



Kate Brown, Governor



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Agenda Item L supports OWEB's Strategic Plan priority # 6: Coordinated Monitoring and Shared Learning.

MEMORANDUM

TO: Oregon Watershed Enhancement Board
FROM: Audrey Hatch, Conservation Outcomes Coordinator
Renee Davis, Deputy Director
SUBJECT: Agenda Item L – Telling the Restoration Story
January 22-23, 2020 Board Meeting

I. Introduction

“Telling the Restoration Story” is a targeted grant offering that helps OWEB and grantees better communicate the ecological outcomes of restoration funded by OWEB. These grants support compilation, analysis, and/or interpretation of existing data from a watershed restoration project, and production of outreach materials that describe outcomes.

Outreach products will reach a broad audience, including board members and legislators. Grantees also have identified specific audiences, so their messages about factors that lead to quantifiable restoration success will have high impact by speaking to landowners, restoration practitioners, and natural resource managers working to restore similar landscapes in Oregon.

II. Progress to Date

Seven projects were funded by OWEB in 2019:

1. Smith River Watershed Council: video, two-page fact sheet and technical report about how stream restoration treatments have increased salmon populations in the West Fork Smith River;
2. Lake County Umbrella Watershed Council: video, four-page fact sheet and technical report that highlights how fish passage projects benefit sensitive species in the Warner Lakes Basin;
3. Rogue Basin Partnership: online story map, fact sheet and compilation of fish passage restoration projects in the Rogue Basin;
4. Coos Watershed Association: video, fact sheet, and update to previously developed Willanch Creek report that details how riparian restoration improved habitat and helped keep water temperatures cool;
5. McKenzie Watershed Alliance: online story map, fact sheet and report on approaches to monitoring geomorphology of Stage 0 restoration using the Deer Creek floodplain enhancement project;

6. Long Tom Watershed Council: online story map, private landowner fact sheet, site brochure and compiled monitoring data on oak and wet prairie restoration to help Streaked Horned Larks and other species in Coyote Creek in the Willamette Valley; and
7. Malheur Watershed Council: video and fact sheet to describe long-term water quality monitoring data set in response to improvements in irrigation efficiency to improve water quality in Willow Creek.

Attachments A and B include example fact sheets for the West Fork Smith and Warner Basin projects. At the January 2020 board meeting, staff will share brief segments from the videos developed for these projects. Products for several of these grants will be completed in early 2020. An online map includes short summaries and links to the Telling the Restoration Story products:

<https://geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6>

In addition to the projects listed above, the Confederate Tribes of Umatilla Reservation (CTUIR) completed an online story map to highlight outcomes associated with floodplain restoration in Meacham Creek. CTUIR staff worked closely with OWEB staff to align messaging and formatting for this data-driven outreach product.

III. Stories in Development

Additional Telling the Restoration Story projects currently are in development; these include:

1. Lower Columbia Estuary Partnership, to highlight outcomes associated with restoration actions in Horsetail Creek, a Columbia River tributary near Rooster Rock State Park; and
2. Walla Walla Basin Watershed Council, to describe outcomes associated with projects to improve streamflow, fish passage, and water temperature.

Staff from OWEB's Technical Services and Grant Management programs continue to work together closely to identify new opportunities for telling the restoration story. Already, several additional projects are anticipated to be developed during the 2019-2021 biennium.

IV. Recommendation

This is an information item only.

Attachments

Attachment A. Smith River fact sheet

Attachment B. Warner Basin fact sheet

Salmon Rebound in the West Fork Smith River

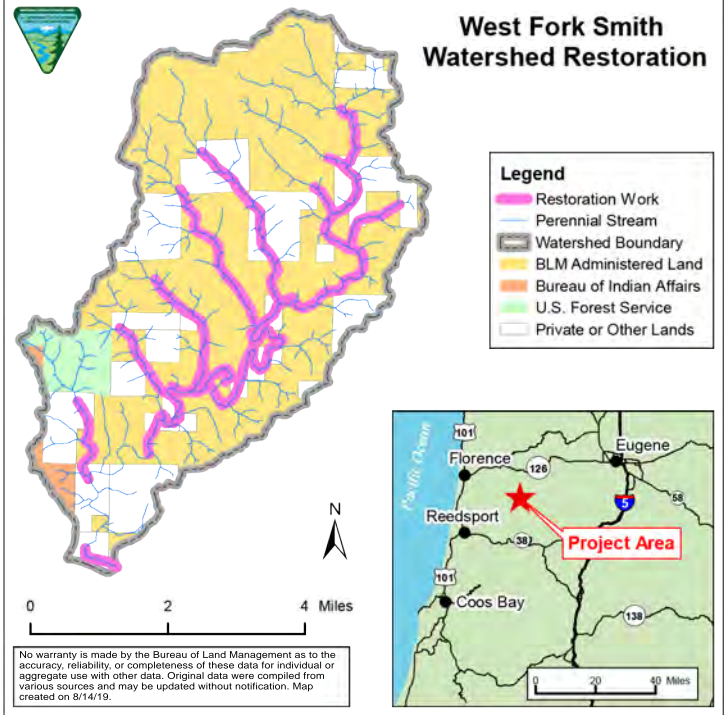
Douglas County, Oregon

60 years of Oregon Department of Fish & Wildlife monitoring data confirms the positive effects of investments in habitat restoration.

