

# Inventory

The goals of the *Inventory of Existing Activities* are to demonstrate: current management direction, existing or imminent resource protections, and current strategies implemented through specific projects. Information was collected on projects that have been completed in the last 5 years or those expected to be completed in the near future. In addition, plans, programs and legal requirements were collected describing existing legal requirements such as local ordinances, plans and programs whose purpose is to protect water resources, fish or wildlife species or habitats, including areas protected legally.

## 1. Methodology

A survey was developed and used in order to reach a broad audience and gather information on completed and ongoing projects.

The survey was emailed to approximately 100 individuals in over 70 organizations. The list of individuals and organizations was initially developed by compiled contact lists created by the Wy'East Resource Conservation and Development (Wy'East RC & D) and the Deschutes Coordinating Group. The list of individual and organizations was refined and expanded by querying (through email, phone calls and personal contact) numerous individuals with knowledge of basin projects to ensure all critical individuals and organizations were on the list. A significant effort was made to identify a point person in each organization to send the survey. The list was continually updated and added to as new information was received. The participant list was also refined as individuals doing the work were identified. Constant updating of the contact list was critical.

Survey participants provided information on several types of projects:

- Agricultural/Rangeland Improvements: riparian fencing, guzzlers, tailwater recovery ponds, filter strips, sediment basin and terraces.
- Fish Passage Improvement projects: fish screens, ladders, infiltration galleries.
- In-stream Flow Restoration: canal piping or lining project, water right acquisition, leasing.
- In-stream Habitat Restoration: large woody debris, fish habitat improvements.
- Monitoring.
- Road Abandonment/Restoration.
- Stream bank restoration: riparian plantings, floodplain improvements.
- Upland Habitat Restoration: forest health, juniper removal, range seeding.
- Wetland Restoration projects.
- Other.

They also provided information on the project's funding source, landowner, budget, status, start and end date, size and the limiting factors they were addressing. In addition, they supplied a brief description of the project and the results.

## **Survey Results**

Thirty-nine individuals from 23 organizations responded to the survey with projects (Appendix --). There was some overlap within agencies with individuals responding regarding a particular project type or for a district or area. Lack of participation occurred primarily when a organization had no projects or programs to report. Some of the larger agencies admitted that the number of projects they provided was far fewer than they actually did, but providing limited information was the best they could do at the time given other responsibilities. By July 31, 2003, over 750 records were included in the Access database and over 1,500 points identified in GIS. Some records have numerous points associated with them. In addition, over 400 projects were entered from the USFS Interagency Restoration Database (IRDA).

## **2. Existing Plans and Programs**

Existing plans and programs affecting fish, wildlife and ecosystem resources in the Deschutes subbasin are shown in Table I.1.

## **3. Existing Restoration and Conservation Projects**

Many existing on-the-ground restoration and conservation projects that have, or are, being implemented in the Deschutes Subbasin are listed on Table I.2 and shown on Map 29. These and other projects have added substantial benefit to fish and wildlife resources in the Deschutes Subbasin, as well as improving overall watershed health.

A number of other projects were not included on Table 1.2. or mapped because they were implemented over five years ago. These projects — including restoration projects implemented on the ground in the Trout Creek system for over 20 years — have significantly benefited habitat conditions. Other beneficial habitat restoration projects were also excluded from the inventory because of time constraints. These projects should be added to the Inventory in the near future.

## **4. Gap Assessment of Existing Protection, Plans, Programs and Projects**

The following discussion describes past and current fish and wildlife habitat and watershed restoration strategies implemented in the subbasin, their success and potential for application in other areas. Maps 30-33 show the relationship between past and on-going restoration efforts, priority areas for restoration, and areas where changes in wildlife habitat have occurred. Unfortunately, because of restricted time and the size of the Deschutes Subbasin, the gap assessment does not adequately assess links the success and limitations of past and present restoration efforts in all the reaches identified as high priorities for restoration. Instead, the gap assessment is limited to evaluating project activity in the ten high priority habitat restoration project areas identified during the subbasin planning process. These areas are scattered across the subbasin. Most of these proposed restoration project areas have had some level of past and/or ongoing restoration work. Information will continue to be collected as new

management activities are identified and proposed for implementation to ensure linkage to other habitat restoration efforts.

**The Trout Creek Fish Habitat Restoration Project Area** is a high priority area that has been a primary target of habitat restoration efforts since 1986. The primary focus of this project has been stream and fish habitat restoration, with a top-of-the-watershed down approach. There are 170 miles of perennial and intermittent streams in the Trout Creek watershed. To date approximately 70 miles of stream have been fenced to exclude livestock and restore riparian vegetation. Restoration includes placement of nearly 4,800 log or rock structures in the channel and treatment of 21,000 feet of eroding streambank. In addition, all irrigation diversions have been screened or replaced with infiltration galleries. More than 5,600 acres of cropland in this watershed have been enrolled in the Conservation Reserve Program and converted to permanent grassland. Over 13 miles of roads have been scarified and seeded to reduce stream sedimentation and more than 50 upland water and sediment basin have been installed to slow storm runoff and increase water absorption.

