



OKeefee Fish Passage (credit: Fred Monzyk - ODFW)

Warner Basin

Aquatic Habitat Partnership

AQUATIC HABITAT FOR NATIVE FISH SPECIES

The initiative is focused on the three main tributaries (Twentymile Creek, Deep Creek, and Honey Creek) that support Warner Sucker and Warner Lakes Redband Trout, as well as Pelican, Crump, and Hart Lakes.



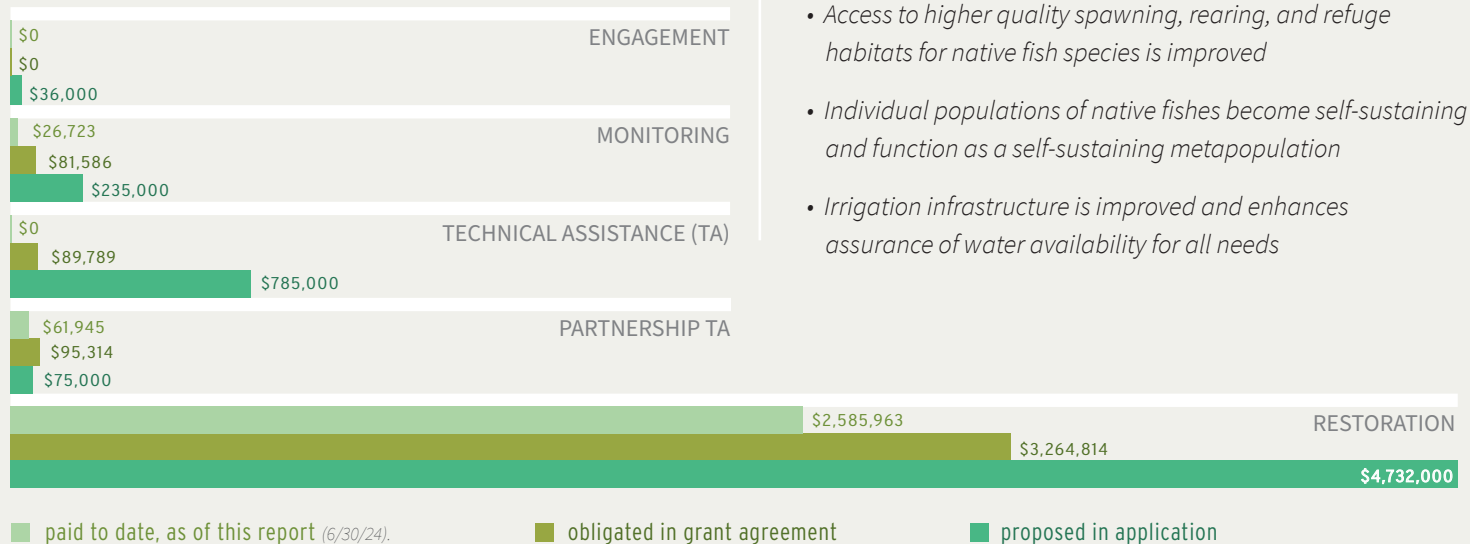
The three tributaries represent over 45 miles of Warner Sucker designated critical habitat and the primary stream habitat for the two species.

Addressing existing limiting factors will require a collaborative effort among WBAHP members, the local community, landowners, and water users. Recovery of Warner Sucker and Warner Lakes Redband Trout will preserve and ensure the continued existence of the valued fish community that is unique to the Warner Basin.

Funding

OWEB awarded \$5,863,000 in funding.

At the time of application, the FIP anticipated leveraging an additional \$1,615,250 throughout the life of the initiative.



Benefits

- Access to higher quality spawning, rearing, and refuge habitats for native fish species is improved
- Individual populations of native fishes become self-sustaining and function as a self-sustaining metapopulation
- Irrigation infrastructure is improved and enhances assurance of water availability for all needs

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 Warner Basin Aquatic Habitat Partnership (WBAHP). 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, private landowners, and non-governmental organizations in the Warner Basin. Accomplishments included in the report only reflect actions completed with OWEB FIP funding.

PARTNERS



Lake County Umbrella Watershed Council • Lakeview Soil and Water Conservation District • Oregon Department of Fish and Wildlife • US Fish and Wildlife Service • US Bureau of Land Management • US Forest Service • River Design Group

GOAL

Streams and lakes in the Warner Basin are connected, providing access to the high-quality spawning, rearing, and adult holding habitats that are necessary for Warner Sucker and Warner Lakes Redband trout to complete their diverse life-history strategies.



