

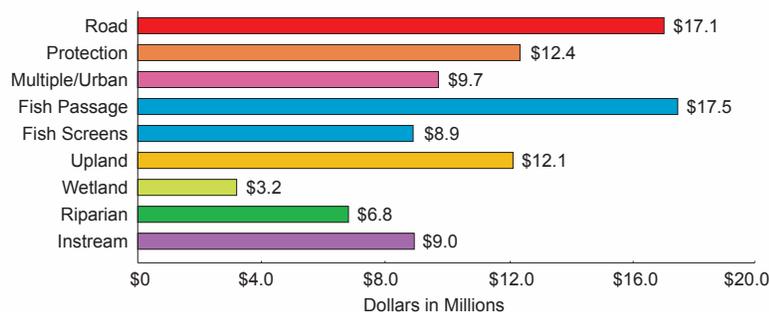
Basin Accomplishments Overview

In the 2005-2007 Biennial Report, we are highlighting specific accomplishments under the Oregon Plan for Salmon and Watersheds in the 15 Oregon Plan Basins. The Basin Accomplishment pages are in the same order as the previous two-page basin reports showing the completed and reported projects and investments during 2004 and 2005.

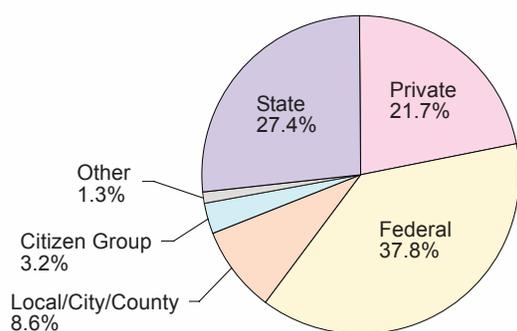
Each basin page in this section highlights agency and voluntary restoration actions. The agency actions highlighted are only a sample of the efforts of the Oregon Plan agencies. Those featured were selected to show the broad range of actions taking place in each basin.

Following the Basin Accomplishments pages are overviews of implementation of the four elements of the Oregon Plan: Agency Actions, Voluntary Restoration, Monitoring and Evaluation, and Science Oversight.

Funding for Completed and Reported Restoration by Activity Type, 2004 and 2005



Sources of Funding for Completed and Reported Restoration, 2004 and 2005



Based on \$96.7 Million Reported

“Our family has been fortunate to participate in several watershed restoration projects. These projects have provided benefits for our agricultural operation while improving fish habitat and restoring uplands.”

- Ken and Pat Holliday,
landowners,
Grant County

“Thank you to the Upper Nehalem Watershed Council for all the trees planted along our riverbank to help protect fish and wildlife for future generations. How can you lose?”

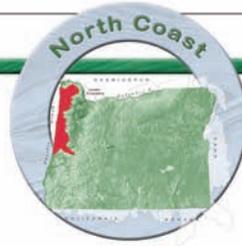
- Art and Lulu Lamping,
landowners,
Washington County

“Faced with a complex ecosystem that was in dire need of stewardship, we had the best partner in the Long Tom Watershed Council. They were able to guide us through the process and put together riparian and wildlife projects and other solutions to benefit our land, wildlife and horse operation.”

- Karen Scholler,
landowner,
Lane County

“The local watershed groups have bridged the gap between the private landowner and agencies – they back up their words with actions and resources to get work done. The partnership has really paid off for the ranch and watershed.”

- Terry Wahl,
Wahl Ranches,
Curry County



Cruiser Creek Enhancement Project

Cruiser Creek is important for Coho, fall Chinook, cutthroat and Pacific Lamprey, but stream habitat conditions needed improvement. In 2005, undersized culverts were replaced with larger ones, trees and boulders were placed instream, more than three miles of roads were decommissioned, and five riparian acres were planted with native trees. The project improved fish passage, habitat availability, channel complexity, and water quality.

Partners: Tillamook Estuaries Partnership with ODF and BLM (landowners), ODFW, Tillamook Bay WC, Lower Columbia River Estuary Partnership/NOAA, OWEB, Tillamook County Future's Council, and Tillamook Native Plant Cooperative.



After culvert replacement on 4th of July
Creek – March 2006 (photo by Tillamook
Estuaries Partnership)

Karnowsky Creek Watershed Restoration

Karnowsky Creek, a tributary to the Siuslaw River, supports Coho, Chinook, and cutthroat trout. Historic human uses had severely altered and degraded it. Project partners used a variety of methods in 2004 to improve the area, including large wood placement, creation of off-channel ponds, riparian planting, and channel reconstruction. The upper and lower channels are functioning well and spawning coho salmon have been observed.

Partners: USFS (landowner), NFF, OWEB, Siuslaw Institute, Siuslaw Middle School Stream Team, Salmon/Trout Enhancement Program, Siuslaw WC, Siuslaw SWCD, and Cascade Pacific RC&D.



Karnowsky Creek valley after channel
reconstruction (photo by Siuslaw SWCD)

North Fork Yachats Basin Restoration

The North Fork in Lincoln County is well suited for Coho, but a history of logging and agricultural use reduced instream habitat complexity. In 2005, 47 full-spanning log jams were placed in the upper North Fork and its major tributary, Williamson Creek, using a helicopter. Salmonid populations will benefit from the increased complexity as smaller woody debris and sediment is sorted in these structures.

Partners: MidCoast WCs, USFS Siuslaw National Forest, ODFW, NFF, Siuslaw SWCD, and Katrina Wynne (landowner).