The 2002 Trout Creek Watershed Assessments concluded the highest priority for riparian management would be to protect areas currently in good condition. The assessment also concluded that livestock exclosures that have been constructed within the watershed over the past 15 years appear effective in enhancing riparian conditions and should continue to be maintained (Runyon et al. 2002). Appreciable increases in numbers of summer steelhead spawners in recent years seem to indicate that past habitat restoration has produced some fish benefits (French and Pribyl 2004).

The EDT fish habitat analysis reported that the Trout Creek system has the following habitat deficiencies: summer stream flow, water temperature extremes, and channel instability and habitat diversity. This evaluation emphasizes the need for continued riparian and stream channel restoration, while also investigating the possibility of restoring natural water storage capabilities in headwater valleys and meadows for late season flow and temperature moderation. This report also indicates the importance of upland watershed treatments that are designed to slow runoff and increase water retention. The watershed assessment emphasized the need for baseline resource data to facilitate monitoring of new and ongoing projects.

**The Squaw Creek Instream and Riparian Habitat Restoration Project Area** is identified as a high priority project area because of the potential for re-introduction of anadromous fish into the system. Collaborative habitat restoration projects have been underway for a number of years. The primary emphasis has been on summer flow and instream and channel restoration. To date more than 48,000 feet of open irrigation ditches or canals have been converted to pipe with an cumulative savings of 1,850 to 2,275 acre feet of water annually and an increase in summer stream flow of up to 7.7 cfs. There has been some road obliteration to reduce stream sediment. Nearly 1,000 acres, including stream frontage, have been acquired and converted to natural preserves or added to the Ochoco National Grasslands for habitat restoration. ODEQ is also actively collecting water quality data for the ongoing TMDL process.

The EDT fish habitat analysis reported that the Squaw Creek system has the following habitat deficiencies: summer stream flow, water temperature extremes, sedimentation, and channel stability and habitat diversity. This evaluation emphasized the need for riparian and stream channel restoration, as well as additional water conservation or

acquisition of water rights to increase low seasonal flow. Channel stabilization measures would help to reduce sediment loading, while increasing stream shading, natural water table recovery and instream habitat complexity. There is also a need for detailed baseline resource assessment data and monitoring and evaluation of the effectiveness of ongoing and planned projects for habitat recovery and increased fish and wildlife production.

Projects implemented in the ***Middle and Upper Deschutes River Instream and Riparian Habitat Restoration Project Area*** would substantially increase habitat for redband trout and bull trout. Past recovery activities include the lining of more than 22 miles of irrigation ditches and canals to reduce water loss. Nearly 11 miles of the upper river has been treated to increase instream structure and stabilize streambanks. Riparian and wetland restoration is underway on nearly 140 acres adjacent to the upper river. Approximately 8,000 acre feet of water have been leased annually to supplement low stream flow. ODEQ water quality monitoring for the TMDL process is ongoing. Instream structural treatments have been challenging in the upper river because of the extreme fluctuations in flow, but have generally been effective in collecting fine sediment and reducing bank erosion. Planting of willow in riparian areas resulted in 5-25% survival.

The QHA habitat analysis indicated that the Middle and Upper Deschutes had the following habitat deficiencies: low summer or winter flow, flow extremes, stream temperature extremes, fish passage, sedimentation, instream habitat diversity and streambank stability. This evaluation identified the need for seasonal flow modifications, including reductions in extreme flow, which would help resolve instream habitat complexity, seasonal low flow, channel stability and sedimentation issues. Water conservation measures, including the lining or piping of irrigation canals, appears to be a valid technique for restoring some river flow and reducing peak flows. Fish passage at five artificial structures needs to be addressed. There is also a need for detailed baseline resource assessment data and continued monitoring and evaluation of the effectiveness of ongoing and planned projects for habitat recovery and increased fish and wildlife production.

The ***Lower Crooked River Instream and Riparian Habitat Restoration Project Area*** is another high priority project area because of the potential for re-introduction of anadromous fish into the system, as well as benefits to redband and bull trout and a variety of wildlife species.

There are approximately 104 miles of stream in the project area, with approximately fourteen miles of the lower river confined to a narrow basalt canyon. Habitat restoration to date has included riparian restoration along approximately 14 miles of stream; development of off-stream livestock watering sites affecting a mile of stream; 5+ acres of riparian/wetland restoration; restoration/relocation of two miles of stream channel; and some fish passage and screening at water diversion structures. Project monitoring indicates that riparian vegetation has responded favorably to protection and planting projects. It indicates that vegetative response may already be starting to moderate maximum stream temperatures

The EDT fish habitat analysis reported that the Lower Crooked River system has the following habitat deficiencies: seasonally low stream flow, water temperature extremes, sedimentation, and channel stability and habitat diversity. This evaluation emphasizes

the need for riparian and stream channel restoration, as well as additional water conservation or water right acquisition to increase low seasonal flow. There is also the need for upland habitat recovery to reduce rapid storm runoff and stream sediment delivery. Restoring fish passage at artificial obstructions will be a key factor affecting potential re-introduction of anadromous fish. There is the need for a detailed baseline stream habitat inventory and long-term monitoring and evaluation for ongoing and proposed habitat projects.

