



NFWF



Klamath River Coho Habitat Restoration Grant Program 2016 Grant Slate

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Lower Klamath National Wildlife Refuge

ABOUT NFWF

The National Fish and Wildlife Foundation (NFWF) protects and restores our nation's fish and wildlife and their habitats. Created by Congress in 1984, NFWF directs public conservation dollars to the most pressing environmental needs and matches those investments with private funds. Learn more at www.nfwf.org

NATIONAL HEADQUARTERS

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OVERVIEW

The National Fish and Wildlife Foundation (NFWF) in cooperation with its federal partner, the Bureau of Reclamation (Reclamation), is pleased to announce the Klamath River Coho Habitat Restoration Grant Program (Restoration Program) to enhance the survival and recovery of the Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*), a species listed as "threatened" pursuant to the federal Endangered Species Act. The grant program is coordinated closely by Reclamation, the National Marine Fisheries Service (NMFS), the California Department of Fish and Wildlife (CDFW) and NFWF program management staff for the Klamath Basin.

The goal of this competitive grant program is to meet requirements outlined in the 2013 Biological Opinion on Klamath Project Operations by providing support for projects in the Klamath Basin in California that address limiting factors facing SONCC coho salmon, have the greatest impact on promoting survival and recovery, and provide sustainable and lasting ecological benefits. In FY 2016, over \$1 million in Reclamation funds will be awarded to implement coho habitat restoration actions within the Klamath River and its tributaries. Selected proposals focus on stream bank and habitat revegetation, address access improvements for spawning and rearing habitat and refuge improvement to increase the viability of cold-water plumes, while always making sure to demonstrate direct benefits for SONCC coho salmon.

(continued)



Coho salmon | Credit: Mid Klamath Watershed Council

1) Middle Klamath Coho Refuge Habitat Enhancement - Planning and Design Team Support

Grantee: Karuk Tribe
NFWF Award Amount:..... \$60,000
Matching Funds:..... \$15,000
Total Project:..... \$75,000

Further planning and design efforts directed at the enhancement of coho refuges and off-channel refuge habitats along the middle Klamath River corridor. Project will assess a minimum of 15 tributary sites yielding up to three project sites each for a total of up to 30 project sites and provide a feasibility statement, a list of project permitting needs, future planning steps, pre-implementation monitoring plan and conceptual design alternatives for each of the feasible project sites.

2) Horse Creek Wood Loading

Grantee: Mid Klamath Watershed Council
NFWF Award Amount:..... \$99,429
Matching Funds:..... \$85,565
Total Project:..... \$184,994

Create a set of plans that address the lack of instream wood, floodplain connectivity and off-channel sites in the upper 1.5 miles of Horse Creek’s 3-mile long valley and choose one for implementation. Once implemented, project will create spawning habitat, provide cover, reduce stream force by increasing floodplain connectivity, increase pool depths and frequency, and increase valley groundwater levels. Project will produce restoration designs and a basis of design report

to add constructed wood jams, beaver analogue structures, off-channel sites and increase floodplan area, complexity and connectivity within at least a 100-acre project area.

3) Increasing Year-Round Rearing Capacity and Habitat Quality for Natal and Non-Natal Populations of Coho Salmon in a Priority Lower Klamath Tributary

Grantee: Yurok Tribe
NFWF Award Amount:..... \$108,911
Matching Funds:..... \$105,373
Total Project:..... \$214,284

Evaluate the restoration effectiveness of beaver dam analogues (BDA) to increase the amount of slow-velocity rearing habitat available to juvenile coho throughout the Klamath Basin and further inform development of BDA design and fish passage criteria in California. Project will install three BDAs each at two sites within a coastal tributary of the Klamath River to improve understanding of the potential for these structures to provide much needed ecosystem benefits, such as increased juvenile coho rearing capacity, growth and survival. The BDAs will provide approximately one acre of low-velocity, deep-water coho rearing habitat at each site that will persist through the summer baseflow period.

4) Parks Creek Fish Passage Implementation Project

Grantee: Shasta Valley Resource Conservation District
NFWF Award Amount:..... \$114,980
Matching Funds:..... \$364,322
Total Project:..... \$479,302



Re-establish fish passage for all life stages of salmonids in Parks Creek, the last significant spawning and refugia area in the Shasta River watershed for coho salmon, by re-designing the current fish passage barrier. Project will construct an extended roughened channel to re-slope the channel and provide resting pools to allow for passage of salmonids of all life-stages. Fish passage at the re-designed channel will provide access to 6 additional miles of good habitat for endangered coho salmon.

5) Development of Cold Water Habitat for Coho Salmon
Grantee: Montague Water Conservation District
NFWF Award Amount: \$235,573
Matching Funds: \$56,000
Total Project: \$291,573

Develop a dependable cold-water rearing habitat and wetland feature for coho salmon located at the confluence of the cross canal and the Shasta River below Dwinnell Dam that mimics other similar critical spring habitats located in the upper Shasta. The 400-foot-long side channel feature will attain stable water temperature and flow objectives which will be developed with the Conservation and Habitat Enhancement Restoration and Plan and the National Oceanic and Atmospheric Administration to maximize the utility of the dependable habitat. Project will release up to 6.5 cfs of cold water to benefit the Shasta River during the summer and habitat cover through the incorporation of 10 large woody debris structures, aquatic vegetation and planted riparian cover.