Log jams capturing sediment and debris
(photo by MidCoast WCs)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ funded 11 miles of riparian planting and 36 miles of maintenance planting through Nonpoint Source Pollution 319 Grants.
- ODF completed watershed analysis and implementation plans for Miami River and Upper Nehalem River, and a Road Hazard Identification and Risk Reduction Project (inventory and major repairs).
- OECD provided \$20 million to seven local communities for water and wastewater improvements.
- OPRD replaced a culvert with a bridge to benefit fish passage at Munson Falls using Salmon License Plate funds.
- WRD accomplishments include four Instream Leases, one Instream Transfer, and 3.7 cfs restored as of August 2006.



Big Tom Folley Structure Placement

Big Tom Folley Creek serves as an important refuge for salmonids, but it lacked the large woody debris needed to create rearing and spawning habitat. In September 2004, 73 logs and 811 boulders were placed in the mainstem and North Fork. The boulders and logs are functioning as designed, increasing instream habitat complexity, collecting spawning gravels, and improving fish access.

Partners: OWEB, USFWS, ODFW, Joe Merchep Umpqua River Foundation, Umpqua Fishery Enhancement Derby, BLM, and Seneca Jones Timber Company.



Middle ground view of log structures in North Fork Big Tom Folley Creek (photo by Partnership for the Umpqua Rivers)

Lee Creek Culvert Replacement

Myrtle Creek is an important salmon habitat tributary to the South Umpqua River. Five culverts hindered fish passage in Lee Creek, one of its tributaries. In 2004, the project partners replaced the final two culverts. By December of 2004, a landowner noticed adult Coho above the fourth culvert where no salmon had made it for over 40 years.

Partners: BLM with Partnership for the Umpqua Rivers, Seneca Jones Timber Company, ODFW, OWEB, and several private landowners.



Replaced culvert on Lee Creek (photo by BLM)

Umpqua Basin Fish Passage

Undersized or perched culverts block fish passage. Five of these culverts in the Umpqua Basin were replaced in 2004. The project improved fish access to nearly 10 miles of stream on French and Bachelor creeks (North Umpqua), and Rattlesnake and Fortune Branch creeks (South Umpqua). Fish passage is now assured at all sites and landowners have observed Coho and steelhead above each culvert.

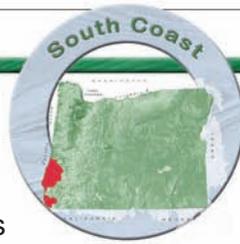
Partners: Umpqua Fishery Enhancement Derby, BLM, Douglas County, Seneca Jones Timber Company, USFWS, Richard Baumgartner, Joe Merchep Umpqua River Foundation, OWEB, Salmon License Plate Funds, and ODFW.



Replacement culvert on Fortune Branch Creek (photo by Partnership for the Umpqua Rivers)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ finalized the Umpqua TMDL.
- ODA completed the Umpqua Agricultural Water Quality Management Area Plan and Rules biennial review.
- ODF completed a Road Hazard Identification and Risk Reduction Project (road inventory and major repairs) and projects to address fish passage and riparian buffers in the Elliott State Forest.
- OECD provided \$10 million to three local communities for water and wastewater improvements.
- WRD accomplishments include two Allocations of Conserved Water, 45 Instream Leases, two Instream Transfers, and 45.6 cfs restored as of August 2006.



Wahl Ranch Wetlands

The Wahl Ranch is located on the lower Elk River. In 2004, two small wetlands were created from pasture to provide habitat for migratory birds and other wildlife. The project also created off-stream watering for a portion of the 800-acre sheep ranch and fenced the wetlands to prevent access by livestock. Forty-five students from Driftwood Elementary School planted over 250 wetlands plants. The result has been an increase in the quantity of water and wildlife in the wetland.

Partners: South Coast and Lower Rogue WCs.



Students from Driftwood Elementary School plant wetland plants (photo by South Coast WC)

Fall Creek Road Sediment Reduction

The Fall Creek watershed is important for Coho, steelhead, and cutthroat trout. The flood of 1996 overwhelmed the road drainage system, which led to road erosion and the delivery of fine sediment. In 2004, the partners installed new ditch relief culverts, replaced rusted or undersized ditch relief culverts, and replaced stream crossing pipes. The result is improved conditions, good road surface drainage, and improved chance for salmonid eggs to survive.

Partners: The Weyerhaeuser Company (landowner) and Coos Watershed Association.



Installation of a ditch relief culvert in the Coos County Forest (photo by Coos Watershed Association)

Sinko Wetland Reserve Program Easement and Restoration

Coastal wetlands represent an essential component of healthy coastal ecosystems. In 2004, on this 210-acre property, work included channel restoration and reconstruction and planting of over 2,300 trees and shrubs. As it is restored, the wetland will offer excellent fall, winter, and spring rearing for Coho and Chinook salmon, migratory birds, and other wetland wildlife. The result will be improved wildlife habitat and continued operation of an organic dairy farm by the landowner.

Partners: OWEB, USFWS, NRCS, Ducks Unlimited, and Coquille Watershed Association.