STRATEGIES

- Restore fish passage
- Screen unscreened diversions
- Increase the assurance of water availability
- Reduce non-native fish populations



IMPLEMENTATION ACTIONS

Habitat Restoration

Planning

11

ACRES
OF RIPARIAN
ENHANCEMENT

61

PARTNERSHIP
MEETINGS

33.4 CFS
OF IRRIGATION
FLOW SCREENED
TO PREVENT FISH
ENTRAPMENT

Monitoring

97

MILES OF HABITAT
WITH IMPROVED
ACCESS

11

STREAM MILES
MONITORED

11

REMEDIED
BARRIERS WHERE
PASSAGE WILL BE
EVALUATED



OUTCOMES

Near Term 0-10 YEARS

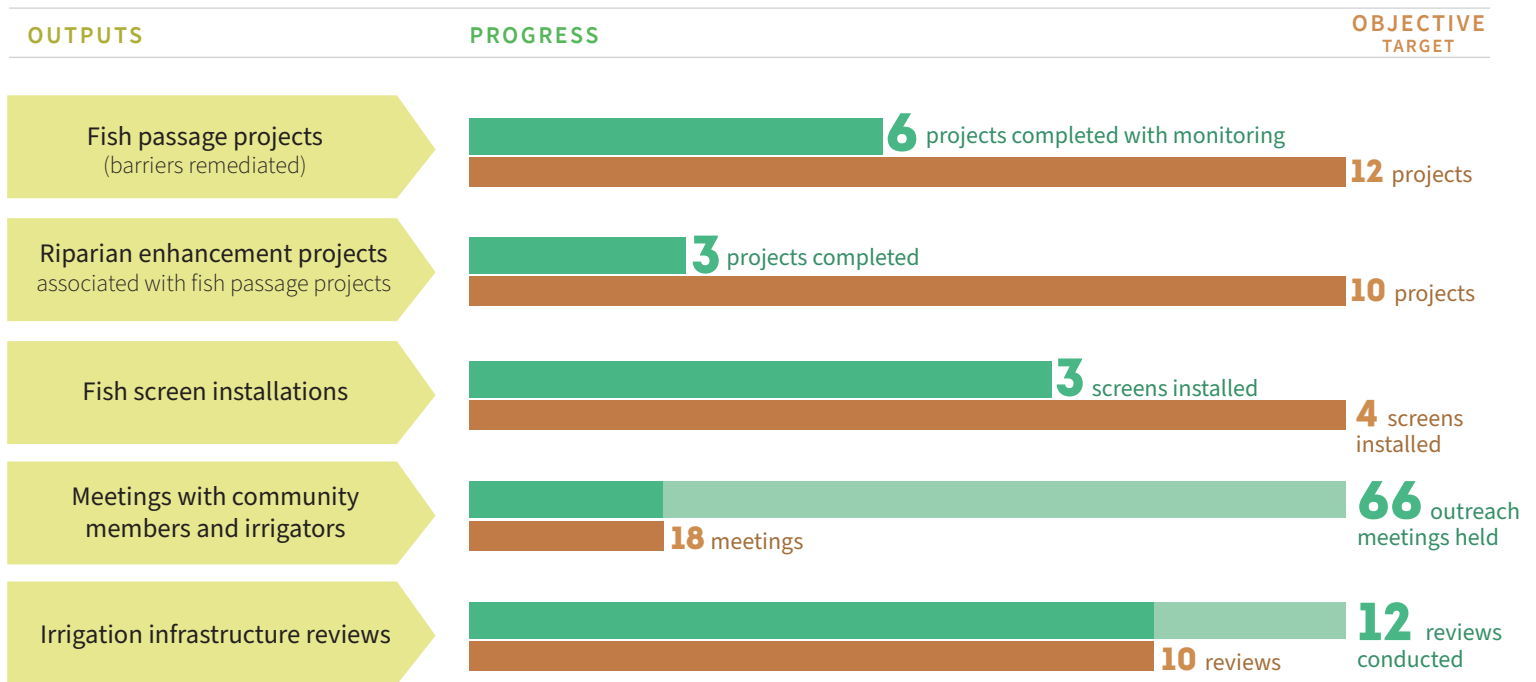
- Habitat connectivity and accessibility for native fish is restored
- Availability of water supplies is assured

Long Term 20+ YEARS

- Multiple age-classes including adults, juveniles, and young-of-year, are represented and approximate normal frequency distributions
- Population sizes of native fishes are stable or increasing

FIP Initiative Progress, Biennia 1-3

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



Monitoring Approach

Plan success will be evaluated annually at the project level and biennially at the Plan level. Long-term monitoring will be completed at 3-yr and 5-yr post-project periods to ensure longer-term project success. Long-term monitoring to be completed beyond the life of the FIP will be funded by the partnership's member organizations.

