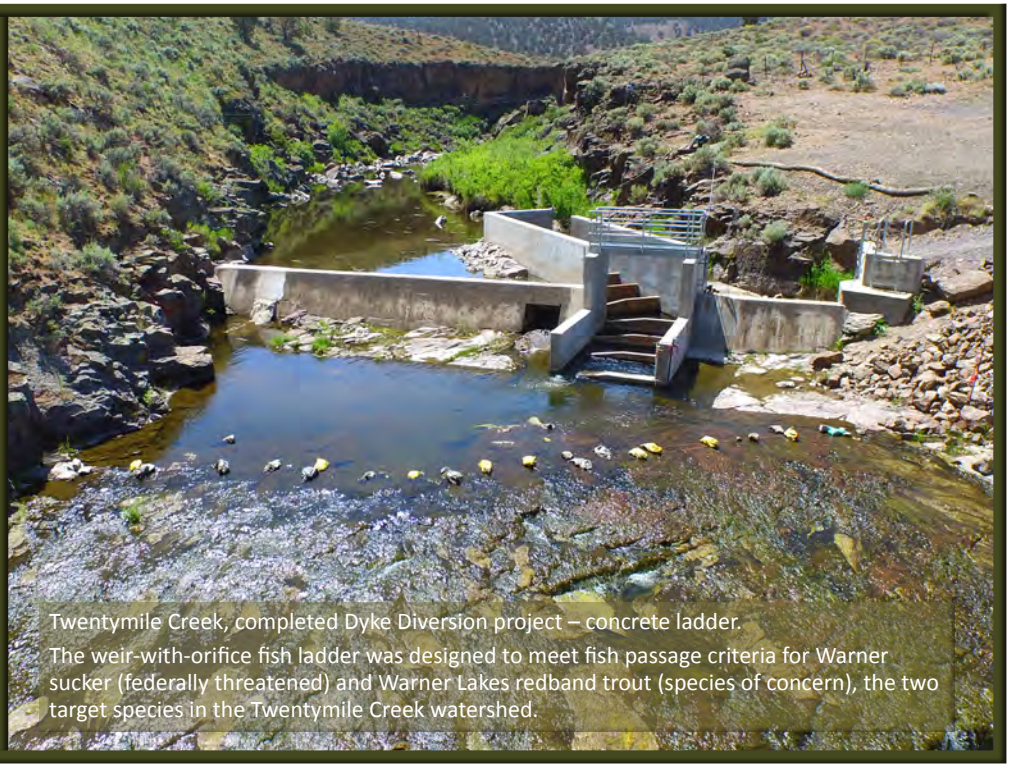
WARNER BASIN FISH PASSAGE AND HABITAT IMPROVEMENT INITIATIVE



Twentymile Creek, completed Dyke Diversion project – concrete ladder.

The weir-with-orifice fish ladder was designed to meet fish passage criteria for Warner sucker (federally threatened) and Warner Lakes redband trout (species of concern), the two target species in the Twentymile Creek watershed.

Lake County Soil and Water Conservation District

Lake County Umbrella Watershed Council

Partnership Overview

In Oregon's remote High Desert region, the Warner Lakes Basin includes a series of connected lakes. In this harsh desert environment, native fish of conservation concern, including the Warner Lakes redband trout and the Endangered Warner Sucker, face special pressures on their survival and population sustainability. Partners collaborating towards the Warner Basin Fish Passage and Habitat Improvement Initiative are identifying how to connect streams and lakes in the Warner Basin to help these unique native fish. Core Implementing Partners are working closely with irrigation districts in Honey Creek, Twentymile Creek, and Deep Creek.

Quick Facts

OWEB Investment: $5.86 million

Estimated Leverage: $1.62 million

Goals by 2025:

- Progress toward long-term goal delisting criteria for Warner Sucker
- Complete fish passage projects at a minimum of eight diversions

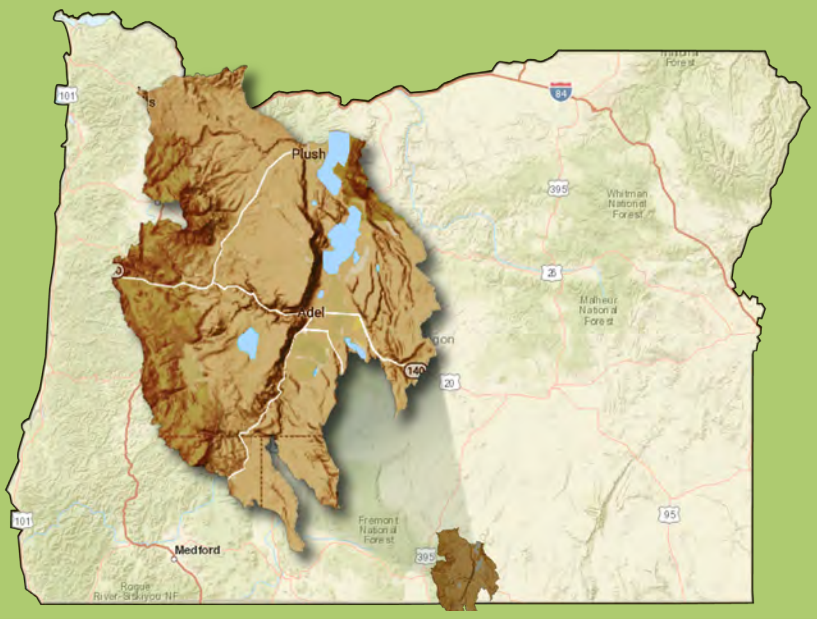
In January 2019, the Warner Basin Fish Passage and Habitat Improvement Initiative was awarded funding through the Oregon Watershed Enhancement Board's (OWEB) Focused Investment Partnership (FIP) grant program. A FIP is an OWEB investment that addresses a board-identified priority of significance to the state, achieves clear and measurable ecological outcomes, uses integrated and results-oriented approaches as identified through a Strategic Action Plan, and is implemented by a high-performing partnership.