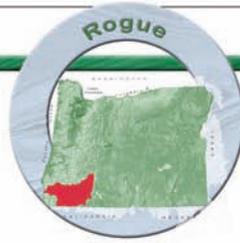


Restored wetland habitat (photo by Coos Watershed Association)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA implemented Sudden Oak Death eradication actions that have dramatically decreased the rate of disease spread in Oregon – the pathogen has been eradicated from about one-quarter of the 88 known infected acres. ODA also completed the biennial review of the Coos-Coquille and Curry Agricultural Water Quality Management Area Plan and Rules.
- ODF completed a Road Hazard Identification and Risk Reduction Project (road inventory and major repairs) and large wood placements on the West Fork Millicoma River and Elk Creek in the Elliott State Forest.
- ODOT replaced one culvert on an ocean tributary to benefit cutthroat trout, replaced three culverts on New River tributaries to benefit steelhead, Coho, and cutthroat trout, and retrofit a culvert on a Middle Fork Coquille River tributary to benefit Coho, steelhead, and cutthroat trout.
- OPRD implemented restoration projects at Cape Blanco on a tributary of the Sixes River and at Humbug Mountain State Park on Brush Creek with Salmon License Plate funds.
- WRD accomplishments include 16 Instream Leases and 19.2 cfs restored as of August 2006.

Iron Creek Fish Passage



In Iron Creek, a tributary to South Fork Lobster Creek, a barrier restricted fish passage for Coho, fall Chinook, winter steelhead, cutthroat, and rainbow trout. The culvert was far too small for fish passage and in poor condition, with potential sediment delivery from the crossing itself. The project designed and implemented a crossing that allowed for fish passage, opening up habitat above the crossing.

Partners: USFS, Curry County, local watershed councils, ODFW, and OWEB.



New culvert on Iron Creek (photo by Lower Rogue WC)

Sucker Creek Gravel Push-Up Dam Removal

Sucker Creek, a tributary to the Illinois River, is important habitat for Coho. In the late 1990s, it became clear that the community needed to find an alternative to the instream gravel, push-up dams used by water users to divert water to irrigation ditches. The solution was to design and engineer water delivery systems consisting of pump stations, screened intakes, and buried pipelines, and electrical service. By 2004, the result was six miles of improved fish habitat.

Partners: Illinois Valley SWCD and WC, WRD, NRCS, BLM, DEQ, ODA, and landowners.



The pump station on Sucker Creek (photo by Illinois Valley WC)

Upper Elk Creek Helicopter Wood Project

Bitterlick Creek and Sugarpine Creek are important watersheds in the Upper Rogue for anadromous fish. The objective of the project was to complete instream placement of large wood to maximize potential fish rearing habitat. One hundred and forty pieces of wood were placed by helicopter in three miles of stream within the two watersheds. It is expected that improved spawning gravel will be available to Coho salmon and steelhead as a result of the project.

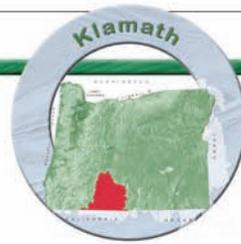
Partners: USFS, Boise Cascade Corporation (former landowner), Upper Rogue WC, ODFW, and OWEB.



Large wood complex in Bitterlick Creek (photo by USFS)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ completed the Applegate Subbasin TMDL and provided water quality monitoring equipment and technical assistance to five watershed councils.
- DOGAMI implemented a riparian planting project on a 1.5-mile reach of the Rogue River (5,000 native shrubs and trees).
- ODA conducted early detection of gypsy moth in 2005 and pre- and post-treatment delimitation around infested sites in 2005 and 2006.
- ODOT retrofitted two culverts in the Bear Creek watershed to improve fish passage.
- OECD provided \$3 million for the Kerby Water District system improvements.
- WRD accomplishments include five Allocations of Conserved Water, 22 Instream Leases, seven Instream Transfers, and 15.2 cfs restored as of August 2006.



Lower Sycan River Restoration – Yainix Ranch

The Sycan River, critical habitat for several threatened and endangered species, has been significantly degraded due to historical management and channel engineering. The goal was to implement restoration on the ranch based on careful design and implementation of a rotational and seasonal grazing plan, and sustainable stocking levels aided by a conservation easement purchased in 2004. In less than four years, riparian areas have responded very well. Passive restoration, involving significant cattle management expertise, has led to measurable results in a short period of time.

Partners: Klamath Tribes, Sustainable Northwest, National Riparian Service Team, the Working Landscapes Alliance, NFWF, NRCS, and OWEB.



Results of passive restoration efforts on Sycan River (photo by OWEB)

Restoration of Lake Fringe Wetland Habitat at Goose Bay Farms – South Pasture

Prior to 1950, South Pasture was an emergent marsh wetland connected to Upper Klamath Lake near the mouth of the Williamson River. Levees existed so the site could be drained and used for agricultural purposes. The project removed portions of the levees and reconnected the hydrology between the property and lake in 2004, which resulted in additional water storage and 165 acres of additional rearing habitat for suckers. Monitoring indicates that wetland vegetation is reestablishing across the site and numerous suckers are utilizing the area.

Partners: The Nature Conservancy, OWEB and USFWS Ecosystem Restoration Office.



Restored wetland habitat at the South Pasture property (photo by The Nature Conservancy)

Tecumseh Springs Channel Restoration

Located near Fort Klamath, Tecumseh Springs is a spring-fed tributary to Crooked Creek and the Wood River. Once considered high-quality habitat for redband trout and Endangered Lost River and shortnose suckers, it had since lost its streamside vegetation and had over-widened and heavily filled in with silt. In 2006, soil lifts were constructed to restore the channel and re-create a more natural pool-riffle sequence. Gravel was imported to provide suitable spawning habitat and backwater wetlands were created to provide slow-water rearing habitat. As the transplanted native sod is established and grows, undercut banks will develop and stabilize the new channel and provide further habitat. Only three months after implementation, 17 trout redds were counted in the restored 425 foot channel.

Partners: USFWS Ecosystem Restoration Office, adjacent landowners, BLM, ODFW, Klamath County Guides Association, and ODOT.



