Russian River Coho Water Resources Partnership

NFWF CONTACT

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INITIATIVE DETAILS

To learn more, go to cohopartnership.org

PARTNERS

The Russian River Coho Water Resources Partnership is comprised of six organizations:

- Gold Ridge Resource Conservation District
- Sonoma Resource Conservation District
- Center for Ecosystem Management and Restoration
- Occidental Arts and Ecology Center
- Trout Unlimited
- University of California Cooperative Extension program (Sonoma County) in partnership with the California Sea Grant.

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**

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The Russian River in California

BACKGROUND

In 2009, the National Fish and Wildlife Foundation (NFWF) and a number of organizations concerned about coho salmon recovery came together as a partnership and prepared the NFWF Keystone Initiative Business Plan for the Russian River Coho. The goal of this initiative is to "return a viable, self-sustaining population of coho salmon to the Russian River watershed" in Sonoma County, California.

Coho salmon

As of June 2015, NFWF has awarded the partnership $3.9 million, leveraged with $8.5 million in partner match, to implement the business plan.

The Sonoma County Water Agency has also provided $4.5 million to improve rearing conditions for salmon and steelhead along six miles of Dry Creek, a major tributary to the Russian River.

Partner organizations have leveraged additional funding from agencies such as the California Department of Fish and Wildlife (DFW), USDA-Natural Resources Conservation Service, and California Department of Water Resources to implement work that improves conditions for coho and furthers the goals of the initiative.

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COHO SURVIVAL

The Central California Coast Coho Salmon Recovery Plan produced by National Marine Fisheries Service (NMFS) in 2008 set a goal of 10,100 returning adult coho to the watershed as signifying "population viability and final recovery." In support of this long-term adult recovery goal, the partnership's goal is to improve habitat for a consistent, naturally spawning population of adult coho in five core watersheds identified in DFW's and NMFS's coho recovery plans — Dutch Bill, Grape, Green Valley, Mill, and Mark West creeks.

This goal is attained through three key strategies: (1) water management plan development and implementation; (2) riparian/instream habitat enhancement, conservation, and augmentation; and 3) coho population augmentation, monitoring, and evaluation.

The partnership integrates landowner outreach and recruitment, hydrologic and fisheries monitoring, and water policy and permitting expertise to improve streamflow and water supply reliability in the core watersheds.

STREAMFLOW MONITORING PROGRAM

The partnership has operated a network of streamflow gauges in project watersheds through each dry season (June-October). These data sets have provided an exponentially improved understanding of streamflow dynamics during the dry season. Most importantly for flow restoration and salmon survival, the data help identify particular reaches where water management activities have the greatest impacts to streamflow. Relatively small water diversions can have substantial impacts during the dry season.

Gauge data and communications with water users during the four-year drought (water years 2012-2015) has shown that most of the water obtained from streams and shallow groundwater for human uses in three of the project watersheds is for residential uses (not agricultural, as some initially assumed). Though one or two houses may not affect streamflow through the dry season, the cumulative effect of several (or many) houses near each other obtaining water at the same time can profoundly affect summer base flow.

COHO MONITORING PROGRAM

The partnership has been monitoring survival of juvenile coho in relation to flow conditions in Russian River tributaries to help evaluate the effectiveness of streamflow improvement projects and gain a better understanding of how much water is needed to support coho populations in small coastal streams.

We have found that maintaining minimum flows that allow

Rainwater catchment projects are under construction to conserve water for Mill Creek (pictured), an important coho spawning and rearing tributary of the Russian River.

pools to remain connected is critically important for survival of coho, and that projects contributing even a small amount of water at the right time can benefit juvenile coho rearing in streams.

These data have helped state and federal resource managers make informed decisions regarding emergency actions to protect endangered coho and threatened steelhead populations during the extreme drought conditions in California.

FLOW IMPROVEMENT

Grape Creek Streamflow Enhancement and Offstream Storage: All known frost protection diversions from Grape Creek have been eliminated and summer pumping for irrigation reduced. The partnership has installed one wind machine for frost protection, one off-channel irrigation/ frost protection pond, and has received partial funding for an off-channel irrigation pond on another property. The latter project will eliminate the use of groundwater for summer irrigation.