6) Bogus Creek Fish Passage for Coho Salmon
Grantee: Trout Unlimited
NFWF Award Amount: \$61,006
Matching Funds: \$1,137,615
Total Project: \$1,188,621

Remove three flashboard irrigation dams and fish screens in Bogus Creek, reprofile the streams in the location of the diversions by installing roughened channels, and construct three on-stream fish screens, which will provide year-round fish passage opportunities and eliminate juvenile coho entrainment. Project will improve fish passage and reduce entrainment by opening approximately 9 miles of steam and rectifying three fish passage barriers.

7) Cold Creek Coho Passage and Screening Project
Grantee: Trout Unlimited
NFWF Award Amount: \$116,055
Matching Funds: \$96,720
Total Project: \$212,775

Improve passage and habitat for adult and juvenile coho salmon in Cold Creek in the Klamath River Watershed. Project will install a roughened channel at the diversion site on Cold Creek, which will allow for irrigation deliveries while providing volitional streamwide passage for overwintering juveniles, outmigrating smolts and adults moving into the spawning grounds. Project will also replace the existing, non-compliant fish screen at the diversion with a screen that meets current California Fish and Wildlife standards and install a siphon to transport irrigation return flows under Cold Creek to an adjacent pasture and pipe the main diversion ditch. Project will improve fish passage and reduce entrainment by opening approximately .5 miles of steam and rectifying one fish passage barrier.

8) Lower French Creek Off-Channel Habitat Development
Grantee: Siskiyou Resource Conservation District
NFWF Award Amount: \$74,981
Matching Funds: \$39,755
Total Project: \$114,736

Restore the natural channel form and function and increase the carrying capacity and condition of juvenile coho salmon by constructing an off-channel pond with coarse woody debris structures and associated riparian vegetation in the floodplain of lower French Creek. Project will directly expand the volume of quality instream habitat available to rearing salmonids during all seasons. The pond will exhibit a stable temperature regime that will be buffered from seasonal extremes by groundwater influence, will be deep enough to allow for thermal stratification, provide low-velocity for energy conservation during winter high water and include complex instream shelter elements.

9) Klamath National Forest Coho Habitat Enhancement in Horse Creek, China Creek and Little Horse Creek
Grantee: Mid Klamath Watershed Council
NFWF Award Amount: \$184,497
Matching Funds: \$299,560
Total Project: \$484,057

Plan and design five sites on three Middle Klamath tributaries for creation of both off-channel and instream rearing and spawning habitat for coho salmon and other salmonid species in the sub-basin. Project will create approximately 20,000 total square feet of high-quality, groundwater-fed, off-channel rearing habitat and enhance a total of 4,000 linear feet of stream channel with the additional of large woody debris, which improve channel complexity and spawning and rearing habitat for both natal and non-natal juvenile salmonids. Project will create approximately 32,000 square feet of in-channel habitat for state and federally listed coho salmon



and increase adult escapement, as measured by long-term monitoring effects.

10) Parks Creek Fish Passage Design and Planning: Cardoza Ranch

Grantee: California Trout
NFWF Award Amount: \$160,984
Matching Funds: \$25,006
Total Project: \$185,990

Design a new means of diverting water that will provide continuous fish passage and reduce summer water temperatures in Parks Creek which will result in reduction of limiting factors facing SONCC coho salmon and provide sustainable and lasting ecological benefits. Project will replace the existing diversion at Cardoza Ranch with a pumping facility in the Shasta River; one mile downstream from the Parks-Shasta confluence, will eliminate the need for the Parks Creek impoundment, meet all fish passage criteria, improve water quality in Parks Creek, and improve on-farm efficiencies/reduce water demands. Project will result in final construction plans for the fish screen, the pump station, on-farm piping efficiencies and a solar array to help off-set landowner operations costs associated with increased pumping.

Further the restoration of off-channel habitat along the Klamath River by locating optimum sites for creation of off-channel ponds along lower Beaver Creek and developing restoration plans and designs appropriate for those sites. Off-channel ponds will be designed to create high quality coho salmon winter refugia habitat, increase area of summer thermal refugia habitat, and create wetland habitat. Project will design at least two restoration sites and a total of 1.5 miles to be restored through engineering and planning development.



Juvenile coho salmon

11) Lower Yreka Creek Restoration Project

Grantee: Siskiyou Gardens, Parks and Greenways Association
NFWF Award Amount: \$96,000
Matching Funds: \$62,259
Total Project: \$158,259

Increase spawning and rearing habitat for coho salmon and other salmonids and expand the existing beaver population. Project will lower the floodplain, remove concrete and levees from streamside areas, install a self-sustaining side channel, spawning gravels, large woody debris, rock vane structures, native riparian plants for stream shading, wildlife cover and erosion control, and will include pre- and post-project monitoring. Project will install 650 feet of new side channels and restore 2 acres of floodplain where Yreka Creek meets the Shasta River. Project will also demonstrate the benefits of a larger 125-acre proposal to enable the creek's lowest two miles to re-access its broad floodplain through several meandering channels.

12) Lower Beaver Creek Coho Salmon Off-Channel Habitat Restoration

Grantee: U.S. Department of Agriculture, Forest Service - Klamath National Forest
NFWF Award Amount: \$72,428
Matching Funds: \$65,000
Total Project: \$137,428