Restored channel after project completion (photo by USFWS)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA completed biennial reviews of the Lost River Agricultural Water Quality Management Area Plan and Rules.
- OECD provided \$39,500 to the Chiloquin Wastewater Facilities Plan to modify the sewage treatment plant that discharges into the Williamson River.
- WRD accomplishments include 20 Instream Leases, one Instream Transfer and 261.8 cfs restored as of August 2006.



Mud Lake

The effect of carp on water quality and fish and wildlife habitat in Malheur Lake has been well documented. Efforts to control carp populations have produced temporary improvements in water quality and habitat conditions, but also had negative impacts to native fish populations and aquatic invertebrates. This project, construction of a large carp barrier at the Highway 205 bridge over the Narrows, is part of a larger, more comprehensive effort to control carp populations and reduce their numbers to benefit water quality and native fish and wildlife habitat.

Partners: OWEB, Malheur National Wildlife Refuge, Harney County SWCD, Ducks Unlimited, ODFW, Oregon Hunters Association, North American Wetland Conservation Council, Harney County WC, and ODOT.



Carp Barrier, looking east from Mud Lake
(photo by Harney County SWCD)

Summer Lake Wildlife Area Wetland Enhancement

The Summer Lake Wildlife Area annually hosts hundreds of thousands of waterbirds during spring and fall migrations. The wetlands and grassy meadows also provide critical habitat for shorebirds, sandhill cranes, and waterfowl. Partners teamed up in 2005 to enhance nearly 1,000 acres of seasonally flooded habitat on the River Ranch Tract. The project consisted of rebuilding the water management system, including replacing a series of diversion structures in the Ana River that supply water to the site. These structures greatly improve irrigation efficiency and allow the Wildlife Area staff to maximize wetland habitat.

Partners: ODFW, Ducks Unlimited, NRCS, Oregon Hunters Association, and North American Wetlands Conservation Council.



Restored wetland habitat at Summer Lake
(photo by Ducks Unlimited)

Drake Creek Juniper Removal

Drake Creek provides habitat for native redband trout. As western juniper increased in density, it was overtaking aspen and willow and using substantial amounts of groundwater. In 2005, juniper was cut on 95 acres of BLM land and left on site to allow needle drop, which will improve grass and forb recovery. Removing juniper reduces the interception of shallow groundwater, allowing it to reach the creek, which improves late season flows for the benefit of fish and other aquatic species. Aspen and willow have also responded positively.



Aspens coming back after juniper removal
(photo by BLM)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA completed the Goose and Summer Lakes and Greater Harney Basin Agricultural Water Quality Management Area Plan biennial reviews.
- ODF completed a Road Hazard Identification and Risk Reduction Project (inventory and major repairs of priority issues).
- ODFW constructed two fish ladders on the Chewaucan River, which with other efforts, allows for unobstructed fish access to approximately 70 miles of spawning and rearing habitat.



5th Avenue Willow Creek Protection Project

This project is located on pasture land near Willow Creek, which has been affected by cattle watering in the creek and runoff from an open-ditch irrigation system. In 2004, a new border irrigation system was installed. The field was laser-leveled to facilitate construction of a perimeter border to retain water and prevent runoff. Wells were drilled and troughs installed to provide alternative watering facilities for the cattle. Today, Willow Creek is protected from runoff contamination and the cows are healthy.

Partners: Bill and Cindy Romans (landowners), Malheur County SWCD, NRCS, and OWEB.



A section of Willow Creek that excludes livestock access (photo by Malheur SWCD)

Lower Willow Creek Irrigation Return Flow Reduction

Agriculture, specifically irrigation return flow, plays a role in Willow Creek's water quality problems. The proposed solution was elimination of irrigation return flow by piping two lateral canals of the Vale Oregon Irrigation District system that run through feeding operations. By helping farmers convert from flood to sprinkler irrigation, this project will eliminate irrigation return flow from more than 2,000 acres, reduce the likelihood of nitrate leaching into shallow groundwater, decrease erosion and stream sedimentation, and decrease run-off contamination to Willow Creek.

Partners: Malheur WC, OWEB, Bureau of Reclamation, ODFW, Malheur County Weed Control, and ODA.



Crews installing the pipeline (photo by Malheur WC)

Succor Creek Riparian Protection Project

This project originated from the landowner's desire to improve management of his riparian areas along Succor and McBride creeks while still maintaining a viable livestock operation. This project included fencing along Succor and McBride creeks, and the development of off-site watering facilities and water gaps to allow the removal of livestock grazing in sensitive riparian areas. The creation of riparian pastures also allows the landowners to implement short-duration, high-intensity grazing to improve riparian conditions. Outcomes will be a reduction of stream-bank erosion and improved water quality.

Partners: Owyhee WC, OWEB, and NRCS.

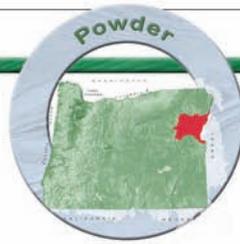


Riparian fencing along McBride Creek (photo by Owyhee WC)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA evaluated polyacrylimide (PAM) use to prevent erosion on furrow-irrigated cropland, and determined that its application reduces irrigation induced erosion, although it becomes less effective after a few hours into the irrigation set.
- OECD provided \$7 million to Vale and Ontario for wastewater system improvements.
- OPRD used Salmon License Plate funds to treat invasive plant species along Succor Creek.
- WRD accomplishments include three Instream Leases, five Instream Transfers and 142.6 cfs restored as of August 2006.