Project implementation in the ***Lake Creek and Link Creek Fish Passage Improvement Project Area*** is crucial to the successful re-establishment of Sockeye salmon in the Metolius/Suttle Lake Habitat complex. Planning has been completed for fish passage and screening at the Link Creek obstruction. The Lake Creek site needs to be evaluated and remedial measures designed. A monitoring and evaluation plan would help to assess the success of the structural modifications, as well as the fish re-introduction.

Restoration in the ***North Fork Crooked River Instream and Riparian Habitat Restoration Project Area*** is a high priority because of the core redband trout population in this stream habitat complex. Stream habitat and fish population inventories have helped to document the need for habitat restoration. Surveys indicated that stream habitat on public forestland remains in fair to good condition, while most stream reaches on privately owned lands have significant habitat deficiencies, including low summer flow, stream temperature extremes, sedimentation, streambank and channel stability, instream habitat diversity and fish passage. A prerequisite for habitat treatment is a detailed baseline habitat inventory to prioritize restoration activities and monitor treatments. Landowner cooperation will be critical before instream, riparian and upland habitat recovery can be initiated. Summer stream flow recovery through riparian and stream channel treatments and restoration of natural water storage by water table recharge are requirements for appreciable increases in fish and wildlife populations. In addition, upland watershed recovery to slow runoff and reduce erosion and stream sedimentation will also be an important ecosystem recovery tool.

Restoration in the ***Beaver Creek Instream and Riparian Habitat Restoration Project Area*** (Warm Springs River system) is a high priority because of the spring Chinook salmon and summer steelhead spawning and rearing in this stream. Past habitat restoration included installation of instream structure in a channelized stream reach. Further restoration is needed to address remaining problems. A portion of the stream was re-located and straightened to facilitate highway construction. Other stream reaches have been impacted by livestock use. A recent detailed stream habitat survey and the EDT habitat analysis identified the following habitat deficiencies in this stream: instream habitat diversity, streambank stability, temperature and sedimentation. A prerequisite to initiation of habitat treatments will be use of the AIP Habitat Survey to prioritize treatments areas and techniques and determine if there is a need for more detailed baseline habitat data for project progress monitoring and evaluation.

The ***Tygh and Badger Creek Habitat Restoration Project Area*** is a high priority area because of the genetically unique redband trout found in the White River system. Past habitat restoration projects include bank stabilization and riparian recovery following the 1974 Flood and subsequent channel alteration and manipulation. In the interim, there has been appreciable recovery of riparian vegetation and streambank stability, except in areas subject to livestock use or channel manipulation. However there was no formal monitoring of these earlier habitat projects. The QHA habitat analysis indicated that

these stream reaches had the following habitat deficiencies: summer stream flow, channel stability, instream habitat diversity and fish passage. A detailed habitat survey is needed to establish baseline habitat conditions and aid in project planning and long-term evaluation. It appears that restoration measures should include livestock controls, fish laddering and screening at irrigation diversions and water conservation measures (piping, water acquisition, and relocation of diversion points).

The ***Lower Deschutes River Instream and Riparian Habitat Restoration Project Area*** is a high priority for all focal fish species because of their use of this habitat during some or all of their freshwater life stages. A number of riparian habitat restoration projects have been implemented on the lower 100 miles of the river over the past twenty-five years. Riparian livestock exclosures have proven the most effective treatment for restoration of diverse riparian vegetative communities. These projects have been implemented along approximately 45 miles of river shoreline, which when combined with approximately 90 miles of shoreline protected from livestock by railroad or highway right-of-ways, leaves approximately 65 miles of shoreline that is in need of riparian and instream habitat restoration or protection. There has not been detailed monitoring of past projects, but an ODFW photo-point series has documented the vegetative response in several areas, including the lower twenty miles of river. This limited monitoring has shown substantial recovery in some areas, despite the 1996 Flood-of-record. Some areas have shown channel narrowing and increases in overhead and aquatic vegetation. Appreciable increases in fall Chinook salmon spawning in river reaches may be related to recovering riparian and instream habitat.

The EDT habitat assessment analysis concluded that this reach of river has the following habitat deficiencies: instream habitat diversity, streambank stability/cover, flow and temperature. There is no detailed habitat survey for the lower Deschutes River. Such a survey could provide important habitat baseline data and aid in prioritization of restoration components. Based on past projects, it appears effective livestock restrictions are needed for diverse riparian vegetative recovery. Other treatments considered should include upland livestock water developments and limitations on concentrated recreational use in the river's riparian corridor.

Restoring fish passage in the ***Pelton Round Butte Fish Passage Restoration Project Area*** is a high priority because of the potential for re-introduction of focal fish species into historic habitat and the resulting increase in subbasin fish production. This project is a federal hydropower license requirement for the project operators. Years of engineering and aquatic studies have been conducted, and project completion is anticipated within the next five years. Substantial monitoring and evaluation will also be required to determine the effectiveness of adult fish passage and juvenile collection and transportation facilities.

