2018 ANNUAL REPORT

CALIFORNIA FISH PASSAGE FORUM

The mission of the Fish Passage Forum is to protect and restore listed anadromous salmonid species, and other aquatic organisms, in California by promoting collaboration among public and private sectors for fish passage improvement projects and programs.

Contents

Projects Funded in 2018

2018 PROJECTS

The Forum solicited project proposals to fund projects in 2018, and selected and funded four projects: Cooper Mill Fish Passage Improvement Design Project, Davy Brown & Munch Creek Fish Passage Project, Mid Klamath Fish Passage Improvement Project, and the Neefus Gulch Coho Salmon Barrier Removal Project Design at Appian Way. Three of these projects (Cooper Mill, Davy Brown & Munch Creek, and Neefus Gulch) supported the development of designs for the remediation or removal of barriers to fish passage in key watersheds across California. The Forum's contribution to the Mid Klamath Fish Passage Improvement Project builds off of almost two decades of collaborative assessments and treatment of barriers in the Mid Klamath Subbasin seeking to enhance habitat connectivity, specifically at the mouths of cold water tributaries. All of these projects also addressed anticipated impacts of climate change (increased/exacerbated flooding and limited cold water refuguia), and will ultimately contribute to opening more than 13 miles of habitat for anadromous species. Learn more about each of the projects receiving FY18 funding from the Forum here.

In August of 2018, the Forum released a project solicitation for 2019 NFHP funds.

Cooper Mill Fish Passage Improvement Design Project

The Forum's support for this project provided funding towards developing preliminary design plans focused on enhancing instream habitat and improving fish migration for all life cycles of Coho and other salmonids on Cooper Mill Creek, an important anadromous fish-bearing tributary of Yager Creek, and a major tributary to the Van Duzen River. Cooper Mill contains three miles of anadromous stream and opportunities to provide summer and winter cold-water refugia habitat for three salmon species (Coho, Chinook, and steelhead). The project area is located on Humboldt Redwood Company (HRC) property,

The preliminary designs will kickstart the design process which will include an analysis of alternatives that address: 1) the constructed boulder step weir located at a debris accumulation at the confluence with Yager Creek; 2) the concrete weir upstream; 3) historic channelization and poor instream habitat complexity; and 4) appropriate locations and configurations of instream habitat structures between the two barrier locations. One of the two barriers being addressed is listed in the California Passage Assessment Database, and the other is listed in a key restoration plan for the region.

Ultimately, when constructed, this project will also address climate challenges by providing high priority refugia habitat during extreme water velocity and temperature events by improving access to 1.7 miles of habitat for natal and non-natal salmonid species.

Project Lead: Trout Unlimited

Project Partners: Humboldt Redwood Company and Pacific Watershed Associates

Davy Brown and Munch Creek Fish Passage Project

This project supports the development of engineering designs to remove three barriers to steelhead migration on Davy Brown and Munch Creeks, and replace two of these barriers over Davy Brown with steel bridges. The hope is that this work will ultimately restore a sustainable population of steelhead to the watershed, and provide Southern California Steelhead (SCS) and other aquatic species refuge from fire affected areas and other area of poor habitat quality.

The project will also improve public safety at these road crossings through the installation of new stream crossings with the capacity to withstand large flooding which may be exacerbated by climate change. By replacing two low-flow stream crossings/concrete ford with pre-fabricated steel bridges on Davy Brown Creek, and completely remove a concrete ford at Munch Creek, 3.1 miles of additional high-quality habitat for SCS will be made available. Channels at project sites will be regraded and created to improve habitat quality, fish passage, and channel hydraulics, and will be constructed to remain stable in a 100-year flood event. The project will also provide safer creek crossings, as the new bridges will be constructed to pass the 100-year flood conveyance with two feet of freeboard per US Forest Service (USFS) guidelines.

Specific measurable long-term objectives include 1) removing three barriers to steelhead migration; 2) replacing two low-flow road crossings (barriers) with steel bridges; 3) reconstructing and restoring the creek's grade at each of the three sites to comply with state and federal criteria for fish passage; and 4) return of anadromous fish spawning in 3.1 miles of spawning and rearing habitats upstream of the removed barriers.