Powder River Water Quality Enhancement Phase



This project involves three phases and will provide benefits to several hundred acres and protect approximately 13 miles of the Powder River from livestock use. Project goals are to improve water quality by limiting access to the river by managed grazing, and increase and control the river gradient using rock weirs. Project components include installing 10.5 miles of riparian fencing, installing 32 miles of pipeline to supply 88 water troughs, constructing and installing concrete troughs, and planting over 65,000 plants. Unused water will be returned to the river. Early water quality sampling suggests that the project is successful.

Partners: Numerous landowners, USFWS, OWEB, Baker Valley SWCD, NRCS, Baker Valley Irrigation District, ODA, WRD, ODFW, and Baker High School.



Fish weir on Powder River (photo by Baker Valley SWCD)

Juniper Riprap in the Burnt River

Streambank erosion is a high priority natural resource concern in the Burnt River Watershed. These lands are critical to local ranches in the valley, providing winter forage for four to five months. While the river is generally healthy, there are areas on some ranches that are unstable. This project placed junipers on these unstable streambanks to reduce erosion, hold sediment, and establish riparian woody vegetation. The project is improving aquatic habitat and providing cover for aquatic species.

Partners: Burnt River SWCD, Burnt River Irrigation District, five landowners, OSU, OWEB, and NRCS.



Juniper "riprap" in the Burnt River (photo by Burnt River SWCD)

Monument Fire Restoration Project

In 2002, the Monument Fire burned approximately 24,300 acres, including 640 acres of private land. Partners developed short and long-range plans to rehabilitate and reforest a private property in the West Camp Creek watershed. Post-fire mortality of vegetation on this property was 98-100 percent and the erosion rate was high. The project partners implemented seeding, contour falling, and plantings of seedlings between 2002 and 2004. These treatments have increased infiltration, stabilized the soil, and minimized sediment transport into streams. The project has improved both fish and wildlife habitat – deer and elk have been seen foraging through the seeded areas.

Partners: Landowners, ODF, ODFW, Burnt River Irrigation District, NRCS, and Burnt River SWCD.



Riparian areas after revegetation (photo by Burnt River SWCD)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ funded the Burnt River SWCD juniper riprap effectiveness monitoring through a Nonpoint Source Pollution 319 Grant, and the Powder Valley Water Control District irrigation piping project through the Clean Water State Revolving Fund Program.
- OECD provided funding for the Halfway water system master plan.
- WRD accomplishments include one Instream Lease and 13.0 cfs restored as of August 2006.



Teeter Streambank Stabilization

River banks were eroding on a reach of the Grande Ronde River, so partners implemented a stabilization project in 2005. The bank was sloped back and rootwads and boulders were set in the project reach. A material known as CSC, an expandable honeycomb textile, was laid on the slope. Finally, soil was laid over the top and the area was seeded and planted with willows. Using a geotextile material like CSC is unconventional, but despite especially high water, there was no new erosion. The project will benefit Snake River steelhead and Chinook salmon.

Partners: Bureau of Reclamation, Union SWCD, NRCS, OWEB, and landowner.



Installing the CSC textile, toe rock, and rootwads (photo by Union County SWCD)

Wallowa River/McDaniel Habitat Restoration

This project aimed to restore degraded riparian and floodplain habitats, improve habitat diversity, and improve water quality for salmonids along a 0.34-mile reach of the Wallowa River. The river had been reduced to a steep, narrow channel along the eastern edge of its natural floodplain. Channel reconstruction and restoration in 2005 resulted in a new half-mile channel. Chinook and steelhead used the habitat for spawning the first year after project implementation. The instream and riparian improvements benefit these species and other wildlife.

Partners: Doug McDaniel (landowner), ODFW, BPA, Confederated Tribes of the Umatilla Indian Reservation, Wallowa Resources, OWEB, NRCS, Grande Ronde Model Watershed, various foundations, and volunteers.



The reconstructed stream channel one year after flow transference and plantings (photo by Grande Ronde Model Watershed)

Ladd Creek/Tule Lake Restoration Project

The City of La Grande owns 480 acres adjacent to Ladd Marsh Wildlife Area. This property was acquired with the intention to restore wetland habitats on the property. The project restored approximately 500 acres of wetland habitat in 2004. A water delivery system was also constructed that allows tertiary treated wastewater from the city to be used to manage the wetland habitats. The project is a success; the city directs all treated wastewater to the area, the site provides wetland habitat for wildlife, and the site provides public recreational opportunities.

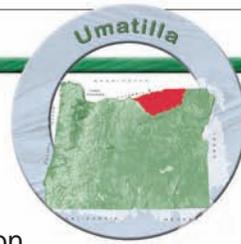
Partners: Ducks Unlimited and ODFW.



Restored wetlands at Ladd Marsh (photo by Ducks Unlimited)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ funded the Union SWCD for water quality monitoring in the Upper Grande Ronde Subbasin through a Nonpoint Source Pollution 319 Grant and provided water quality monitoring equipment to the Grande Ronde Model Watershed.
- DEQ is developing the TMDL for the Lower Grande Ronde, Wallowa, and Imnaha subbasins.
- ODA evaluated vegetation at four sites and compared grazed and ungrazed sites to conclude that there was very little difference in riparian vegetation between ungrazed and well-managed grazed sites.
- OPRD used Salmon License Plate funds to treat invasive species on the Minam, Wallowa and Grande Ronde rivers at Minam State Recreation Area, and at the confluence of the river and lake at Wallowa Lake State Park.
- WRD accomplishments include four Instream Leases, one Instream Transfer and 4.8 cfs restored as of August 2006.