A number of other stream and watershed restoration projects have been conducted in other portions of the subbasin. These projects include water conservation measures, TMDL data collection and report development, juniper control or thinning, noxious weed control, forest fire rehabilitation, road abandonment, riparian livestock exclosure fencing, instream structure and spawning habitat restoration, vegetative plantings, re-establishment of interior grassland habitat, off-channel livestock water developments and implementation of farm conservation plans. The degree of project monitoring and evaluation detail has varied widely on these projects.

Table I.1. Existing Plans and Programs Affecting Fish, Wildlife and Ecosystem Resources in Deschutes Subbasin.

ID	Organization	Type	Project Title	County	Type of Protection	Project Size (acres)	Resources Protected	Duration of protection	Location of Protection	Status	Brief Description
1	Crooked River Watershed Council	Local	Crooked River Watershed Assessment	Crook	Plan	>1 million	Fish Species		Entire Crooked R. Watershed	On-going	Completed in 2002, document provides general resource info. And will guide restoration and enhancement efforts throughout the watershed.
2	Crooked River Watershed Council	Local	Ochoco Watershed Channel Conditions	Crook	Plan	50,000-100,000	Fish Species		McKay Creek, Mill, Marks and Ochoco Creeks	On-going	Inventory of channel and habitat conditions on the 4 primary streams in the Crooked River Watershed that originate in the Ochoco Mountains.
3	Wasco Co. SWCD	Local	Buck Hollow Watershed Enhancement Plan	Wasco	Plan	100,000-500,000			Buck Hollow Watershed, 120,000 Acres	On-going	See description under Buck Hollow Watershed Project. Protects upland, riparian and instream resources.
4	Wasco Co. SWCD	Local	Bakeoven Watershed Action Plan	Wasco	Plan	50,000-100,000			Bakeoven Watershed, 88,000 Acres	Reviewed on Regular Basis	See description under Bakeoven Watershed Project. Protects upland, riparian and instream resources. To be reviewed in 2003.

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5	Wasco Co. SWCD	Local	Lower Deschutes Ag H2O Qual. Mgmt. Plan	Wasco	Plan		Water Quality		Deschutes Basin downstream of Trout Creek, plus the E. Hood Basin & Columbia Tribs within Sherman Co	Reviewed on Regular Basis	Describes ag. Practices and prohibited conditions to protect water quality in the Lower Deschutes Area. Oregon Admin. Rules provide ODA with enforcement authority.
6	Deschutes Basin Land Trust	Private	Back to Homewaters	Deschutes	Program	50,000-100,000	Fish Species		Upper Des. Basin, inc. Des. (to Big Falls), Metolius, & Crooked R. (to Bowman & Ochoco dams)& tribs	On-going	landscape scale effort to protect and restore salmon & steelhead habitat for reintroduction. Phase 1: GIS dataset, and prioritizing restoration projects with partners.
7	COIC	Local	COPWRR	Multiple	Plan	>1 million	Upland Habitat		Crook, Deschutes and Jefferson Counties	Will expire and not be renewed	The COPWRR Strategy Framework is a community based strategy to increase hazardous fuel removal by increasing small diameter treatment by-product utilization in Central Oregon.



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8	Oregon Dept. of Agriculture	State	Crooked river Agricultural Water Quality Mgmt. Plan	Multiple	Plan	>1 million	Water Quality		Crooked R. drainage, not the lower 20 Mi. of the Crooked, which are in Middle/Upp Des. And	Reviewed on Regular Basis	Plan is being developed with expect adoption in 2004. Area Plan is not enforceable. It encourages landowners to maintain uplands and properly manage croplands and ranchettes. It emphasizes the effect of healthy uplands on stream system health.
9	Oregon Dept. of Agriculture	State	Crooked River AgWQM Area Rules	Multiple	Legal	>1 million	Water Quality		Crooked R. drainage, not the lower 20 Mi. of the Crooked, which are in Middle/Upp Des. And	Reviewed on Regular Basis	Area Rules for Crooked R. (OAR 603-90 #00-60) are being developed and will be adopted in 2004. They will be enforceable by ODA. The rules will require compliance with ORS468B; additional requirements will be determined.

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10	Oregon Dept. of Agriculture	State	Lower Deschutes AgWQM Plan	Multiple	Plan	>1 million	Water Quality		Lower Deschutes, drainage below trout creek, and drainages to the Columbia outside Des, bet. Hood/JD	Reviewed on Regular Basis	Plan is a tool for landowners to use to control erosion on uplands, minimize streambank erosion, and not pollute. Recommends a conservation plan for landowners.
11	Oregon Dept. of Agriculture	State	Lower Deschutes AgWQM Rules	Multiple	Legal	>1 million	Water Quality		Lower Deschutes, drainage below trout creek, and drainages to the Columbia outside Des, bet. Hood/JD	Reviewed on Regular Basis	Rules adopted 2000 and revised in 2002: landowners must control soil erosion in uplands and streambanks beyond what is naturally occurring.
12	Oregon Dept. of Agriculture	State	Middle Deschutes AgWQM Plan	Multiple	Plan	500,000- 1 million	Water Quality		Middle Deschutes, Trout crk to confluence of Crooked, not inc. Metolius	Reviewed on Regular Basis	Plan focuses on proper use of streambanks and uplands, irrigation and livestock use, storage of crop nutrients and chemicals.