Project-level monitoring may consist of:

- 1 As-built survey and project completion documentation to ensure the project was built as designed.
- 2 Out-year monitoring including site visits and repeated photo points to see how the project site has changed.
- 3 Biological monitoring to be coordinated with ODFW, which may include documentation of fish passage.

Plan-level monitoring will include tracking of project progress and overall success. Plan-level monitoring will be led by LCUWC and LSWCD. Biennial monitoring reports will include a summary of goals and objectives, actions completed to-date, project and monitoring status, and future work in the subsequent biennium. Plan-level monitoring will serve as a check on the WBAHP members to ensure program accountability.

Long-term monitoring would leverage monitoring networks and studies typically administered by USFWS, BLM, and ODFW. The long-term monitoring would be used to assess how Plan goals and objectives are being met and if native fish recovery and conservation is on-track.



Adaptive Management

Restoration

CHALLENGES

Meeting water user irrigation needs and fish passage goals in an environment with fluctuating stream flows, drought, and the uncertainty of water availability from year to year.

Projects have been delayed or encountered complications that have forced them to be pushed further out in time than planned.

Providing fish passage has also resulted in an increase in Warner Suckers entering the irrigation network. This has created challenges for decision-making as we work to understand habitat in the irrigation system.



LESSONS LEARNED

We have a better understanding on water user operations, needs, and concerns within this network.

More complex projects involve more entities, and therefore require greater coordination with multiple partners and regulatory or management agencies. Habitat restoration projects on private land often require a higher degree of patience - it is not unusual to delay an action due to uncertainties.

We have learned that the stream and irrigation systems one and the same which adds a layer of complexity in meeting fish passage and irrigation needs.



ADAPTATIONS

We continue to evaluate lessons learned and make plans using information and experience gained.

The WBAHP members have shown flexibility throughout the biennium as challenges arise. The WBAHP has learned that slowing the pace of project development can be important to ensure that projects meet everyone's needs and that some projects may fall outside of the 6-year FIP implementation window.

We are working on a fish screening approach and additional monitoring to find resolution with the challenge.

Monitoring

CHALLENGES

Low-water drought conditions interfered with our ability to monitor passage success at several diversions due to lack of water through passage routes.

The ODFW instream water right filing delayed progress towards monitoring as water users were skeptical on how the monitoring data could impact their livelihood in the long term.

The Deep Creek Town Ditch network has presented monitoring challenges as there is lack of understanding on how sucker and trout travel through the irrigation network.

We have not had the opportunity to monitor at the basin level – monitoring has been site specific.



LESSONS LEARNED

We have learned that we need to be flexible in our monitoring approach due to environmental constraints (drought) beyond our control.

We learned that collaborative and local restoration actions are key to progress.

We have learned we needed to complete additional monitoring at the site.



ADAPTATIONS

Biological monitoring was extended for another season at some projects to provide more robust information on passage success under more typical flow conditions.

Partners and stakeholders had additional meetings and communications to resolve the mistrust and uncertainty created by the instream water right filings.

Additional monitoring plans were developed and conducted to understand fish movement within the system.

The partnership will be discussing ways to expand monitoring to the basin level.

Adaptive Management

Engagement

CHALLENGES

Ensuring information is passed through the proper communication channels and with all stakeholders (funders, water users, partnership, community).

Accommodating all water users needs on the same system with one design plan.

The covid pandemic prevented the partnership and stakeholders from meeting in person creating substantial challenges to collaborative decision making.



LESSONS LEARNED

We have learned that regular and consistent communication is necessary for all stakeholders.

Since the system is very dynamic (seasonal flows are drastically different each season) – we have learned how each water structure is operated, which has allowed for a great deal of engagement opportunities.

We learned how to meet virtually.



ADAPTATIONS

We have met annually as a whole group (partnership and water users) to discuss status of work, objectives achieved, monitoring results to date, and gather feedback. This open communication approach provides involvement in the planning process to reduce the likelihood of last second changes to project designs. We continue to be flexible to meet water users' and landowners' requests.

We have maintained our quarterly partnership meetings and incorporated site visits and in-person meetings.

The partnership held meetings virtually and began meeting in person as soon as possible. We also created a shared google drive folder made accessible to the partnership.

Partnership Capacity

CHALLENGES

As more restoration work has been completed, workload management over a 6-year period is challenging. Maintaining momentum and communication have also been challenging.



LESSONS LEARNED

We have learned that additional capacity at the local level is warranted for long-term success. Additional capacity would need to support local understanding around fish migration and spawning and irrigation diversion management.



ADAPTATIONS

Partners are exploring long term capacity avenues.