Hudson Bay Aquifer-Spring Restoration

In the Walla Walla River system, irrigation efficiency improvements to benefit fish habitats have impacted groundwater recharge. This project tested active recharge as a tool to restore declining water levels in the aquifer, spring branches, and rivers of the basin. In 2004, a turnout and three recharge pits were constructed to divert water from the Little Walla Walla River and Hudson Bay's White Ditch into the project site, where it recharges the aquifer via gravity infiltration. All indications are that riparian habitat and fish stocks will again be thriving and groundwater will augment water available for agricultural uses.

Partners: Walla Walla Basin WC, Hudson Bay District Improvement Company, WRD, Kennedy-Jenks Consulting, DEQ, Walla Walla Watershed Alliance, OSU, In-situ Inc., Confederated Tribes of the Umatilla Indian Reservation, and OWEB.



Constructed recharge pit in operation (photo by Walla Walla WC)

Lorenzen Ranches Livestock Feeding Relocation

Lorenzen Ranches is a year round 800 head cow-calf operation located in Stage Gulch. The operation was located adjacent to the intermittent stream in the gulch, and was impacting streamside vegetation and creating the potential for sediment and manure runoff to the stream. To reduce these risks, the feeding area was relocated and a new feed lot was constructed away from the drainage. The previous feeding area has been leveled and replanted with perennial grasses and shrubs.

Partners: Landowner, Umatilla SWCD, OWEB, and Blue Mountain RC&D.



Relocated feed lot (photo by Umatilla County SWCD)

Willow Creek Watershed Winter-Feeding Area Improvement

This project assisted two landowners by redesigning operations with winter feeding areas located along streams that had the potential for stream contamination during storm events. On one property an intermittent channel and culvert entered the property and ended up in a calving lot near the creek. Drainage was improved and a perennial grass waterway was constructed to carry water around the feeding area. The project is functioning well, the landowner has seen an increase in wildlife using the grassed waterway, and water quality in Willow Creek is improving.

Partners: Landowners, Morrow SWCD, and OWEB.



Perennial grass waterway (photo by Morrow SWCD)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ approved the Walla Walla TMDL, is finalizing the Willow TMDL, and provided technical assistance and funding for the community of Reith to upgrade to a central sewage system.
- ODA completed the Umatilla Agricultural Water Quality Management Area Plan and Rules biennial review.
- WRD accomplishments include three Allocations of Conserved Water, 15 Instream Leases, two Instream Transfers and 7.8 cfs restored as of August 2006.



Push-Up Diversion Removal

This grant helped Grant SWCD hire engineers to design and organize several projects in the upper John Day Basin to improve fish passage. Historically, agricultural diversion systems in the basin have consisted of gravel "push-up dams," a method of diverting water that impedes fish passage. Work in 2004 and 2005 eliminated 32 push-up dams and installed seven pumping stations, and 20 lay-flat stations as replacements. Fish easily pass through these new structures.

Partners: Confederated Tribes of the Warm Springs Reservation, BPA, BOR, ODA, OWEB, and several landowners.



After push-up dam removal (photo by Grant SWCD)

Gilliam Lonerock Stock Watering Systems

Lonerock and East Fork Thirtymile creeks are steelhead spawning and rearing habitats and both creeks are water quality limited for temperature. The intent of the project was to allow for natural riparian and stream habitat restoration by eliminating direct livestock access to the creek for water. Four properties were involved. The project results include fencing more than four linear stream miles, protection of 60 acres of riparian areas, four water developments to entice livestock away from the creeks, and 2,155 acres under NRCS Grazing Management Plans.

Partners: Gilliam SWCD, NRCS, OWEB, and landowners.



Solar powered well development, reservoir and upland trough at site #1 (photo by Gilliam SWCD)

Grass Valley Farm Conservation

The Grass Valley Canyon Watershed has problems with summer high water temperature, supports a resident trout population, and includes at least 100,000 acres of dry land grain. The conventional crop rotation in this region results in the land being vulnerable to heavy runoff and erosion every other year. On six farms, the project implemented 8,276 feet of terrace, 27 sediment basins, 8.7 acres of grass reseeding and brush control, 1.5 acres of grassed waterway, and 6,403 feet of fence. The project is expected to result in reduced sediment input, lower peak flows, steadier base flows, a healthier riparian corridor, and improved habitat for resident fish.

Partners: Sherman County SWCD, landowners, and OWEB.



Grassed waterway protects draw from gully erosion (photo by Sherman SWCD)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA completed the Mid-John Day Agricultural Water Quality Management Area Plan and Rules biennial review.
- ODOT retrofit four culverts on Beech Creek to benefit summer steelhead and rainbow trout, one culvert on Cottonwood Creek to benefit cutthroat and rainbow trout, and four culverts on Wiley Creek to benefit summer steelhead and rainbow trout.
- OPRD used Salmon License Plate funds at Clyde Holliday State Recreation Site to plant trees and shrubs to stabilize and shade the John Day River.
- WRD accomplishments include one Allocation of Conserved Water, 39 Instream Leases, and 38.8 cfs restored as of August 2006. WRD also performed analyses on 11 CREP program leases and conducted four watermaster injury reviews.

Farewell Bend Park Habitat Restoration



Farewell Bend Park is located in Bend along the Deschutes River. In 2004, the project restored 2,500 feet of river frontage at the park, including three acres of native riparian planting and instream wetland restoration. The work was mostly completed by community volunteers. The project helps provide a balance between the landscaped park areas and the natural wetlands and riparian zones along the Deschutes River within the City of Bend.

Partners: Upper Deschutes WC, Bend Metro Park and Recreation District, Deschutes River Conservancy, OWEB, USFWS, and Deschutes Mitigation and Enhancement Fund.