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13	Oregon Dept. of Agriculture	State	Middle Deschutes AgWQM Rules	Multiple	Legal	500,000- 1 million	Water Quality		Middle Deschutes, see above	Reviewed on Regular Basis	Rules adopted in 2001 and reviewed in 2003. Enforceable to have landowners comply with ORS 468B. See other regions WQM area rules.
14	Oregon Dept. of Agriculture	State	Upper Deschutes AgWQM Plan	Multiple	Plan	>1 million	Water Quality		Upper Deschutes, above and including Metolius, not Crooked R.	Reviewed on Regular Basis	Plan will be adopted in 2003. Landowners encouraged to maintain adequate streamside veg, minimize runoff and steambank erosion and pollutants, including manure, out of water systems.
15	Oregon Dept. of Agriculture	State	Upper Deschutes AgWQM Rules	Multiple	Legal	>1 million	Water Quality		Upper Deschutes, see above.	Reviewed on Regular Basis	Rules to be adopted in 2003, and enforceable by ODA. Landowners must comply with ORS 468B, see above regions.

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16	Deschutes Co. Comm. Development Dept.	Local	Title 18- Wildlife Area Combining Zone	Deschutes	Plan		Upland Habitat		Located throughout Deschutes Co.	On-going	The purpose of the wildlife area combining (WA) zone is to conserve important wildlife areas in Deschutes County; to protect an important environmental, social and economic element of area & to permit development compatible w/ protecting wildlife resource
17	Deschutes Co. Comm. Development Dept.	Local	Title 18- Sensitive Bird and Mammal Habitat	Deschutes	Plan		Wildlife or Bird Species		Located at specific sites throughout Des. Co.	On-going	The purpose of SBMH combining zone is to insure sensitive habitat are from the county's Goal 5 sensitive bird & mammal inventory as critical for the survival of select species are protected from excluded FPA activities
18	Deschutes Co. Comm. Development Dept.	Local	Title 18- Flood Plain Zone	Deschutes	Plan		Water Quality		Located throughout Des. Co.	On-going	Purpose of zone are to implement Comp. Plan Flooding Secn, protect public from flood hazards,

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											conserve riparian areas for maint. Of Fish & Wildlife, preserve sig. Scenic and natural resources & balance pub. Interest.
19	Deschutes Co. Comm. Development Dept.	Local	Title 18- Forest use Zone (F-1 & F-2)	Deschutes	Plan		Upland Habitat		Located Throughout Des. Co.	On-going	Purpose is to conserve forest lands.
20	Deschutes Co. Comm. Development Dept.	Local	Title 18- Open Space and conservation zone	Deschutes	Plan		Upland Habitat		Located throughout Des. Co	On-going	Purpose is to protect designated areas of scenic/natural res., restrict dev. In areas w/fragile, unusual or unique qualities; protect and improve air and water qual. And land resources, and plan dev. That will conserve open space.
21	Deschutes Co. Comm. Development Dept.	Local	Title 18- Landscape Mgt. Combining Zone	Deschutes	Plan		Upland Habitat		Located within 1/8 or 1/4 mile of selected streams and rivers throughout Des. Co.	On-going	Purpose is to maintain scenic and nat. res. Of the designated areas, and to maintain/enhance scenic vistas and natural landscapes as seen from

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											designated rivers or streams.
22	Deschutes Co. Comm. Development Dept.	Local	Conditional Use-Fill and Removal	Deschutes	Plan		Wetland Resources		Located throughout Des. Co.	On-going	Conditional use permit is required for excavation, grading and fill and removal within the bed and banks of a stream or river or wetland subject to Des. Co. Code (DCC) 18.120.050 and 18.128.270.
23	Deschutes Co. Comm. Development Dept.	Local	100 ft setback from streams and lakes	Deschutes	Plan		Water Quality		100 ft of all streams and lakes in Des. Col	On-going	All sewage disp. Installations, all structures, buildings, and permanent fixtures shall be setback a min. of 100 ft from the ordinary high water mark along streams and lakes. There are provisions that allow encroachment under special circumstances.

