



Pacific Marine and Estuarine Fish Habitat Partnership 2017 Annual Report



Photo credit: Kristen Ramey

Our mission is to work with partners to protect, enhance, and restore ecological processes and habitats within estuaries and nearshore marine environments to sustain healthy native fish communities and support sustainable human uses that depend on healthy fish populations.

On-the-Ground Restoration

In 2017, the Pacific Marine and Estuarine Fish Habitat Partnership (PMEP) and Fish and Wildlife Service provided over \$127,000 in funding to support three on-the-ground restoration projects to protect estuarine and nearshore habitats.

Upper Newport Bay Living Shorelines Project (California)

This project will directly produce 240 square meters of oyster habitat to add to 1,280 square meters of eelgrass habitat, which was previously transplanted. This is the largest oyster restoration attempt in Southern California to date. This project will address pressing issues related to habitat loss, sea level rise, and lack of awareness. Benefits include return of historically present but currently depleted species; enhanced habitat quality and connectivity for fish and wildlife; improved water quality; erosion control, and sea level rise adaptation.

Oysters increase the abundance of fish and wildlife through the creation of complex habitat, improve water quality through filter feeding, stabilize sediments, buffer erosion, and attenuate wave energy, which will reduce impacts of sea level rise. Eelgrass meadows provide similar ecosystem services, including habitat and foraging grounds for many invertebrate, fish, and bird species; nutrient cycling; carbon sequestration; sediment stabilization; and water quality improvement.

The project is overseen by the Orange County Coastkeepers and is endorsed by CA Dept. Fish and Wildlife, the County of Orange, and the City of Newport Beach. Over 180 volunteers have assisted with the project to protect their bay.

Elk River Coho Winter Rearing (Oregon)

The Elk River was identified by NOAA Fisheries as important for coho salmon and that the population there is a "High Extinction Risk". NOAA's coho recovery plan points to a lack of accessible, high quality overwintering habitat as the primary limiting factor to coho recovery in the watershed—this project funds two restoration projects in two key tributaries to the Elk River. The proposed restoration projects will improve juvenile access to 0.5 stream miles and 24 acres of rearing habitat in Swamp Creek, and to 0.5 stream miles in Cedar Creek. The proposed projects will also improve conditions in

0.5 stream miles and 22 acres of rearing habitat in Swamp Creek and in 0.8 miles and 1 acre of rearing habitat in Cedar Creek.

Eel River Estuary and Centerville Slough Enhancement Project (California)

This project will restore aquatic habitat and tidal marsh on diked historic wetlands and coastal streams. It will improve drainage efficiency and manage sediment loads more effectively to enhance agricultural productivity, while enhancing tidal processes through connectivity of the slough and creek. They will excavate and restore 2 miles of historic Centerville Slough and reestablish connectivity among the slough, estuary, and creek.

The project will install a fish-friendly tidegate and breach an existing levee to provide fish passage into a 125-acre restored marsh. The project will enhance freshwater pond habitat for amphibians, migratory waterfowl, and other species by reestablishing terminal slough ponds above the brackish interface. The project will remove invasive species and establish floodplain sediment management areas.

This project, led by the Wiyot Tribe, will monitor fish response to the restoration. CDFW, Humboldt RCD, Humboldt State University, CalTrout and NOAA fisheries are partners.

Science and Data

PMEP's assessment and spatial data work helps inform restoration and conservation work along the West Coast. PMEP work also helps inform PMEP's annual project funding decisions and the National Fish Habitat Partnership's national estuary assessment. PMEP has identified a number of data gaps that need to be filled to aid in overall fish habitat protection on the West Coast. PMEP will be incorporating its plan to fill these gaps in its next strategic plan for 2018-2022, which will be released in 2018.

In 2017, PMEP soft launched its spatial data system on its website – www.pacificfishhabitat.org -- the culmination of ongoing work on the following projects.

- **Mapping Estuary Habitats Using the Coastal and Marine Ecological Standard (CMECS)**—PMEP mapped habitats within West Coast estuaries using the aquatic and biotic components of CMECS. Our process included coding each inventoried estuary with its geomorphic type, assigning biotic classes (aquatic bed, emergent, scrub-shrub, and forested) using the National Wetlands Inventory (NWI), and assigning biotic classes using C-CAP (outside NWI mapping).
- **Tidal Wetland Loss Assessment on the West Coast**—We conducted a rapid assessment of historic loss of tidal wetlands to inform restoration actions. We compared two data sources: National Wetlands Inventory (NWI) and the elevation-based map of West Coast current and historical tidal wetlands. This task supports landscape-scale comparisons (not site-specific analysis) and will include:
 - Maps of tidal wetland areas lost
 - Tables summarizing losses by state, regional estuary, and estuary type
 - A report summarizing methods, comparisons to other studies, limitations of analysis, and appropriate use of the products
- **Eelgrass “State of the Knowledge” report on U.S. West Coast eelgrass habitats**—In the report, “Nursery Functions of U.S. West Coast Estuaries: The State of Knowledge for Juveniles of Focal Invertebrate and Fish Species,” the most widely used habitat identified for use by juveniles was eelgrass. To better understand this critical habitat and the ecosystem services it provides to fish and shellfish, PMEP followed up in partnership with TNC to conduct a data call, compile spatial data, and create a synthesis document describing the “State of the Knowledge” report on U.S. West Coast eelgrass beds.

In addition, a complementary **West Coast Estuaries Explorer** (a product from our partnership with the North Pacific Landscape Conservation Cooperative [DataBasin]) launched, provided public access to the data layers PMEP has created and compiled. PMEP also created the **West Coast Estuary Viewer** that allows users to interact with the data within the PMEP’s Spatial Data System and the “West Coast USA Current and Historical Estuary Extent” in a web-based interface. In 2017, the product was soft-launched on the website.

Outreach and Education

In 2017, PMEP's logo and website were updated to give both a more modern look. PMEP uses its website as its primary outreach vehicle to share information about its priorities. (<http://www.pacificfishhabitat.org>) In 2017, the website received a major overhaul, updating its look and simplifying the navigation, making it easier for visitors to find information about PMEP and its efforts. PMEP posts its latest news and information on its site for visitors to learn about latest work. PMEP has also established a data portal on the web, allowing users to view and download GIS data. To strengthen communication among member organizations, PMEP has created a "Committee Portal" on its site that can only be accessed by members. It serves as a repository of key documents and meeting notes for members (and new members) so that everyone can be fully informed about its efforts.

2017 Waters to Watch

PMEP was selected by the National Fish Habitat Partnership to highlight Newport Bay in the national "Waters to Watch" campaign. More information about the eelgrass and oyster reef restoration in Newport Bay, as well as other projects with national focus, can be found at <http://www.fishhabitat.org/waters-to-watch>.

Finances

In 2017, PMEP and Fish and Wildlife Service supported three projects with a total of \$127,401 -- the Upper Newport Bay Living Shorelines Project (CA) with \$50,000, the Elk River Coho Winter Rearing Restoration Project (OR) with \$37,401, and the Eel River Estuary and Centerville Slough Enhancement Project (CA) with \$40,000. In addition, \$75,000 was allocated for coordination of PMEP.