Planting completed by teams of community volunteers (photo by Upper Deschutes WC)

Tumalo Creek Restoration

A severe wildfire in 1979 and subsequent salvage logging left three miles of Tumalo Creek west of Bend without instream woody material or riparian vegetation. Widespread erosion of the stream channel devastated wetlands and fish and wildlife habitat. In 2004 and 2005, channel reconstruction work was accomplished, including placement of about 1,600 whole trees and planting of about 40,000 riparian plants. This ongoing project will restore stream stability and improve fish habitat.

Partners: Upper Deschutes WC, Deschutes National Forest, Summit High School, NFF, OWEB, City of Bend, Deschutes Mitigation and Enhancement Fund, and other local groups.



Whole trees are used to create log jams and structures (photo by Upper Deschutes WC)

Marks Creek Riparian Restoration Project

Historic livestock grazing and timber harvest operations in Marks Creek resulted in the loss of most of the riparian tree and shrub vegetation, unstable bank conditions, and simplified stream channels. In the 1.5-mile project area, the solution was to allow for passive restoration through livestock management, with active restoration in areas where conditions were severely limited. Stream velocities during flood events have been reduced, fish habitat has improved, and native redband trout have access to 15 miles of habitat. Most importantly, the landowners are proud of what has been accomplished.

Partners: Four private landowners, OWEB, Deschutes River Conservancy, ODFW, and Central Oregon Intergovernmental Council.

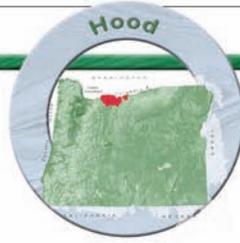


View of Marks Creek restoration site (photo by Crooked River WC)

Selected Agency Accomplishments (2005-2007 Biennium)

- ODA designated Yellow Flag Iris as a noxious weed and awarded funding for survey and treatment along the Deschutes River and Lake Billy Chinook. An estimated 2.5 acres in Jefferson County have been treated to date.
- ODA completed the biennial review of the Crooked River Agricultural Water Quality Management Area Plan and Rules.
- OPRD used Salmon License Plate funds at the Deschutes River State Recreation Area to remove invasive species and plant riparian shrubs and trees.
- WRD field checked water diversions on tributaries to the Metolius River as part of planning for the reintroduction of anadromous fish, and McKay and Trout creeks to categorize diversions based on priorities established jointly with ODFW.
- WRD also completed six Allocations of Conserved Water, 201 Instream Leases, 18 Instream Transfers, and 219.2 cfs restored as of August 2006.

Central Canal Pipeline Project



For the past 100 years, the East Fork Irrigation District (EFID) has used Neal Creek to convey 42 cfs of water from the East Fork Hood River to the Eastside Lateral to serve orchards and farms. Glacial silt is introduced into Neal Creek by the irrigation system, which impairs water quality. Phases I and II involved the construction of 2.3 miles of pipe to improve water quality and restore fish passage. The final phase, in 2006-2008, will result in a total of 4.3 miles of pipe that will remove irrigation water from Neal Creek, open additional stream miles of habitat, and permanently conserve 3.44 cfs of water instream.

Partners: WRD, DEQ, EFID, Hood River Watershed Group, OWEB, BPA, Confederated Tribes of the Warm Springs Reservation of Oregon, and many landowners.



Construction of the "Central Canal Pipeline" middle segment (photo by Hood River WC)

Dry Creek Steelhead and Trout Habitat Restoration

Dry Creek, a tributary to Fifteenmile Creek, is home to redband trout, Pacific lamprey, and winter steelhead. A frequently used farm road crossed the stream many times in 6.5 miles. This project eliminated 11 stream fords, replacing 10 with bridges and one with an open arch culvert. By eliminating these stream fords, the last major impacts on trout and steelhead habitat on Dry Creek have been eliminated.

Partners: Wasco County SWCD, OWEB, USFWS, NFWF, and the landowner.



Ernst Bridge on Dry Creek (photo by Wasco County SWCD)

Ramsey Creek

The Mt. Hood National Forest acquired 2,900 acres in Fifteenmile and Ramsey creeks in the 1990s. Both watersheds are home to a run of Mid-Columbia winter steelhead. Restoration work has included conversion of a three-mile motorized vehicle road to a non-motorized trail, the addition of 1,200 logs in the stream and floodplain to improve fish habitat, and an under-burn of about 815 acres on the south-facing slope of the Ramsey Creek drainage. The goals are restoring natural stream channel and floodplain function, improving spawning and rearing habitat, reducing erosion, improving riparian vegetation, and allowing non-motorized access.

Partners: USFS and ODFW.

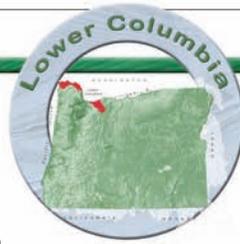


Ramsey Creek watershed (photo by USFS)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ conducted compliance and enforcement on a diesel oil discharge into a tributary of Neal Creek resulting in an issued penalty.
- ODA Exotic Wood Borer Eradication program conducted three eradication trunk and branch treatments within an 860-acre eradication area in The Dalles in 2005 and 2006.
- OECDD provided \$1.8 million for Mosier Wastewater Treatment Plant improvements.
- WRD with the Oregon Water Trust installed two gauging stations to monitor instream flow in the Fifteen-mile Creek watershed, and completed eight Instream Leases, three Instream Transfers, and 4.6 cfs restored as of August 2006.