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24	Deschutes Co. Comm. Development Dept.	Local	Conservation Easement DCC 18.116.220	Deschutes	Plan		Water Quantity		10 ft. from select rivers or streams.	On-going	For all land use actions involving property adjacent to the Des., Crooked, Fall, Lil Des, and Spring Rivers, Paulina, Squaw & Tumalo Crks, the property owner shall convey to the county a CE affecting all property on the subject lot w/in 10' of hi water mark
25	Crook Co. Court	Local	Crook Co. Natural Res. Planning Consultation?	Crook	Plan	100,000-500,000	Water Quality		Crook Co.	Reviewed on Regular Basis	Plan to provide guidance to Crook Co. Planning.
26	BLM Prineville Dist.	Federal	Upper Des. Resource Management Plan	Deschutes	Plan	100,000-500,000	Upland Habitat		Crook and Deschutes Co. (refer to BLM planning map)	Reviewed on Regular Basis	BLM resource mgmt. Plan
27	US Fish and Wildlife Service	Federal	ESA Consultation with BOR		Legal				Deschutes Basin	On-going	ESA consultation on BOR's Des. Basin projects. This will complement mitigation efforts the FWS has underway through other consultations,

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											hydro relicensing, cooperative efforts, etc. Operation and maintenance.
28	US Fish and Wildlife Service	Federal	ESA Consultation with PGE/CTWS		Legal				lower Des. Basin, primarily Jefferson and Des. Co.	On-going	ESA Consultation on the Pelton Round Butte hydro project.
29	US Fish and Wildlife Service	Federal	Relicensing of the Pelton Round Butte project		Legal				lower Des. Basin, primarily Jefferson and Des. Co.	On-going	Hydro relicensing provides an opportunity to address a wide range of environmental issues including fish passage, fish and wildlife habitat and water quality.
30	US Fish and Wildlife Service	Federal	Bull Trout critical habitat designation	Multiple	Legal	>1 million	Fish Species		entire range of bull trout	On-going	designation required under the ESA and is intended to designate all areas essential for the conservation of the species. Protection would include requirements under section 7 of the act, requiring other



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											federal agencies to consult with FWS to mod. Hab.
31	US Fish and Wildlife Service	Federal	Bull Trout Recovery Plan draft	Multiple	Plan	100,000-500,000	Fish Species		Recovery plan will be range wide, but Des. Basin plan to include waters w/current & potential pops.	Reviewed on Regular Basis	identifies the area occupied, threats and tasks identified to help conserve bull trout to recovery at which they could be delisted. The plan is discretionary and includes specific tasks that could be implemented by land/water proj. mgrs in the basin.
32	Confederated Tribes of Warm Springs	Tribal	Warm Springs Comprehensive Plan	Jefferson/Wasco	Plan	500,000- 1 million	All	on-going	Warm Springs Reservation	On-going	Resource protection strategies for 650,000 acres of Tribal Lands.
33	Confederated Tribes of Warm Springs	Tribal	Integrated Resource Management Plan	Jefferson/Wasco	Plan	500,000- 1 million	All	on-going	Warm Springs Reservation	On-going	Protection standards for tribal resources.
34	Confederated Tribes of Warm Springs	Tribal	Water Quality Ordinance	Jefferson/Wasco	Legal	500,000- 1 million	Water Quality	on-going	Warm Springs Reservation	On-going	Implements comprehensive plan and sets protection

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											standards.
35	Confederate Tribes of Warm Springs	Tribal	Range & Ag. Ordinance	Jefferson/Wasco	Legal	500,000- 1 million	Upland Habitat	on-going	Warm Springs Reservation	On-going	Implements comprehensive plan and sets protection standards.
36	Confederate Tribes of Warm Springs	Tribal	Fisheries Ordinance	Jefferson/Wasco	Legal	500,000- 1 million	Fish Species	on-going	Warm Springs Reservation	On-going	Implements comprehensive plan and sets protection standards.
37	Confederate Tribes of Warm Springs	Tribal	Wildlife Ordinance	Jefferson/Wasco	Legal	500,000- 1 million	Wildlife or Bird Species	on-going	Warm Springs Reservation	On-going	Implements comprehensive plan and sets protection standards.
38	Confederate Tribes of Warm Springs	Tribal	Timber Ordinance	Jefferson/Wasco	Legal	500,000- 1 million	Wetland Resources	on-going	Warm Springs Reservation	On-going	Implements comprehensive plan and sets protection standards.
39	Confederate Tribes of Warm Springs	Tribal	Fish, Wildlife and Parks Program	Jefferson/Wasco	Program	500,000- 1 million	Fish Species	on-going	Warm Springs Reservation	On-going	Implements ordinances.
40	Confederate Tribes of Warm Springs	Tribal	Environmental Program	Jefferson/Wasco	Program	500,000- 1 million	Water Quality	on-going	Warm Springs Reservation	On-going	Implements ordinances.
41	Confederate Tribes of Warm Springs	Tribal	Range & Ag. Program	Jefferson/Wasco	Program	500,000- 1 million	Upland Habitat	on-going	Warm Springs Reservation	On-going	Implements ordinances.

