



CONSERVATION EFFECTIVENESS PARTNERSHIP
Oregon Department of Agriculture
Oregon Department of Environmental Quality
USDA Natural Resources Conservation Service
Oregon Watershed Enhancement Board



WILLOW CREEK WATERSHED RESTORATION

The Willow Creek Watershed is a tributary of the Malheur River located north of Vale, Oregon in Malheur County. It includes 32,000 acres of irrigated farmland and more than 10,000 acres of rangeland. The area has a rich history in gold mining, agriculture, and ranching. In the late 1990s, water quality monitoring raised concerns about Willow Creek.

Led by the Willow Creek Working Group, collaborative investment in restoration and monitoring is now showing results.

PROJECT OUTCOMES

- **400,000 pounds** of CO₂ emissions eliminated annually
- **36,000 pounds** of phosphorous run-off prevented annually
- **120,000 tons** of annual soil loss stopped
- **183.5 billion** colonies of *E. coli* per acre prevented from leaving fields
- **Virtually ALL** seepage and evaporation eliminated
- **2 to 3 million kilowatt hours** of electricity saved annually
- **25,000 gallons** of diesel fuel conserved annually
- **12,000+ acre-feet** of irrigation water savings annually

Conservation Effectiveness Partnership

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www.oregon.gov/oweb/resources/Pages/CEP.aspx

These outreach products were produced through an OWEB Telling the Restoration Story grant. Read more about Willow Creek through the Malheur Watershed Council website:

<https://malheurwatershed.org>

CONCERNS

In the late 1990s, water testing by the Oregon Department of Environmental Quality and the U.S. Environmental Protection Agency showed high levels of bacteria, nutrients, *E. coli*, and sediment in the Malheur Watershed which includes Willow Creek. The watershed was then added to the state's DEQ-303(d) list for poor water quality. A 303(d) list is a state's list of impaired and threatened waters, such as stream and river segments and lakes. States are required to submit their list for EPA approval every two years.

WORKING TOGETHER

In response to the listing, local residents established the Willow Creek Working Group to coordinate proactive restoration in the drainage area. The group's plan focused on four actions:

1. Convert open ditches to pipe
2. Help farmers enhance irrigation
3. Prevent livestock waste from entering Willow Creek
4. Repair and replace natural plant growth

PARTNER INVESTMENTS

- \$5 million—OWEB
- \$2 million—Vale Irrigation District
- \$2 million—Private Landowners

ACTIONS TAKEN ON-THE-GROUND (1998—2019)

- Over 100 miles of laterals piped
- Over 25 miles of mainline piped
- 2,500 acres converted from flood to sprinkler irrigation
- 755 acres of rangeland improved
- 31 water troughs installed for cattle
- 16+ miles of fencing installed to protect Willow Creek
- 4,000+ native plants established along creek

SCIENTIFIC MONITORING

One of the critical components that makes this project successful is having access to scientific data that has been collected since 1998. The project has three established monitoring sites where water quality data is collected. The monitoring is performed by the Malheur Watershed Council and supported by grant funding from Oregon Department of Agriculture, Oregon Watershed Enhancement Board, and Oregon Department of Environmental Quality.

“Monitoring data shows that, on average, phosphorus, sediment, and *E. coli* bacteria are down by 30%.”

PARTNERSHIPS & COLLABORATION

Taking a whole watershed approach requires collaboration, partnership, and leveraged funding among local, state, and federal agencies and conservation groups. Each partner contributed technical and financial assistance to efficiently use conservation dollars while concentrating efforts in priority areas in the watershed. Partners for this project include:

- Private landowners
- Malheur Watershed Council
- Malheur Soil and Water Conservation District
- Oregon Department of Agriculture
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Oregon Watershed Enhancement Board
- USDA Natural Resources Conservation Service
- Rocky Mountain Elk Foundation
- U.S. Army Corps of Engineers
- The Nature Conservancy
- Burns Paiute Tribe

ABOUT CEP

The Conservation Effectiveness Partnership (CEP) is a collaboration of natural resource agencies including Oregon Watershed Enhancement Board, USDA Natural Resources Conservation Service, Oregon Department of Environmental Quality, and Oregon Department of Agriculture. In addition, Oregon Department of Fish and Wildlife provides guidance about fish habitat. CEP partners work together to understand, optimize, and communicate the benefit of conservation investments throughout Oregon.