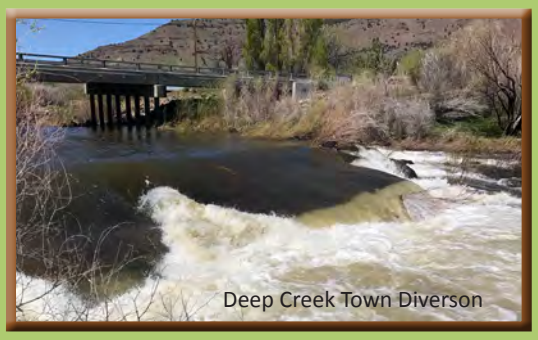
Initiatives are eligible for up to six years of OWEB funding. For the 2019-2021 biennium, OWEB has awarded the Warner Basin Fish Passage and Habitat Improvement Initiative $2,000,000. When combined with investments from 2019 to 2025, the anticipated total investment is approximately $5,863,000.

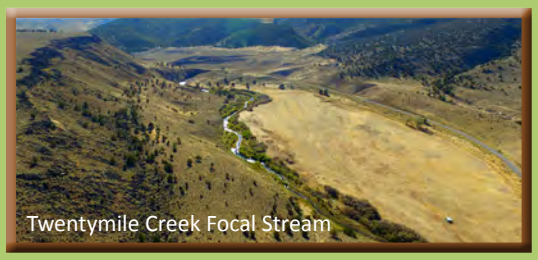
Core Implementing Partners

- Lake County Umbrella Watershed Council
- Lake County Soil and Water Conservation District
- Oregon Department of Fish and Wildlife
- U.S. Forest Service, Fremont-Winema National Forest
- U.S. Fish and Wildlife Service
- Bureau of Land Management

Warner Sucker




Deep Creek Town Diverson


Twentymile Creek Focal Stream

Ecological Outcomes

Habitat for unique native fish in the Warner Lakes Basin is limited in quantity and vulnerable to impairments in water quality and habitat connectivity. Irrigation diversions can reduce streamflow and create barriers for fish passage. Native fish are also vulnerable to predation from introduced non-native fish species. Actions to address these factors will be evaluated throughout the FIP 6-year time frame, with some outcomes becoming more evident over the longer term.

Strategies and anticipated results in the Warner Basin Fish Passage and Habitat Improvement Initiative include:

Strategy

With support of landowners, irrigators, and the local community, implement projects to enhance fish passage and instream water flows. Bioengineering projects in priority areas can improve water quality and provide fish access high-quality habitat. With community engagement, the Initiative will also consider approaches to improve irrigation efficiency and address impacts of invasive non-native fish species.

Conservation Action

Implement fish passage projects at a minimum of eight diversions, and address all remaining diversions in the project area.

Intermediate Ecological Outcome

- Warner sucker and Warner Lakes redband trout have access to high quality spawning, rearing and refuge habitats
- Fewer fish lost from water diversions
- More genetic exchange of native fish

Long-Term Ecological Outcome

- Enhanced native fish productivity, populations, and connectivity
- Achieve recovery criteria for Warner Sucker, with the goal of de-listing the species from the Endangered Species Act endangered list
- Use long term monitoring network in collaboration with federal agencies to evaluate progress towards Warner sucker delisting

Conservation Action

Enhance streamside habitat with native vegetation.

Intermediate Ecological Outcome

- Reduced water temperature and enhanced water quality
- Increased aquatic habitat complexity

Long-Term Ecological Outcome

- Enhanced habitat to increase resilience to temperature fluctuations and drought
- Sustainable populations of native fish and aquatic species

Conservation Action

Develop management plan for non-native invasive fish species in Warner Lakes Basin.

Intermediate Ecological Outcome

- Implement management plan for non-native fish, including outreach and education about the impacts from non-native species

Long-Term Ecological Outcome

- Sustainable populations of native fish and aquatic species

Contact

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