**Inventory of Existing Activity**

<b>ID</b>	<b>Organization</b>	<b>Type</b>	<b>Project Title</b>	<b>County</b>	<b>Type of Protection</b>	<b>Project Size (acres)</b>	<b>Resources Protected</b>	<b>Duration of protection</b>	<b>Location of Protection</b>	<b>Status</b>	<b>Brief Description</b>
42	Confederate Tribes of Warm Springs	Tribal	Forestry Program	Jefferson/ Wasco	Program	500,000- 1 million	Upland Habitat	on-going	Warm Springs Reservation	On-going	Implements ordinances.
43	Confederate Tribes of Warm Springs	Tribal	Fire Management Program	Jefferson/ Wasco	Program	500,000- 1 million	Upland Habitat	on-going	Warm Springs Reservation	On-going	Implements ordinances.
44	Confederate Tribes of Warm Springs	Tribal	Monitoring Program	Jefferson/ Wasco	Program	500,000- 1 million	All	on-going	Warm Springs Reservation	On-going	Implements ordinances.
45	Deschutes Basin Land Trust	Private	Community Preserves	Multiple	Program				Des. Basin, on specific sites that met criteria	On-going	The community preserve strategy will seek to identify and acquire properties that are well-suited to serve basin communities as outdoor classrooms to increase awareness
46	Deschutes Co.	Local	Transfer of Development Credits	Deschutes	Program	50,000-100,000	Water Quality		South Des. Co.	On-going	Co. is purchasing dev. Rights from private owners to prevent new septic systems from being installed. Restrictive covenants are placed on property. Dev. Rights are then transferred

**Inventory of Existing Activity**

<b>ID</b>	<b>Organization</b>	<b>Type</b>	<b>Project Title</b>	<b>County</b>	<b>Type of Protection</b>	<b>Project Size (acres)</b>	<b>Resources Protected</b>	<b>Duration of protection</b>	<b>Location of Protection</b>	<b>Status</b>	<b>Brief Description</b>
47	City of Bend	Local	Waterway Overlay Zone Ordinance	Deschutes	Legal	100- 1000	Water Quality		Des. R. and Tumalo Creek w/in Bend city limits from ord. High water mark inland from 30 ft to >100ft	On-going	THE WOZ has 4 components: Riparian boundary w/setbacks to protect riparian resources; flood plain areas as defined by FEMA; DRDR; and ASI
48	City of Bend	Local	Upland Areas of Special Interest	Deschutes	Legal	100- 1000	Upland Habitat		within city of bend, having spec. features (rock outcroppings and sig. Trees)	On-going	Over 30 unique areas w/in city limits have received special protection under the Upland ASI ordinance. Protection includes a boundary (usually at the toe of slope) and 30 ft. building set back.

**Table I.2. Existing Restoration and Conservation Projects.**

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
1	Crooked River Watershed Council	Local	Little Camp Creek Spring Improvements	Agricultural/Rangeland Improvement	Private	Crook	State	\$5,000-10,000	2002	2011+	5000	Acres	On-going	Upland Habitat	n/a		Development of 5 springs for livestock water. Includes installation of spring boxes, pipe, water troughs/tanks, and fencing to protect springs. Will improve livestock distribution and range conditions in several pastures totalling 5000 acres.	All 5 structures are functioning properly.
2	Crooked River Watershed Council	Local	Mill Creek Habitat Enhancement	In-stream Flow Restoration	Private	Crook	State	\$5,000-10,000	2002	2011+	1	Miles	On-going	Fish Habitat	Mill Creek		Placement of large woody debris and rock "j-hook" structures to enhance instream habitat. Included placement of juniper "riprap" to stabilize streambanks.	Structures have performed well in first flow event since installation.
3	Crooked River Watershed Council	Local	Lawson Creek Road Mitigation	Road Abandonment/Restoration	Private	Crook	State	\$1,000-\$5,000	2002	2011+	.10	Miles	On-going	Water Quality	Lawson Creek		Relocation of road away from riparian area. Old roadbed was seeded, covered with organic material, and blocked. New roadbed was constructed upslope, out of riparian zone.	Old roadbed has grass growing through placed organic material (branches, logs).
4	Crooked River Watershed Council	Local	Mill Creek Irrigation Ditch Removal	In-stream Flow Restoration	Private	Crook	State	\$1,000-\$5,000	2002	2011+	.75	Miles	On-going	Fish Habitat	Mill Creek		Installation of diversion pipe that will direct water from diversion ditch back to Mill Creek. Will eliminate .75 mile of diversion ditch, returning water to creek further upstream and preventing flow losses due to leakage and infiltration.	Pipe is functioning properly.
5	Crooked River Watershed Council	Local	Lower Crooked River Restoration (2002)	Stream Bank Restoration	Private	Crook	Federal	\$25,000-\$50,000	2002	2011+	.25	Miles	On-going	Riparian/Wetland Habitat	Crooked River		Streambank restoration utilizing low-intensity methods. Vertical streambanks were excavated to create a floodplain terrace and a sloped bank. Erosion cloth and extensive riparian plantings were utilized to stabilize the bank. Rock "j-hook" structures w	Structures have performed well and bank remains stable following first flow event since installation.
6	Crooked River Watershed Council	Local	Duncan Creek Restoration	Instream Habitat Restoration	Private	Crook	State	\$25,000-\$50,000	2002	2011+	1	Miles	On-going	Riparian/Wetland Habitat	Duncan Creek		Repair to 2 irrigation diversion structures to alleviate existing headcuts. Included installation of rock weirs to direct flows, and a rock step pool structure to facilitate fish passage. In addition, riparian fencing to exclude livestock was installed &	Structures have performed well in first flow event since installation.
7	Crooked River Watershed Council	Local	McKay Creek Bank Stabilization	Stream Bank Restoration	Private	Crook	State	\$5,000-10,000	2002	2011+	.25	Miles	On-going	Riparian/Wetland Habitat	McKay Creek		Stream restoration to address bank stabilization, riparian veg., and fish hab. Activities included the use of juniper "riprap" to stabilize banks & improve fish hab., the installation of rock "j-hooks," riparian planting, & riparian fencing to exclude li	Structures have performed well in first flow event since installation.
8	Crooked River Watershed Council	Local	McKay Creek Channel Relocation	Stream Bank Restoration	Private	Crook	State	\$25,000-\$50,000	2002	2011+	2	Miles	On-going	Riparian/Wetland Habitat	McKay Creek		Creation of new channel in areas where channelization was having negative impact on riparian conditions. Included channel relocation, installation of rock "j-hooks," juniper root wads, extensive riparian planting, & installation of riparian fence to exclu	Structures have performed well in first flow event since installation.
9	Crooked River Watershed Council	Local	Mill Creek Restoration (2001)	Instream Habitat Restoration	Private	Crook	State	\$25,000-\$50,000	2002	2011+	1	Miles	On-going	Fish Habitat	Mill Creek		Stream restoration to address bank stabilization, riparian veg., & fish hab. Activities included use of juniper "riprap" to stabilize banks & improve fish hab., installation of rock "j-hooks," & large wood, to improve fish hab. & riparian fence to exclude	Riparian veg. Is emerging (willow, alder), banks have begun stabilization process, & additional pool are forming.

