

Klamath Basin

Conservation Partnership Accomplishments

Conservation's Signature on the Land

Working to improve and protect their natural resources the individuals and communities of the Klamath Basin have placed the signature of conservation on the land. Agricultural producers, land managers and natural resource agencies have played a vital role in improving watershed health and achieving a higher level of ecological balance across the landscape of this basin. Local farmers and ranchers here have long recognized the impact they have on the health of their watershed. Over the past six years, these landowners and producers have been increasingly proactive in continuing to find new ways to enhance natural resources to benefit wildlife and the environment.

Working to support their efforts every step of the way was the local Klamath Basin conservation partnership of local conservation districts, the Natural Resources Conservation Service (NRCS) and numerous other federal, state, local, tribal and non-profit groups. Klamath Basin conservation partners pooled their technical and financial resources to help local landowners develop and incorporate conservation practices into their agricultural operations.

Faced with an increasingly complex situation that was exacerbated by the 2001 drought, communities drew on their trust of the partnership's ability to fully understand the impacts of drought and to find solutions to improve and sustain agriculture in the region. The partnership directed their technical expertise, time, programs, and other available resources to assist local people as they worked to address serious, multi-faceted agricultural and environmental issues.

Local conservation districts, RC&D councils, and others in the Klamath Basin also worked closely with NRCS to identify priorities for Farm Bill programs.

To assist landowners in addressing water quantity concerns, the 2002 Farm Bill included a \$50 million appropriation under the Environmental Quality Incentives Program (EQIP) through Fiscal Year 2007. The financial assistance was directed to implement practices resulting in net water savings on farms and ranches in the Klamath Basin. Additional Farm Bill resources continued to be distributed locally as financial and technical assistance through NRCS programs, including regular EQIP, EQIP Ground and Surface Water (GSW), Conservation Security Program (CSP), Wetlands Reserve Program (WRP), Wildlife Habitat Incentives Program (WHIP), Conservation Reserve Enhancement Program (CREP), and the Grassland Reserve Program (GRP). Over \$100 million of Farm Bill Program funds were locally directed in the Klamath Basin from 2002 through 2007. This includes the following programs:

- EQIP Klamath: \$50,000,000
- EQIP: \$7,647,187
- EQIP GSW: \$1,441,754
- WRP: \$27,922,675
- CSP: \$992,078
- CRP/CREP: \$5,528,115

This report is an account of the results achieved on the ground when program funding was combined with the contributions and commitment of local landowners and other partners in the Klamath Basin.

The Signature of Conservation

Farmers and ranchers recognize the importance of conserving the area's natural resources. Utilizing technical assistance and Farm Bill funds, local landowners and the conservation partnership have left their signature on land. Their extra effort along with funding through Farm Bill programs from 2002 through 2007, have resulted in the following good works.

Conservation systems have been planned on 360,725 acres of private land. These comprehensive systems each address a site's soil, water, air, plant and animal concerns and include three or more conservation practices. Treatments can include placement of water for livestock away from streams, irrigation water conservation, pasture improvement, pest and nutrient management, and more.

A ranch in the Sprague River Valley has been conserving natural resources and enhancing wildlife habitat in concert with their working cattle and hay operation for the last three years. The 580-acre ranch includes land enrolled in the Klamath EQIP, CREP and WRP.



"The exciting thing about these projects is how they work together to create a system that works," says the landowner. The hayland has a redesigned irrigation flood system for more efficient water use. The system's tailwater is filtered through a portion of the operation restored to wetlands, which enhance water quality and provide fish and wildlife habitat. Finally, tree plantings along the Sprague River assist in streambank stabilization and also help to improve water quality.

In the Upper Klamath Watershed, 23 land managers have committed to the highest levels of conservation on 15,896 acres through CSP. More than \$5.7 million in funding will support these stewardship activities through the life of the CSP contracts.

A ranch in the northern part of the basin has taken stewardship to the next level, allowing them to participate in CSP. Each summer, stream flows had dried up in Sevenmile Creek, a stream that this ranch and others relied on for irrigation water. "We all wanted to put water back in the creek," the landowner explained. To do his part, the rancher worked with NRCS, developing a plan to stop the use of irrigation water and install fencing, watering facilities and stream buffers on his operation.



Today, the ranch shows a number of positive changes. According to the landowner, "It's just done wonders. It's been good for the fisheries and good for us." The owner reports that the quality of the forage has improved, and energy costs and labor have been greatly reduced. Most importantly, the ranch saved the equivalent of more than two and a half billion gallons of water over the last four years. That water stayed in-stream, providing critical habitat for native aquatic species like redband trout. Improved water flows also provide downstream benefits to endangered shortnose and Lost River suckers in Upper Klamath Lake. As for the landowner, "We were excited to see the trees and shrubs coming back and water running in the creek year-round! Conservation is working for us. We are learning to balance everything and incorporate conservation into a working cattle ranch."