Fish Barrier Removal Miller and Page Creeks



Miller and Page creeks are tributaries to the Clatskanie River and were once home to sizeable salmonid populations. Habitat accessibility was compromised by culverts on Page and Miller creeks. By 2004, the Page Creek culverts were removed; two were replaced with bridges, one was abandoned. In 2005, the Miller Creek culvert was replaced with a bridge. The new structures have provided almost immediate benefit to fish populations in the area, as demonstrated by the spawning salmonids observed above each site.

Partners: Lower Columbia River WC, Evenson Timberland Agency, OWEB, Fish America Foundation, Georgia Pacific Company, Columbia SWCD, NRCS, Salmon License Plate Funds, and ODFW.



New bridge on Miller Creek (photo by Lower Columbia River WC)

Flume Creek Restoration

This project reconnected Flume Creek to its historic channel. Flume Creek had been rerouted in the 1960s by road placement and was cut off from the adjacent wetland that it had previously nourished. In 2004, a 46-foot-long arched culvert, measuring 11 feet by 16 feet was placed in the roadway to restore flow, and removed trees were used for bank stabilization and instream fish habitat structures. The reconnection results in 14 acres of wetland habitat, off-channel salmonid habitat, and refugia and rearing areas.

Partners: Lower Columbia River WC, OWEB, ODFW, and the landowner.



The new revegetated channel (photo by Lower Columbia River WC)

Nutrient Supplementation for Salmon Production

This multi-year project uses adult salmon carcasses to supplement essential nutrients in high priority streams in the Sandy and Clackamas River basins in the Mt. Hood National Forest. In 2005, more than 120 volunteers, including local high school students, put a total of 20,800 pounds of fish into nine miles of streams. Helicopter distribution spread an additional 49 tons of fish over 18 river miles. Monitoring results show a significant difference in the length of juvenile Coho salmon produced in streams where nutrient supplementation has been done.

Partners: Sandy River Basin WC, Clackamas River Basin WC, USFS, ODFW, OWEB, and numerous community groups.



A member of the Clackamas County Environmental Youth Corps throws a Coho salmon into Lost Creek (photo by Sandy River Basin WC)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ provided water quality monitoring equipment to the Sandy River Basin WC, and the Sandy TMDL was approved by the EPA.
- ODA completed the biennial review of the Sandy Agricultural Water Quality Management Area Plan and Rules.
- ODF completed a Road Hazard Identification and Risk Reduction Project (inventory and major repairs) for the Clatsop and Astoria state forests.
- ODOT replaced a culvert with a bridge on the Salmon River in the Sandy River watershed to benefit cut-throat trout.
- WRD accomplishments include two Instream Leases and 79.4 cfs restored as of August 2006.

Luckiamute Helicopter Wood Placement



The headwaters of the Luckiamute River have been identified as critical habitat for upper Willamette winter steelhead, but the stream was lacking large wood and channel complexity. The Luckiamute WC arranged for helicopters to position 171 logs (obtained from BLM) at 42 sites in 2004. These logs are now capturing woody material from the riparian canopy, and increasing spawning gravel and pool complexity. Spawning redds, juvenile steelhead, and red-legged frogs have since been observed.

Partners: Luckiamute WC, BLM, ODFW, NMFS, Boise Cascade (former landowner), and OWEB.



Log placement complex (photo by Luckiamute WC)

Russell Creek Fish Passage Barrier Removal

A road crossing Russell Creek, a tributary of the Molalla River, used to contain a 65-year-old wood stave culvert that was a complete fish passage barrier due to a ten-foot drop from its outlet. When the culvert was removed in 2005, 2.5 miles of high-quality anadromous fish habitat, including an eight-acre wetland ideal for rearing habitat, was opened up to juvenile Coho, Chinook, cutthroat trout, and steelhead.

Partners: Molalla RiverWatch, Weyerhaeuser, ODFW, and Clackamas County SWCD.



New bridge on Russell Creek (photo by Molalla RiverWatch)

Kelley Creek Confluence Restoration

The Johnson Creek Restoration Plan identified the Alsop-Brownwood area at the confluence of Johnson and Kelley creeks as one of the highest priorities for biological restoration. Kelley Creek immediately upstream of the confluence was armored with stone walls in the 1920s and 1930s. Kelley Creek was relocated into a newly constructed meandering channel with pool and riffle habitat, two backwater channels were constructed, and 13.6 acre-feet of additional floodwater storage was created. The area now provides wetland habitat, floodwater storage, high-flow refuge for fish, and cold-water spawning and rearing fish habitat.

Partners: City of Portland, OWEB, NOAA Fisheries, and DEQ.



Channel construction and habitat improvements at confluence with Johnson Creek (photo by OWEB)

Selected Agency Accomplishments (2005-2007 Biennium)

- DEQ and EPA approved the Willamette TMDL.
- The Marine Board designated the first Oregon Clean Marina at Rocky Pointe Marina in the Multnomah Channel on June 1, 2006.
- ODA completed the Tualatin, Molalla-Pudding, and South Santiam Agricultural Water Quality Management Area Plan and Rules biennial reviews.
- ODOT implemented one culvert retrofit in the Marys River watershed, two culvert replacements in the Tualatin and McKenzie watersheds, and a bridge replacement on Butte Creek.
- OECDD provided \$23 million to 26 local communities for wetlands, water system improvements, and wastewater improvements.
- OPRD used Salmon License Plate funds for watershed restoration activities at Willamette Greenway, Thompson's Mill, Tryon Creek, Milo McIver, Stub Stewart, Molalla River, and Elijah Bristow.
- WRD accomplishments include two Allocations of Conserved Water, 54 Instream Leases, two Instream Transfers and 49.1 cfs restored as of August 2006.