Project Lead: South Coast Habitat Restoration

Project Partners: National Fish & Wildlife Foundation, California Department of Fish & Wildlife, and Coastal Resource Enhancement Fund

Mid Klamath Fish Passage Improvement Project

This project seeks to enhance habitat connectivity, specifically at the mouths of cold water tributaries by opening seven miles of stream for Coho, Chinook and steelhead/rainbow trout, addressing all barriers within the first 1,000 feet of all assessed tributaries. Modifying and identifying temporal or partial barriers will ensure crucial cold water refugia for out migrating juvenile salmonids and returning adults. Both spawning and rearing habitat will be made available. The project will enhance habitat connectivity, specifically at the mouths of cold water tributaries.

This project will engage the Karuk Tribal Fisheries Programs, the local watershed council, and federal and state agencies to address key stressors identified in the Mid-Klamath Subbasin Fisheries Resource Recovery Plan. Re-connecting tributaries to mainstem river corridors provides for significant remediation of all limiting factors affecting salmonids in the Klamath River Basin, including: water quality, water quantity, and habitat quantity and quality.

Project Lead: Mid Klamath Watershed Council

Project Partners: Pacificorps, Karuk Tribal Fisheries Program, Salmon River Restoration Council, and the U.S. Forest Service

Neefus Gulch Coho Salmon Barrier Removal Project Design at Appian Way

This project will restore fish passage in Neefus Gulch at a known fish passage barrier on Appian Way. Funding from the Forum will be used to develop 100% designs that will lead to implementation of a culvert replacement project that utilizes instream large wood as grade control downstream.

Ultimately, this project will result in the replacement of this barrier (culvert crossing), will result in improved fish passage for Coho salmon and steelhead trout, and better routing flows and sediment directly to the North Fork Navarro River. The barrier is listed in several recovery plans and strategies, and has the support of several state agencies. The barrier at Appian Way consists of two culverts with 3- and 5-foot plunges at the outlets. Both culverts are barriers to juvenile and adult salmonids at all times, and there is about 7,726 feet of potential habitat upstream of the downstream most barrier. The designs developed as a result of the funding provided by the Forum will result in the replacement of the culverts that use instream large wood as grade control downstream and ultimately open 1.46 miles of Coho and steelhead/rainbow trout spawning and rearing habitat.

Project Lead: Trout Unlimited

Project Partners: California Department of Fish & Wildlife, State Coastal Conservancy, Mike Love & Associates, Rancho Navarro (landowner)

Science and Data

BARRIER REMOVAL CASE STUDIES

The Forum continued to compiled barrier removal case studies that have documented success through effectiveness monitoring for use in highlighting the importance/success of barrier removal. Two case studies were produced in 2018: Green Gulch Habitat Enhancement Project Monitoring and Mill Creek Dam Fish Passage Project.

PACIFIC LAMPREY

In 2018, Forum members, contractors, and staff continued developing a historical Pacific lamprey distribution GIS layer, and assessment of potential historical distribution based on elevation, habitat and access have been completed for most California drainages. The distribution database of current/recent distribution was developed for GIS, preparing for conversion to the state's Passage Assessment Database, and a peer-reviewed publication was published to support and document coastal distribution and contraction of southern populations. Field criteria are being developed to assess barriers in association with survey projects and passage assessments.

FISH*PASS* – A FISH PASSAGE OPTIMIZATION TOOL

In 2018, the Forum, and many members of the Science & Data Committee in particular, continued to work with partners, stakeholders to refine FISH*Pass's* data inputs and associated datasets (including the PAD, baseline fish habitat, and estimated cost). Meanwhile, building off of a contract initiated in 2017 utilizing financial support from the US Fish & Wildlife Service (USFWS), the Forum continued to work with Ecotrust (a consulting firm based in Portland, Oregon) to develop a user-friendly interface for FISH*Pass*.

The Forum co-hosted a full day in-person workshop in concordance with the 36th Annual Salmon Restoration Conference in Fortuna, California (April 11-14, 2018). This workshop, titled "Using an Optimization Model to Select Fish Passage Barriers for Remediation," contained two segments. The first, provided an overview of the California Department of Fish & Wildlife Section IX Passage Assessment Methodology, as well as FishXing Software. The second segment, gave fish passage practitioners an opportunity to familiarize themselves with FISH*Pass* in numerous watersheds along the coast of California. The workshop was attended by 55 participants, and in addition to serving as an excellent outreach opportunity, also provided the Forum with an important feedback on FISH*Pass's* functionality and data inputs during the final stages of integrating the excel-based version of the tool with the new user-interface.