The Signature of Conservation

Through WRP, 21,034 acres have been enrolled in permanent easements. Of this 8,941 acres have been restored, created or enhanced for fish and wildlife habitat.

In one related effort, The Nature Conservancy (TNC), applied NRCS financial assistance through WRP, to work with local stakeholders to restore roughly 3,320 acres of wetlands in the Williamson River Delta adjacent to Upper Klamath Lake. An additional 2,680 acres is scheduled to be restored over the next three years. TNC will also continue to farm 750 nearby acres, working with a local grower to produce certified organic alfalfa.

A detailed plan for full-scale restoration of these wetlands was developed by NRCS. This year a major step in implementing that plan was made with the removal of a dike. TNC and partners recently detonated 100 tons of explosives to remove approximately two miles of levees, allowing Upper Klamath Lake to flood 2,500 acres and reconnect this area of the delta with the lake. This restoration effort will advance the recovery of two endangered fish species, benefit other fish and wildlife, improve water quality, and increase water storage in the Klamath Basin.



According to The Nature Conservancy, “Helping more larval fish attain larger sizes in these restored wetlands before entering the lake will enable more fish to reach the next life stage. This increases the likelihood that more fish will become mature adults, and it contributes to the recovery of these endangered populations.”

Irrigation water was conserved and used more efficiently on 77,390 acres. In some instances this involves converting from flood systems to more efficient irrigation systems which can result in an average on-farm water savings of 30 percent. Additional measures, such as proper irrigation management, can help producers meet crop needs and increase profits while lowering on-farm water use.

A family farm in the Klamath Basin project area has worked with NRCS to incorporate conservation practices into their 3,400-acre cattle, hay and grain operation.



The farm recently converted an open ditch flood irrigation system to gated pipe with assistance through the Klamath EQIP. As a result, pastures are more productive, use of agricultural ground is expanded and most importantly, they are using less irrigation water. The landowner says, “Working with NRCS to receive the cost-share helped to make this transition work for us. It would have been hard to do on our own.”

The Signature of Conservation

Forage quality and production was improved on 129,150 acres of pasture. Grazing plans were developed to identify optimal stocking rates and grazing rotations that work with specific irrigation timing. This has increased production and improved the quality of vegetation on pastures.

As one of the first ranchers to sign-up for Klamath EQIP, the last five years has been spent working harder to save water and improve the forage on their cattle and hay operation. In addition to installing a number of conservation practices to improve the efficiency of their irrigation system, they have added over 2,500 feet of additional fencing and re-seeded over 60 acres of pasture. The corresponding grazing management plan has increased the health of both the pastures and the cattle. The rancher says, "This program has worked great and allowed me to develop projects I wouldn't have been able to do without some assistance."

Habitat on 3,549 acres was improved for fish and aquatic species across the basin. Fish passage was improved and streambanks were stabilized with vegetation, which improves water quality in critical fish habitats by filtering soil particles and pollutants from water runoff.

A cooperative project in northern California utilized WHIP to replace the Araujo diversion dam and leaky irrigation ditches. New water-tight 15-inch pipe over three miles, saves about 2,000 gallons of water per minute. This has improved irrigation systems and removed barriers to fish passage on the Shasta River.

This cooperative project will help provide threatened coho salmon with increased quantities and quality of water to improve upriver spawning conditions. In addition, it is estimated that ranchers in the area will reduce their irrigation water needs by half.

Wildlife habitat on over 46,183 acres was improved, including 28,832 acres of upland habitat, benefiting both aquatic and upland wildlife species.

Juniper removal has helped one landowner improve both wildlife habitat and grazing on a 14,000-acre cattle ranch. Left unmanaged on lands where natural fires had once controlled their growth, juniper can deplete limited water supplies and crowd out native plants that provide valuable grazing and wildlife habitat. Over the last seven years, the landowner has worked with the US Fish & Wildlife Service, Oregon Department of Fish & Wildlife, and NRCS to develop a grazing plan to strategically fence, re-seed, and develop livestock water sources while removing juniper from over 6,700 acres of select areas.

Forage production has since doubled, and the diversity of vegetation has improved. Meadows in valley bottoms are green longer, and areas where springs once ran dry now maintain flowing water. Wildlife populations such as rabbit and quail have increased, and fawning rates for local deer herds have increased from 33 to 45 percent between 1992 and 2004. In addition, the improved health, size and vigor of deer indicate healthier year-round native grass stands and overall habitats.



