are an appropriate use of Proposition 1 funds because they each have multi-benefits and will improve resiliency and adaptation to climate change, provide healthier marine or estuarine ecosystems, and restore watershed and coastal habitat.

| Summary of Recommended Prop 1 Round 2 Habitat Restoration and Climate Resilience Projects (by Project Name) | Recommended OPC Funding from Prop 1 |
|--|--|
| Eel River Estuary and Centerville Slough Enhancement Project | \$950,000 |
| Elkhorn Slough Foundation for the Elkhorn Slough Tidal Marsh Restoration | \$2,373,241 |
| Martin Slough Enhancement Project | \$881,862 |
| Elk River Estuary and Tidal Wetlands Enhancement Project | \$1,038,853 |
| Surfers Point Project | \$355,000 |
| Restoring Eelgrass and Climate Resilience in San Francisco Bay Project | \$824,809 |
| In this staff recommendation - SUBTOTAL | \$6,423,765 |
| Recommended in staff recommendation for Items 6a and 6b | \$1,992,644 |
| Proposition 1 Projects recommended this meeting – TOTAL | \$8,416,409 |

The proposed projects were selected through a competitive grant process under the OPC’s Proposition 1 Grant Guidelines, which were adopted in November 2017. The OPC Proposition 1 Grant Program assembled a Round 2 Review Committee that consisted of OPC staff together with twelve external reviewers from state and federal government agencies. External reviewers represented various agencies including CDFW, the climate program of the Resources Agency, the State Water Quality Control Board, State Lands Commission, CalRecycle, NOAA, USC Sea Grant, and the Coastal Commission.

The Review Committee scored all complete and eligible applications submitted in this OPC Proposition 1 round according to the Scoring Criteria found on page 11 of the Grant Guidelines. After all proposals were scored and ranked, the Review Committee met and determined which projects should receive site visits from OPC Staff and members of the Review Committee. Following long-standing Resources Agency practice, site visits were offered to more projects than the OPC has available funding for. Final funding recommendation decisions were made by the OPC Executive Director.

CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT (COPA)

The proposed projects are consistent with the California Ocean Protection Act (COPA), Division 26.5 of the Public Resources Code, because they are all consistent with trust-fund allowable projects, defined in Public Resources Code Section 35650 as projects that achieve the following objectives, among others listed in this section of COPA:

- Eliminate or reduce threats to coastal and ocean ecosystems, habitats, and species;
- Improve management, conservation, and protection of coastal waters and ocean ecosystems;
- Provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources;
- Improve coastal water quality;
- Allow for increased public access to, and enjoyment of, ocean and coastal resources, consistent with sustainable, long-term protection and conservation of those resources; and
- Protect, conserve and restore coastal waters and ocean ecosystems.

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN

All projects implement three of the Focal Areas from the OPC's Strategic Plan as follows.

Focal Area B. Climate Change is addressed by all the projects, which have each have incorporated both sea-level rise projections and sea-level rise adaptation strategies into their project designs. Several of the projects also incorporate living shoreline and/or green infrastructure features that will provide flood protection to critical infrastructure, as well as providing resiliency to crucial habitat types like tidal marshes to keep up with expected sea-level rise. In addition, the San Francisco Bay project will provide improved understanding of how changing climate and ocean chemistry will alter California's ocean and coastal ecosystems and the benefits they produce. The San Francisco Bay project will also help improve understanding of ocean acidification and identify opportunities to reduce impacts by modifying management approaches.

Focal Area C. Sustainable Fisheries and Marine Ecosystems are addressed by all recommended projects (except the Surfers Point Project) because they entail tidal marsh, estuary and river habitat restoration elements designed to provide habitat for important fish species at various points in their life cycles.

Focal Area D. Coastal and Ocean Impacts from Land are addressed by all projects which incorporate habitat restoration as well as sediment management and water quality improvements into their design.

COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The proposed projects have different statuses under CEQA as follows.

Eel River Estuary and Centerville Slough Enhancement Project

To comply with CEQA, the State Coastal Conservancy prepared the Final Environmental Impact Report (FEIR) for the Eel River Estuary and Centerville Slough Enhancement Project in January 2017. The Conservancy certified the EIR at its February 2, 2017 board meeting (State Clearinghouse #2014122040). The OPC has considered the EIR filed by the State Coastal Conservancy pursuant to Section 15096 of the

CEQA Guidelines. OPC staff has considered the FEIR filed by the State Coastal Conservancy and recommends that the mitigation and avoidance measures identified in the EIR be adopted, and the findings be included in your approval.

Elkhorn Slough Tidal Marsh Restoration Project

The California Department of Fish and Wildlife was the lead agency for CEQA compliance, and prepared a Mitigated Negative Declaration (MND) in June 2015. Notice of Determination was certified in August 2015 (State Clearinghouse #2015071023). OPC staff has considered the MND filed by the California Department of Fish and Wildlife pursuant to Section 15096 of the CEQA Guidelines and recommends that the mitigation and avoidance measures identified in the MND be adopted, and the findings be included in your approval.

Martin Slough Enhancement Project

The County of Humboldt adopted a MND for the Martin Slough Enhancement Conditional Use Permit on June 1, 2017, pursuant to CEQA (State Clearinghouse #2017052008). The MND addresses the environmental impacts of the proposed project and identifies potentially significant impacts of the Project, but determines that they could be mitigated to “less than significant” levels. OPC staff has considered the MND filed by the County of Humboldt pursuant to Section 15096 of the CEQA Guidelines and recommends that the mitigation and avoidance measures identified in the MND be adopted, and the findings be included in your approval.

Elk River Estuary and Tidal Wetlands Enhancement Project

The City of Eureka was the lead agency for CEQA and prepared a Mitigated Negative Declaration (MND). The MND was completed in August 2017 and the City of Eureka Planning Commission approved the project at their November 13, 2017 meeting. The City's Notice of Determination was filed with the Humboldt County Clerk and was posted to the State Clearinghouse Office of Planning and Research for 30-day review on January 22, 2018 (SCH#2017082048). The 30-day review period ended with no comments were received; therefore, CEQA review for this project is complete. OPC staff considered the MND filed by the City of Eureka pursuant to Section 15096 of the CEQA Guidelines and recommends that the mitigation and avoidance measures identified in the MND be adopted, and the findings be included in OPC approval.

Surfers Point Project

An Environment Impact Report for the project was certified the City of Ventura (State Clearinghouse #200101129) in 2003. No additional CEQA review is triggered by this final Phase 2 planning and design project, which will be consistent with submitted plans. However, should any additional CEQA issues come up during the final planning design process, a supplemental CEQA analysis could be completed within the required grant project deadlines.

Restoring Eelgrass and Climate Resilience in San Francisco Bay Project

This project is categorically exempt from CEQA. Notice of Exemption (Categorical Exemption 15333) for Giant Marsh site was filed on December 21, 2016. Notice of Exemption (Categorical Exemption 15306) for the San Rafael site filed on April 2, 2012.

For all projects, OPC will delegate to staff the ability to file a notice of determination for CEQA compliance upon OPC approval, consistent with the findings in this staff recommendation.