The Forum plans to initiate beta testing of the web-based user interface in early 2019, and publically release the tool later in the year.

PASSAGE ASSESSMENT DATABASE (PAD)

The Science and Data Committee supported quality control and updating of PAD data, including correcting and standardizing stream and tributary names. A data call was conducted to request PAD data to better inform both the PAD and FISH*Pass*. Information was received and the PAD was updated. Pacific Lamprey assessment fields were incorporated into a form for conducing rapid fish passage assessments, and was made into a fillable form for easier entry into the PAD.

A proposal for database changes to include Pacific Lamprey fields was created with input from the Science and Data Committee members which will be implemented in 2019. An analysis was proposed and conducted to identify locations needing fish passage assessments. This analysis will be refined and completed in 2019. Upon completion, and if patterns are found, on-the-ground assessments will be conducted and the information collected will be incorporated into the PAD making it more robust.

A PAD usage questionnaire was shared with the fish passage community to determine how the PAD is used and how it can be improved. The results of the questionnaire will be provided to the fish passage community in 2019.

DATA REPORTING

The Forum coordinated with the National Fish Habitat Science and Data Committee to provide relevant datasets to NFHP, including habitat assessment, completed habitat improvement projects, and other datasets as requested. NFHP representatives convened with Forum members via conference call to discuss perspectives on the national fish habitat assessment and how that assessment might be designed to meet Forum needs.

The Forum's strategic framework was updated to incorporate the latest data and information from PAD, including the current map of barriers to anadromous fish in California.

Finances

The Forum spent 2018 NFHP, Multi-State Conservation Grant funds, and US Fish and Wildlife funds to support the following projects:

Cooper Mill Fish Passage Improvement Design Project - $65,782

Davy Brown and Munch Creek Fish Passage Improvement Project - $44,538

Mid Klamath Fish Passage Improvement Project - $36,680 (directly through FWS)

Neefus Gulch Coho Salmon Barrier Removal Project Design at Appian Way - $39,513

Outreach and Education

SALMONID RESTORATION FEDERATION 2018 WORKSHOP

The Forum hosted a workshop at the 2018 Salmon Restoration Federation Conference April 11-14, 2018 in Fortuna, California where attendees learned about the FISH*Pass* tool for optimizing the selection of fish passage barriers for remediation.

10 WATERS TO WATCH

The Forum nominated Big River Project was selected by NFHP as a 10 Waters to Watch in 2018. Of the 64 projects selected as Waters to Watch over the years, this is the seventh project that was nominated by the Forum.

The Big River Project (also known as the Manly Gulch Coho Access and Habitat Restoration Project), funded in part by the Forum, had a coal of restoring access for Coho salmon and steelhead trout to an estimated 4,000 feet of potential spawning and rearing habitat in the upstream reaches of Manly Gulch, a tributary to the Little North Fork of the Big River.

Project partners included Trout Unlimited, California Department of Fish & Wildlife, California Department of Parks & Recreation, and Michael Love & Associates.

FORUM WEBSITE

The Forum website continued to be updated weekly. Additionally, an intranet site is being developed to serve as a share drive for Forum members and house internal documents, reports and other resources to preserve institutional knowledge of the Forum.

FISH HABITAT PARTNERSHIPS

The Forum coordinator led national coastal fish habitat partnership bi-monthly conference calls, summarizing meeting minutes, and coordinated the development of a quarterly newsletter through Spring 2018. In September 2018, the Forum hired a new coordinator who participated in the biannual NFHP Coordinator's Workshop and attended the NFHP Board Meeting October 15-18, 2018 in Hunt, Texas.

FORUM MEETINGS

Two in-person meetings, one in Arcata and another in Santa Rosa, were held in 2018.

ADMINISTRATIVE DOCUMENTS

In 2018, the Forum completed a comprehensive overhaul of the its strategic framework, updated its bylaws, and revised its geographic scope to reflect new science and data.