Partners in Conservation

Conservation in the Klamath Basin has been successful due in large part to the cooperation and collaboration of numerous partners. A number of successful partnership efforts have taken place over the last six years. Below are snapshots of a few key partnership successes.

Conservation Grant Aids Watershed Restoration Effort

In May of 2006, the Yurok Tribe, in partnership with several organizations and agencies, secured \$168,890 for conservation work in the Klamath Basin through an NRCS Cooperative Conservation Partnership Initiative (CCPI) grant.

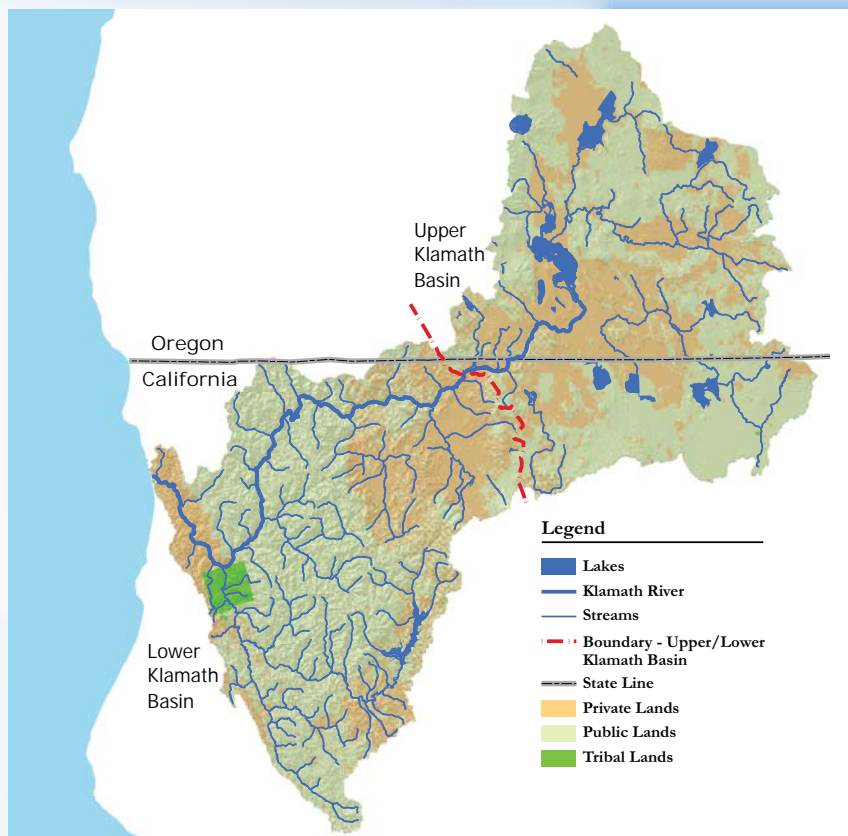
Together with matching funds from other partners, this funding has been dedicated to restoring critical aquatic habitat for Tribal Trust fish and wildlife, including declining populations of green sturgeon and Pacific lamprey and threatened and endangered Chinook and coho salmon. In addition, riparian restoration will benefit several species of migratory birds, as well as the northern spotted owl and marbled murrelet, which are both listed as threatened under the Endangered Species Act. The restoration will also reduce streambank erosion, coarse sediment deposition, and flooding.

This effort will increase tribal capacity for restoring biological functions to high priority watersheds of the Klamath Basin.

Walking Wetlands

An NRCS Conservation Innovation Grant (CIG) is funding “walking wetlands” on three privately owned farms in the Klamath Basin.

With walking wetlands, farmers intentionally leave cropland fallow with periodic flooding on a rotational basis. Crops are rotated through adjacent fields and later returned to the once-drenched sites after a period of one to four years. The wetlands provide critical habitat for a number of migratory birds and other wildlife species. Although the wetlands are not permanent in any one place, they do provide a net increase in the wetland acres available for wildlife and water quality benefits. The temporary wetlands also give cropland

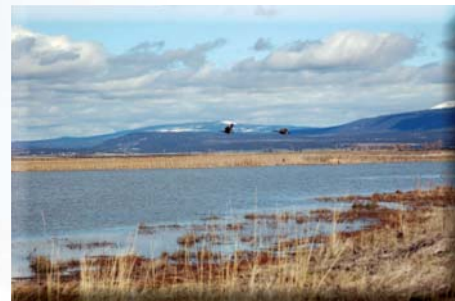


The Klamath Basin is located on the Oregon and California border, and covers slightly more than 10 million acres, including approximately 6.1 million acres of public land and 3.8 million acres of private land. These private lands include more than 2,400 farms and ranches on 581,000 acres.

