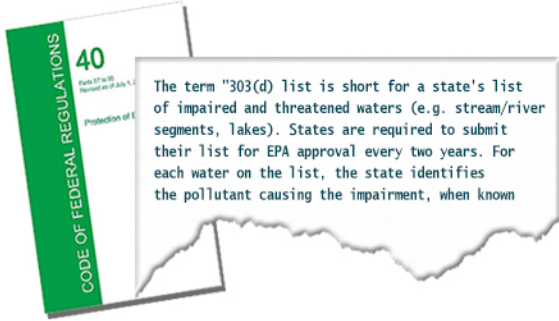


The Problem

In the late 1990s, the Oregon Department of Environmental Quality and the U.S. Environmental Protection Agency began water quality monitoring in the Malheur Watershed that includes Willow Creek. The tests found nutrients, E.coli and sediment creating poor water quality resulting in a DEQ-303(d) listing.



Lower Willow Creek Working Group

Due to the poor water quality and the DEQ 303(d) listing, residents of the area established a proactive task force to begin to restore the watershed area. To address the water quality and pollution, the Lower Willow Creek Working Group was established.



Project Accomplishments

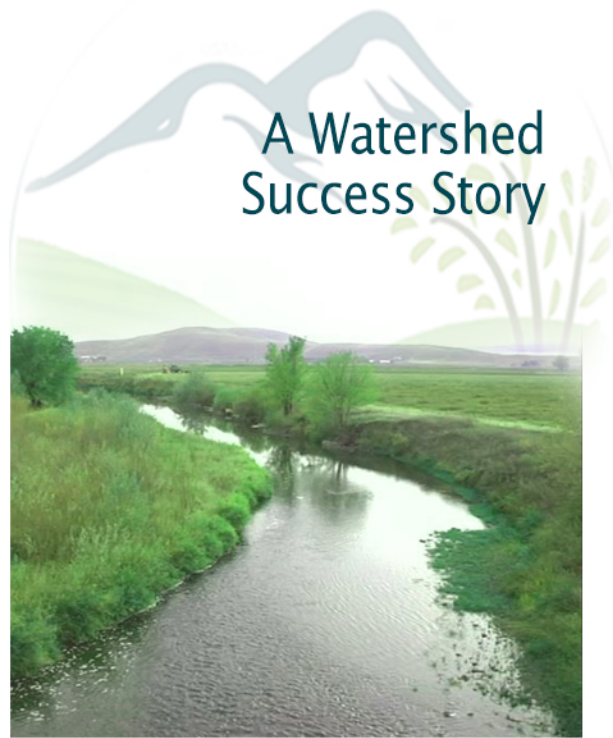
- ✓ 400,000 pounds of CO² emissions eliminated annually.
- ✓ 36,000 pounds of phosphorous runoff prevented annually.
- ✓ 120,000 tons of annual soil loss ceased.
- ✓ 183.5 billion colonies of E.coli per acre prevented from leaving the fields.
- ✓ Virtually all seepage and evaporation was eliminated.
- ✓ 2 to 3 million Kilowatt hours of electricity saved annually.
- ✓ 25,000 gallons of diesel fuel conserved annually.
- ✓ Water conservation benefits amount to more than 12,000 acre feet of irrigation water savings annually.

Economic advantages of this project :

- 15 new jobs ✓
- \$81,000 per year in fuel costs saved ✓
- \$115,000 in electrical pumping costs saved annually ✓
- Participation of at least 23 Oregon businesses ✓
- \$1.8 million generated for the economies of Ontario and Vale, Oregon ✓



WILLOW CREEK
WATERSHED RESTORATION



www.malheurwatershed.org

Willow Creek Watershed



The Willow Creek Watershed area is a tributary of the Malheur River located north of Vale, Oregon. The Malheur river drains into the Snake River at the border between Oregon and Idaho. . It is made up of 32,000 acres used for irrigated farmland and 10,000 acres of dry rangeland for cattle, wild game and upland game birds. It has a history rich in early western settlement, gold mining, agriculture, and ranching.

THE PLAN

The Willow Creek Working Group identified the following plan to deal with the environmental problems

Convert Open Ditches to Pipe



Help farmers enhance irrigation



Prevent livestock waste from entering Willow Creek



Repair and replace natural plant growth



\$5+ million invested by Oregon Watershed Enhancement Board

\$2+ million invested by private landowners in projects

\$2+ million invested by Vale Oregon Irrigation District



1998 - 2019 BY THE NUMBERS

95 Individual projects

2,500 acres converted from flood to sprinkler irrigation

755 acres of rangeland improved

31 water troughs for cattle

25+ miles of irrigation mainline piped

4000 native plants, like willows, planted along Willow Creek

3 sites monitored **12** times per year

48+ miles of laterals piped

16 pump-back systems serving **1,240** acres

16+ miles of riparian fencing to protect Willow Creek

Phosphorus
Sediment
E.Coli

Monitoring shows that, on average, Phosphorus, Sediment, and E. Coli bacteria are down by 30%.