Summary


Long-term investments by multiple partners in stream restoration in the West Fork Smith River are bringing back native fish. Adult Coho Salmon (*Oncorhynchus kisutch*) have increased by 1,780% since the late 1970s. Chinook Salmon (*Oncorhynchus tshawytscha*) abundance has increased by 300% and Lamprey (*Entosphenus tridentatus*, *Lampetra richardsoni*) numbers are also increasing.*

* As indicated by measurements observed at ODFW monitoring station.





The West Fork Smith (West Fork) River is a 15-mile-long tributary to the Smith River that drains 17,045 acres of land. The Smith River's headwaters begin in the Coast Range near Eugene and reach the ocean through the Umpqua River estuary at Winchester Bay, the second largest estuary on the Oregon Coast.

 Over 40 years of investment results in watershed-scale restoration to improve salmon habitat.

 **13,000** boulders positioned

2,000 trees and logs placed 

40 culverts replaced or removed 

450 habitat structures installed 

Changes to the River

Beginning in the late 1800s, land management activities began impacting the river, and indirectly the fish. Early logging operations and splash dams flushed logs downstream for transport. While an efficient means of transporting logs at the time, it had a dramatic impact on the physical condition of the river, scraping away important river features. Stream cleaning commonly occurred from 1972-1994 and removed more submerged wood needed by fish. By the 1980s, Coho Salmon had reached historically low levels.



The large wood and boulders placed throughout the West Fork Smith River have improved spawning and rearing habitat for salmon.

Restoration Over Time

The first efforts to restore the stream began. The Coos Bay District of the Bureau of Land Management (BLM) wrote an aquatic habitat management plan detailing the human impacts to aquatic habitat and outlining measures to restore fish populations. Throughout the 1990s, the BLM placed boulders and large wood in the stream, increasing deep gravel beds that salmon quickly used for spawning. Culverts were replaced to increase fish passage. With Oregon Watershed Enhancement Board support, the Partnership for Umpqua Rivers received funding in 2010 to work with Roseburg Forest Products and the BLM to do large-scale restoration. The investment resulted in the placement of thousands of boulders and pieces of large wood back into the river and its tributaries, restoring 23 miles of stream.

Long-term Monitoring Provides Valuable Data

Oregon Department of Fish & Wildlife (ODFW) has monitored salmon in Beaver Creek, a tributary to the West Fork, since 1958. It is one of the longest running annual Coho Salmon surveys in the state. Data collected shows that Coho Salmon have increased by 1,780% in Beaver Creek from 1970's spawning levels. In 1998, as part of the Oregon Plan for Salmon and Watersheds, ODFW began a program to monitor survival and downstream migration of salmon in select watersheds, including the West Fork. The Salmonid Life Cycle Monitoring Project has provided a unique and rich data set to evaluate population trends over time. Both these data sets reveal one measure of the success of the decades-long restoration efforts.

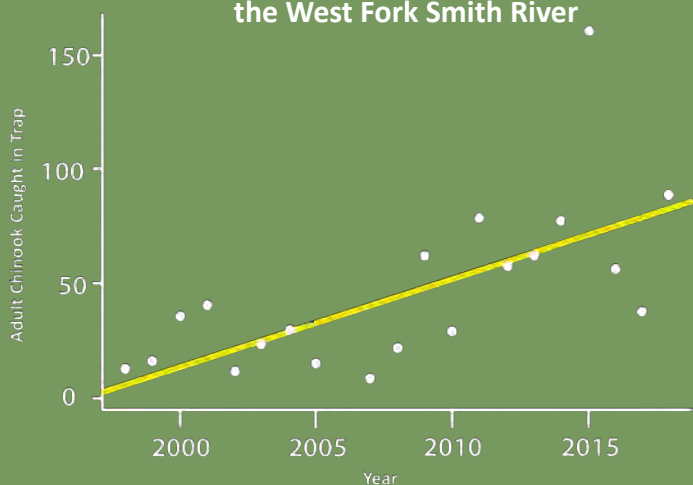
Promising Rebounds in Native Fish

Restoration of spawning habitat was successful for all target species. Since a major flood event in 2007/08 and subsequent restoration treatments, lamprey also show improving trends. Though the winter steelhead population remains stable, Coho and Chinook Salmon populations have continued to increase.



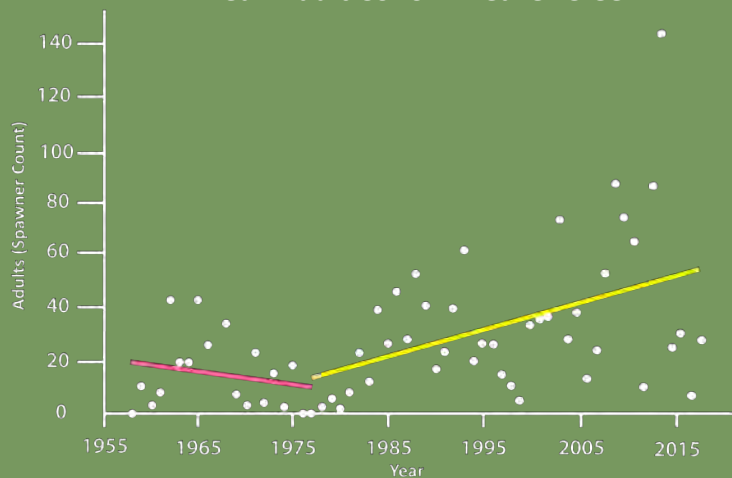
A Coho Salmon trapped at the ODFW monitoring station on the West Fork River near Reedsport.

Fall Chinook Returning Adults in the West Fork Smith River



Chinook Salmon counts have increased to 300% of their initial average since 1998 at the ODFW monitoring station.

Peak Adult Coho in Beaver Creek



Monitoring from 1958-1980 showed a declining trend in peak adult Coho Salmon. Since restoration began, they have increased by 1,780%.

Next Steps

Scientists have determined that Chinook Salmon could still benefit from additional spawning habitat in the West Fork. Research also reveals that summer and winter rearing habitats are now the most significant limiting factors for Coho, steelhead and lamprey recovery. In response, the Smith River Watershed Council is working with partners to design phased-restoration that uses traditional approaches, like instream wood and boulder placement, as well as streamside forest restoration. By improving the forest structure and allowing timber to mature, trees will fall into the stream naturally over time allowing the system to self-sustain.

Partners



Help is at Hand

for Warner Sucker and Warner Redband Trout

*An innovative partnership that improves stream habitat
for these imperiled species also assists ranchers.*

*Through this collaboration, unique
new fish passage designs show encouraging success.*



Water is the Key to Survival in the Oregon Outback

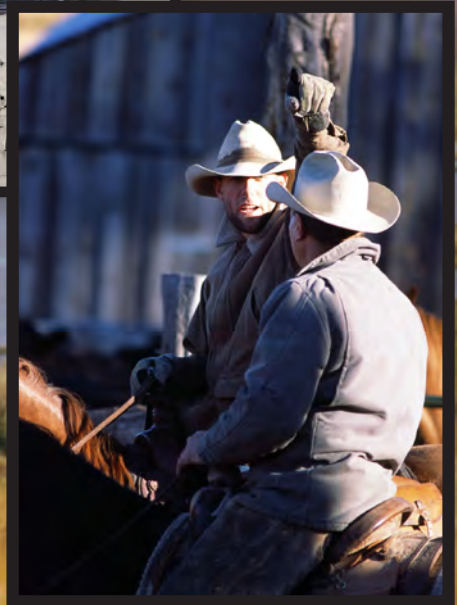
The Warner Lakes Watershed is an environment of extremes. Spring rain and snowmelt surge into raging torrents that dwindle to a trickle by late summer. Stream flow challenges resilient fish, as well as farmers and ranchers. All depend on the precious water.

Water diversions built for the working landscape have had unintended consequences for once-abundant fish, particularly for two native species. The Warner sucker was listed as Threatened on the Endangered Species list in 1985. The Warner Lakes redband trout is listed as a federal/Oregon Sensitive species. Unlike extreme conditions, water diversions are something people can change.



The Warner Basin Aquatic Habitat Partnership

The partnership was formed to improve stream connectivity and habitat. Six organizations have joined forces with local landowners and irrigators to establish a plan that will assist ranchers and help with the recovery of Warner sucker and Warner redband trout. Success of the program depends on the willing participation of landowners and water users who manage the land.





Stage One: *Honey, Deep and Twentymile Creeks*

The partnership took aim at three creeks blocking fish passage. With investments in new research, unique designs were developed. Not only would these updated diversions improve fish passage, but they would also replace old, rusted and leaking structures with ones that are safer and easier to maintain.

As of January, 2019, two new fish passage projects were installed on Honey Creek. Deep Creek adaptations include a rock-ramp fishway and irrigation structure replacements. Along Twentymile Creek, improved fish passage was developed at multiple locations.

Data monitoring the projects already show that the fish passage improvements are working.



Strategic Action Plan and Success

Based on the results thus far, ten additional projects are planned over the next six years on the three creeks. The Warner Basin Aquatic Habitat Partnership's 2018 Strategic Action Plan sets a course to meet the recovery criteria for the fish. It is important that the fish can pass through diversions that formerly were barriers. Recovering imperiled species is a challenge, but for these two fish, and Warner Basin stakeholders, success is well on its way.



Warner Basin Aquatic Habitat Partners