Partners in Conservation

soils a chance to rest and replenish. Fields later returned to production show improved soil quality, greater crop yields, better control of weeds and pests, and reduced need for pesticides. In addition, certified organic crops are sometimes produced on these fields immediately after they are rotated out of the flooded stage.

The National Wildlife Refuge has introduced walking wetlands on lands managed or leased by the US Fish and Wildlife Service and US Bureau of Reclamation. With the Conservation Innovation Grant, additional private landowners and other producers will also have the chance to try walking wetlands on their own land.



As more is learned, walking wetlands may prove to be another valuable conservation option that will help land managers improve the sustainability of working lands in the Klamath Basin.



Klamath Basin Rangeland Trust

The mission of the Klamath Basin Rangeland Trust (KBRT) is to restore and conserve the quality and quantity of water in Oregon's Wood River Valley and the Upper Klamath Basin. This group works to improve the water supply needed for downstream agriculture and native fish and wildlife populations.

Since 2002, KBRT has been working with Wood River Valley cattle ranchers to fence riparian areas, eliminate pasture irrigation, and intensify rotational grazing management. Over 12,000 acres have since been enrolled in EQIP, CREP and WRP. Changes observed by participating landowners include: forage diversification without significant reduction in production, seasonal increases in cattle weight gain by 60 to 75 pounds, and reduced weight loss during transport of cattle due to higher quality feed with less water content.

Monitoring by KBRT and the Oregon Department of Fish and Wildlife also shows a streamflow increase as irrigation water is left in-stream, higher numbers and greater diversity of fish species, and reductions in crop water use by an average of 1.1 acre-feet. Additionally, phosphorus loading was reduced by controlling cattle access to streams and eliminating irrigation run-off.



Klamath River Coalition of Conservation Districts

A Memorandum of Understanding was completed on January 13, 2005 to form a Klamath River Coalition of Conservation Districts. The goal of the coalition is to "assist cooperating Resource Conservation Districts and Soil and Water Conservation Districts by establishing shared priorities for improving water quality and quantity, enhancing community well-being, and promoting sustainable agriculture and other land uses in the entire Klamath

Partners in Conservation

River Watershed. The coalition includes the six conservation districts along the Klamath River: the Klamath in Oregon and Lava Beds/Butte Valley, Trinity, Shasta Valley, Humboldt County, and Siskiyou in California.



New Resource Conservation District in the Klamath Basin

A new conservation district, the Klamath Trinity Resource Conservation District (KTRCD), was established in 2007 under the Hoopa Valley Tribal Business Code. A Mutual Agreement between the USDA, the Hoopa Valley Tribe, and the KTRCD has been developed. The new RCD has been working with assistance from NRCS to develop its initial five-year plan focusing on water distribution, agricultural land availability and preservation, food security, agricultural marketing, education support, and other issues.



Conservation Effects Assessment Project (CEAP)

NRCS has initiated a partnership effort to study the effects of conservation applied or under consideration by landowners in the Klamath Basin. Many organizations are participating in these studies. A few of these partners include, Oregon State University, University of Oregon, US Geological Survey and the Klamath Tribes.

Sprague River CEAP Study

In the Sprague River subbasin, specialists are evaluating the effects of conservation practices on the water quantity budget, water quality and wildlife habitats in the watershed. The ongoing evaluation is done through collaboration among scientists and organizations, collection of field data, and development of an integrated hydrologic and hydraulic model that will simulate the entire land phase of the hydrologic cycle.

The simulation models being built by NRCS assess the effects of activities, such as irrigation water management, upland forest management and riparian restoration on stream levels, shallow and deep groundwater levels, root zone moisture content, wildlife habitat and water quality. Examples of model simulations being examined include the localized and watershed-scale effects on water quality and quantity if current on-farm irrigation systems were to change from wild flood to gated pipe or to sprinklers.



Shallow Ground Water Well-Monitoring System

Wood River CEAP Study

Through the Wood River CEAP, partner organizations are evaluating the effects of grazing management on forage production, animal health, riparian habitat, streambank stability, water quality, and wildlife and aquatic species. The Wood River CEAP was initiated in the fall of 2006 and is scheduled for completion in 2009.

A preliminary economic analysis was developed and will be refined and expanded as additional information about vegetation, livestock, and water management scenarios are gathered.

The Signature of Conservation in the Klamath

The Future of Cooperative Conservation in the Klamath

The signature of conservation can be seen on the landscape across the Klamath Basin. Because they live on the land and their livelihood relies on its sustainability, agricultural producers are motivated and have the best opportunity to preserve and protect resources on private lands in the basin. NRCS and its partners will continue to work closely with them to conserve natural resources for future generations.