Mark West Rainwater Catchment: Landowner outreach has resulted in twelve potential sites for rainwater catchment projects. These projects are intended to replace the use of groundwater in the summer months with rainwater captured in the winter.

Mill Creek Rainwater Catchment: A demonstration rainwater catchment project with a local elementary school

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will incorporate educational elements. Additional outreach has focused on a critical flow recovery reach of Mill Creek, and construction of two rainwater catchment projects in this reach is planned for summer/fall 2015.

Westminster Woods Water Conservation and Storage Project: This project eliminates a major direct diversion along the prime coho salmon spawning and rearing reach of Dutch Bill Creek by replacing summer diversion of creek water for irrigation of playing fields with water that is collected and stored during the winter rainy season. Installation of a more efficient irrigation system and replacement of existing turf with drought-tolerant grass has reduced the amount of water required for irrigation. Installation of water storage tanks is scheduled for August-September of 2015.

Green Valley Creek Projects: Five off-channel storage and alternative water source projects in the upper watershed are in the design phase. These projects address both direct diversions and water extraction from shallow alluvial wells along upper Green Valley Creek and Purrington Creek. We expect to construct all five projects in 2016.

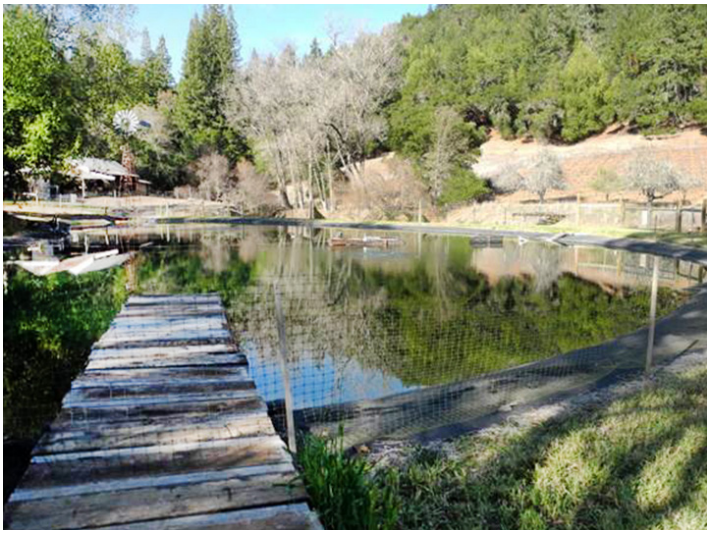
Drought Response: The partnership has collaborated with the California Department of Fish and Wildlife and NOAA Fisheries in planning and implementing a number of emergency drought response projects. We developed a reservoir release and tank rebate program. The first reservoir release occurred in late August in upper Green Valley; another is planned for Dutch Bill Creek. These projects should significantly increase survival chances for juvenile coho salmon in both streams.

Streamflow Improvement Plans (SIPs): The partnership prepared a SIP for Grape Creek and is drafting another for Mill Creek. These plans provide a foundation and rationale for recommended actions to improve streamflow conditions for fish and water supply reliability for water users.

In 2013, Grape Creek was selected as one of the 10 national Waters to Watch by the National Fish Habitat Partnership. In 2014, Gio Martorana, winemaker for Martorana Family Winery, was awarded the National Fish and Wildlife Agencies' prestigious Private Lands Fish and Wildlife Stewardship Award, recognizing for the first time a vineyard and a private landowner for fish habitat restoration.

HABITAT ENHANCEMENT

The partnering organizations have used non-NFWF funds to invest in instream habitat enhancement projects in all five project watersheds. These efforts, such as sediment management and large woody debris habitat enhancement projects, complement the instream flow work.



With assistance from the Partnership, this pond on Grape Creek was built to store enough winter rain and groundwater to meet irrigation and frost protection needs, while eliminating the necessity of removing water from the creek when coho need it the most.

The Partnership worked with Martorana Family Winery to install a frost-protection fan, an effective alternative to spraying creek water, to prevent damage to grape vines. This fan protects valuable crops while keeping more water in the creeks for fish.