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
10	Crooked River Watershed Council	Local	Upper Crooked/Shotgun Restoration	Stream Bank Restoration	Private	Crook	State	\$25,000-\$50,000	2001	2011+	2.5	Miles	On-going	Riparian/Wetland Habitat	Upper Crooked R., Shotgun Ck, Pine Ck		Stream restoration to address bank stabilization & riparian veg. Activities included installation of rock "j-hooks," to direct flows & improve fish hab., & riparian fencing to exclude livestock.	Riparian veg. Is emerging (willow, alder) and banks have begun stabilization process.
11	Crooked River Watershed Council	Local	Mill Creek Restoration (2000)	Stream Bank Restoration	Private	Crook	State	\$10,000-\$25,000	2000	2006-2011	1	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Stream restoration to address bank stabilization, riparian veg., & fish hab. Activities included use of juniper "riprap" to stabilize banks & improve fish hab., installation of rock "j-hooks," to direct flows & improve fish hab., & riparian fencing to excl	Riparian veg. Is thriving (willow, alder), banks have begun stabilization process, & habitat has been improved through increased cover & more pools.
12	Crooked River Watershed Council	Local	Allen Creek Restoration	Stream Bank Restoration	Private	Crook	State		2000	2006-2011	.5	Miles	On-going	Riparian/Wetland Habitat	Allen Creek		Stream restoration to address bank stabilization, riparian veg., & fish hab. Activities included use of juniper "riprap" to stabilize banks & improve fish habitat, installation of rock "j-hooks," to direct flows & improve fish hab., & riparian hab., & rip	Riparian veg. Is thriving (willow, alder), banks have begun stabilization process, & habitat has been improved through increased cover & more pools.
13	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	City	Crook	Private	<\$1,000	2001	2005	.25	Miles	On-going	Riparian/Wetland Habitat	Crooked River		Riparian planting along .25 mile of Crooked River.	Plantings have encouraged the revegetatin process, which is stabilizing streambanks, narrowing the channel, helping reduce stream temperatures, & restoring native vegetation to a city park.
14	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	County	Crook	Private	<\$1,000	2002	2006-2011	.25	Miles	On-going	Riparian/Wetland Habitat	Ochoco Creek		Riparian planting along .25 mile of Crooked River.	Plantings have encouraged the revegetation process, which is stabilizing streambanks, narrowing the channel, helping reduce stream temperatures, & restoring native vegetation to a county park.
15	Crooked River Watershed council	Local	Riparian Fencing and Planting	Stream Bank Restoration	Private	Crook	State	\$10,000-\$25,000	2001	2011+	2	Miles	On-going	Riparian/Wetland Habitat	McKay Creek		Riparian fencing of 2 miles of McKay Creek w/riparian plantings totalling 1 acre.	Livestock exclusion from riparian area has begun revegetation process. Streambanks are stabilizing, channel is narrowing, & fish habitat is improving.
16	Crooked River Watershed council	Local	Riparian Fencing and Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	.3	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Riparian fencing of .3 mile of Mill Creek w/riparian plantings totalling .1 acre.	Livestock exclusion from riparian area has begun revegetation process. