



# Clackamas Partnership

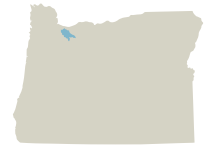
## Restoration for Native Fish Recovery



Aerial photo of "J" (Johnson) Creek Confluence Side Channel Project  
 (credit: Clackamas River Basin Council)

### AQUATIC HABITAT FOR NATIVE FISH SPECIES

The Clackamas Partnership's Restoration for Native Fish initiative is built on the Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead (2010) and contributes to the goals and objectives associated with the Clackamas Population area.



The Clackamas Partnership collaborates on coordinated aquatic, riparian and floodplain restoration, conservation, and habitat protection actions to enhance watershed health, support the recovery and sustainability of native fish populations, and contribute to the region's economic and social vitality.

#### Upper Clackamas River and Floodplain Reach:

Clackamas River headwaters downstream to Oak Grove Fork (31.7 miles)

#### Middle Clackamas River and Floodplain Reach:

Confluence of Oak Grove Fork downstream to River Mill dam (29.3 miles)

#### Lower Clackamas River and Floodplain Reach:

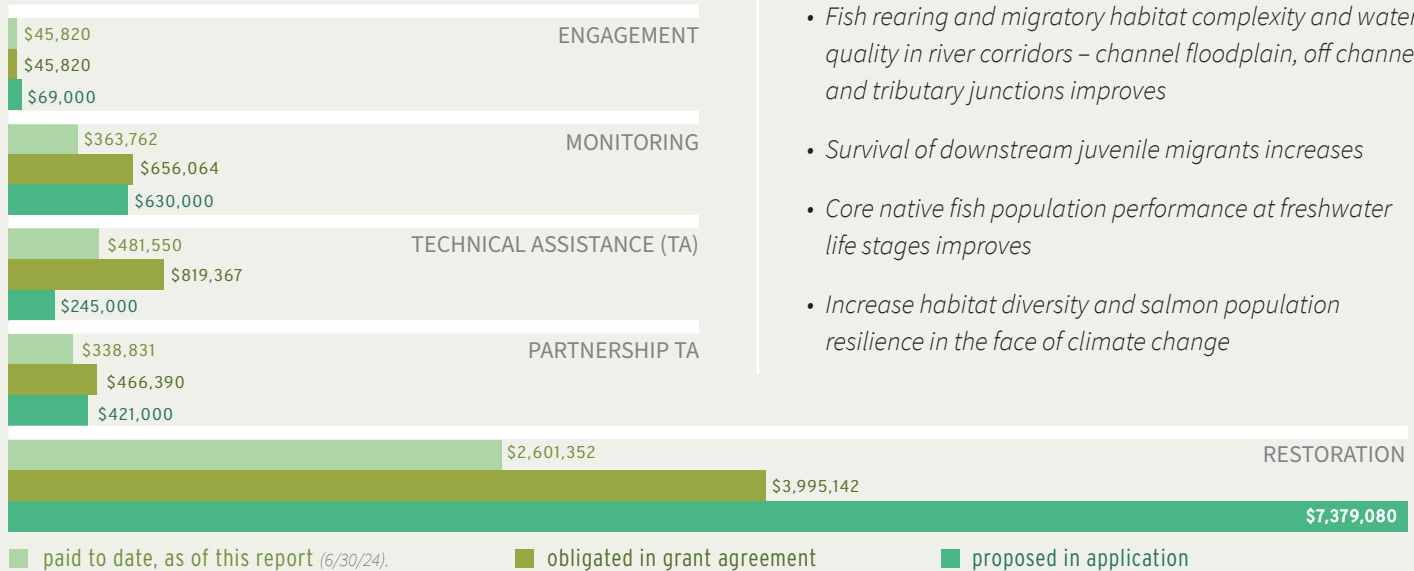
River Mill Dam downstream to the confluence of the Willamette River (23.3 miles)

#### Lower Willamette River and Floodplain Reach:

Willamette Falls downstream to and including the confluence of Johnson Creek (9.2 miles)

### Funding

OWEB awarded \$8,744,080 in funding. At the time of application, the FIP anticipated leveraging an additional \$7,324,215 throughout the life of the initiative.



### Benefits

- Fish rearing and migratory habitat complexity and water quality in river corridors – channel floodplain, off channel, and tributary junctions improves
- Survival of downstream juvenile migrants increases
- Core native fish population performance at freshwater life stages improves
- Increase habitat diversity and salmon population resilience in the face of climate change

### ABOUT THIS REPORT

The Focused Investment Partnership (FIP) grant program supports high-performing partnerships to implement strategic restoration actions and measure ecological outcomes through coordinated monitoring. In July 2019, the Oregon Watershed Enhancement Board (OWEB) awarded a FIP grant to the Clackamas Partnership. This report documents cumulative progress since the FIP was initiated in 2019. Work completed under the FIP grant program is part of a much larger on-going collaborative effort of federal, state and local agencies, tribes, private landowners, and non-governmental organizations in the Clackamas River Basin. Accomplishments included in the report only reflect actions completed with OWEB FIP funding.

### CORE PARTNERS

Clackamas River Basin Council • Greater Oregon City Watershed Council • North Clackamas Watersheds Council • Johnson Creek Watershed Council • Clackamas Soil and Water Conservation District • Metro

### OTHER PARTNERS

Clackamas Water Environment Services • Clackamas River Water Providers • Confederated Tribes of Warm Springs • North Clackamas Parks & Recreation • Oregon Department of Environmental Quality • Oregon Department of Fish & Wildlife • Oregon Parks & Recreation Department • Portland General Electric • USFS – Mt Hood, Clackamas Ranger District • Oregon Parks & Recreation Department

## GOAL

The goal of the initiative is to achieve targets specified by the Lower Columbia River Conservation & Recovery Plan by increasing rearing and migratory habitat complexity and improving water quality in the river corridors.

The Partnership's actions fall within three main integrated strategic programs:

## STRATEGIES

- 1 Habitat Restoration
- 2 Habitat Protection
- 3 Promoting Land Use and Landowner BMPs

## IMPLEMENTATION

### Restoration

**7.7**

TOTAL LINEAR  
STREAM MILES  
TREATED

**2**

PASSAGE  
BARRIERS  
REMEDIATED

**343**

LARGE WOOD  
STRUCTURES  
PLACED

**54**

STRUCTURE COMBOS  
OF LARGE WOODY  
DEBRIS/BOULDER  
PLACED

**0.05**

MILES OF  
SPAWNING  
GRAVELS PLACED

**148.3**

TOTAL RIPARIAN  
ACRES  
TREATED

**149**

RIPARIAN ACRES  
TREATED

**0.4**

MILES OF  
WETLAND HABITAT  
TREATED

**4.5**

TOTAL WETLAND  
ACRES  
TREATED

**5.2**

ACRES OF WETLAND  
HABITAT CONNECTED

**137,330**

STEMS  
PLANTED

**121**

TOTAL ACRES  
PLANTED

### Outreach & Engagement

**422**

LANDOWNERS/  
LAND MANAGERS  
CONTACTED  
ABOUT  
RESTORATION

**32**

MEETINGS AND  
TOURS HOSTED  
FOR LANDOWNERS  
AND AGENCY  
STAFF

**40**

WORKSHOPS/  
TRAINING  
EVENTS

### Technical Assistance

**37**

PROJECT PLANS  
COMPLETED  
FOR FUTURE  
RESTORATION

### Monitoring

OVER **500**

MACROINVERTEBRATE SAMPLES  
COLLECTED

+

**86.6**

STREAM MILES MONITORED

## OUTCOMES

### Near Term 0-10+ YEARS

- Increased accessible habitat through enhanced passage at road crossings, small dams, and diversions
- Channel structure and complexity including large wood is improved
- Reconnection of side and off-channel habitats
- Reduction of invasive plant species in riparian and upland habitats

### Long Term 20+ YEARS

- Floodplain connectivity and function increases
- Increased large wood recruitment
- Enhance climate resilience of native habitats



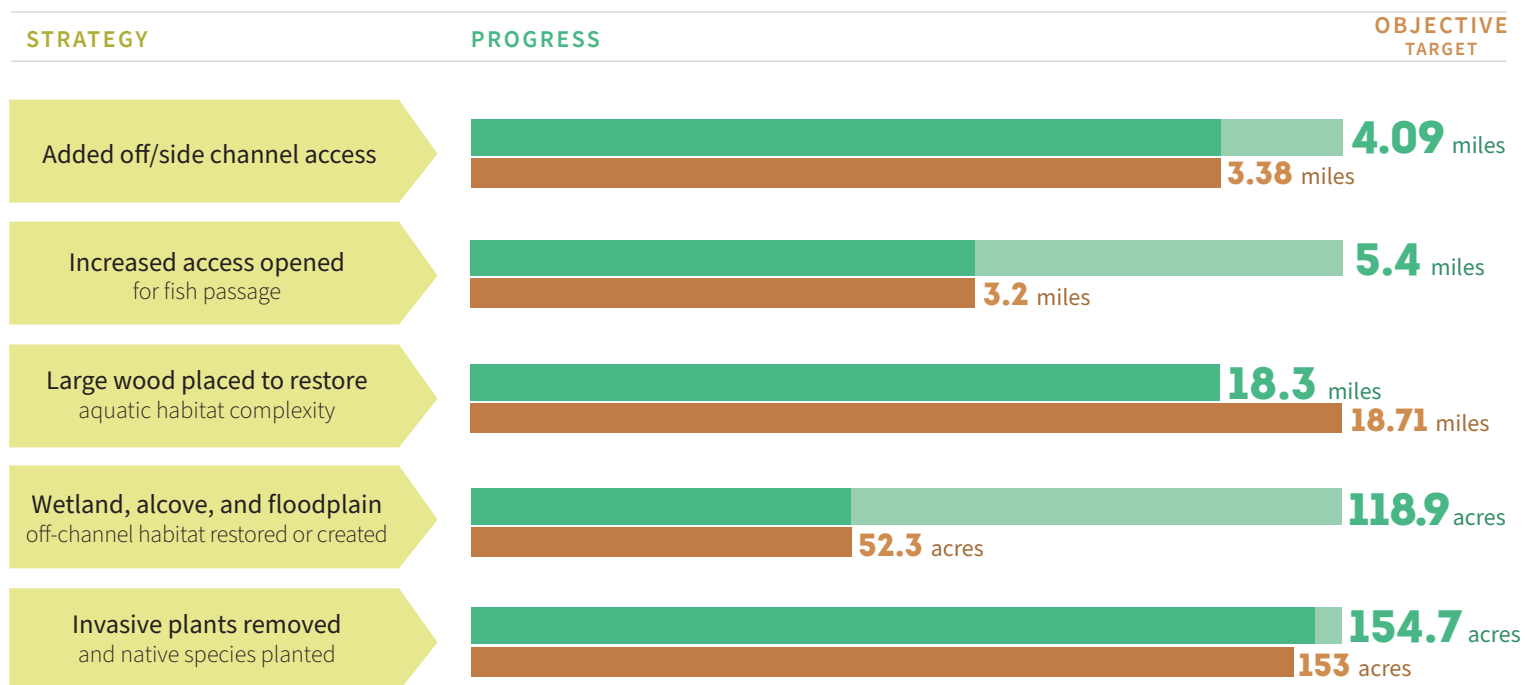
Community members creating bat boxes to place in restored habitat at the Sieben Creek Confluence Restoration project site. (credit: Clackamas River Basin Council)



"J" (Johnson) Creek Confluence Side Channel Project's grand staircase section. (credit: Clackamas River Basin Council)

## FIP Initiative Progress, Biennia 1-3

Progress on outputs shown below represents actions completed through OWEB grants.



Local high school student shows fish eggs from a hatchery fish during a salmon carcass toss event at Eagle Creek. (credit: Clackamas River Basin Council)

### Monitoring Approach

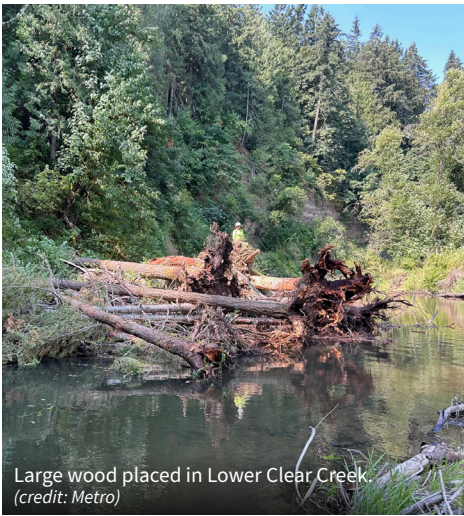
The Partnership's restoration and conservation project outputs are tracked through established measures (e.g., volume of large wood placed, area planted with native vegetation). Implemented restoration project outputs, also called performance measures, are documented in the Clackamas Project Tracker database.

ODFW and the Johnson Creek Watershed Council are leading effectiveness monitoring efforts to understand how restoration actions are improving fish habitat and macroinvertebrate communities. To further help the Partnership understand habitat conditions, a contractor developed a macroinvertebrate sampling design, data collection approach, and data analysis methods.

The Partnership plans to monitor restoration sites beyond 1 year after the project is completed. The plan is to evaluate the monitoring protocol for the final year of the FIP and consider several options to accomplish monitoring sites longer-term, beyond one year post-restoration.

## Catalyzing Fish Habitat Enhancement

**The Clackamas Partnership** received a \$3.8 million grant from the National Oceanic and Atmospheric Administration (NOAA) through the Infrastructure Investment and Jobs Act (IIJA) to fund 10 habitat enhancement and fish passage projects in the Lower Columbia River (LCR) Evolutionarily Significant Unit (ESU). Species likely to benefit from these efforts include Chinook Salmon (LCR fall run, Upper Willamette spring run), Steelhead/Rainbow Trout (LCR), Coho Salmon, Bull Trout, and Pacific Lamprey. Combined these projects will provide 45 acres of floodplain wetlands enhanced, 107 acres of riparian habitat improved, and 1.34 miles of coldwater habitat access opened.



Large wood placed in Lower Clear Creek  
(credit: Metro)

## Restoration of Traditional Artworks

**Members of the Clackamas Partnership** have worked with a member of the Confederated Tribes of Grand Ronde to plan for and secure funding to commission three traditional sculptures and interpretive signage to connect visitors with the cultural and ecological significance of the Clackamas River. This project aims to work towards restoration of traditional art historically found throughout the Clackamas Basin in combination with restoration of its historic fish runs. Some of this artwork will be installed adjacent to previous projects supported by the Clackamas Partnership that will also be further enhanced with additional native plantings.



Nakoa and Bobby Mercier with their artwork.  
(credit: Bobby Mercier)



# Adaptive Management

## Restoration

### CHALLENGES

The 2020 Riverside Fire required significant changes to some projects as well as the need to relocate a proposed project.

Partners have found longer permitting timelines, especially Section 106 consultations and related cultural resource reviews, to prolong initially scoped timelines.

### LESSONS LEARNED

Maintaining strong relationships with our partners allowed us to locate an excellent alternative to a proposed project and leverage additional project resources.

The discovery of cultural artifacts, commonly found near stream confluences, can have significant impacts on a project. It is not easy to identify if a site has cultural/historic properties until the site is surveyed by an archeologist, the cost which can be significant depending on the size of the potential Area of Potential Effects (APE).

### ADAPTATIONS

Thanks to our partners, an alternative site that was a hot spot for salmon and steelhead spawning and rearing, was restored leveraging wildfire related funding as well as burnt wood in the area.

Partners have learned to give the permitting process significantly longer projected timelines to better ensure they can meet in-water work window and grant deadlines.

## Monitoring

### CHALLENGES

To better understand the effects of restoration, ODFW needed to reevaluate their monitoring strategy.

There is a lack of data available on the presence of freshwater mussels in the systems we are working in and mussel species diversity has declined in 35% of western watersheds.

Surveying for non-target species, such as turtles, can allow for incorporation of additional habitat benefits.

### LESSONS LEARNED

The importance of carefully examining the utility of data collected to ensure success indicators can be understood.

Freshwater mussels provide vital services that underpin entire ecosystems including maintain water quality for fish and concentrate nutrients that feed macroinvertebrates.

Western pond turtle basking habitat and nesting needs can be easily incorporated into instream projects.

### ADAPTATIONS

Starting in 2024, several sites will be monitored for aquatic habitat change and fish use. Over a 2-6 year period, a comparative analysis will be completed for these sites.

Surveying for mussel species can allow for their protection in project installation and provide important information – we found mussels higher up in the Clackamas than were currently recorded.

Project designs were adapted to allow for the use of some fines for turtle nesting areas and additional funding was sought for installing basking structures

# Adaptive Management

## Engagement

### CHALLENGES

Vandalism, trespassing, and dissatisfied public members on construction sites and equipment at sites regularly accessed by the public proved difficult despite signage, outreach, and fencing.

Unsanctioned camping and related garbage on project sites has become an issue at more urban sites.

Current materials or events might not be culturally relevant or accessible to all community members.

Not all youth or their schools can make a trip to visit our projects onsite.

### LESSONS LEARNED

Providing increased security presence, ideally around the clock, and an onsite project manager and/or communications specialist that can answer questions as the work is conducted is helpful.

Local non-profits and law enforcement provide valued services to help houseless individuals find resources and to help clean up sites.

By working with community leaders to develop materials and events that are accessible we've been able to deliver quality engagement events that have been well-attended and well received.

The use of drone footage, video edits and Meta OculusGo sets allow us to share an interactive engagement experience of a Clackamas Partnership restoration site for a wide array of students.

### ADAPTATIONS

Partners have learned to plan and budget for increased security measures as well as staff time to interact with the public at heavily used sites.

Develop early and regular conversations with non-profit and law enforcement partners when camps are found on project sites.

Our work has resulted in long-term partnerships with residents and demonstrated the value of accessible, culturally sensitive engagement in promoting environmental stewardship among underserved populations, supporting long-term watershed health and community resilience.

Through CRBC's Clackamas360 program, hundreds of high school students from diverse backgrounds experience a virtual reality tour of the Clackamas watershed with immersive scenes highlighting a Partnership Project as well as field trips, project tours, salmon carcass tossing, and more!

## Partnership Capacity

### CHALLENGES

We didn't have a plan for bringing on new projects during the last biennium.

We lost a long-term chair of the partnership and the institutionalized knowledge she held.

### LESSONS LEARNED

We were able to lean on past processes and develop a successful plan to review new projects.

Other long-term partner leads have been happy to share their knowledge of the partnerships past and resources to move us forward.

### ADAPTATIONS

We've documented how we've taken on new projects and have agreed to use that same process for the upcoming last application round.

Partners have held ad-hoc meetings with the new chair on topics of interest to ensure the partnership is successful moving forward.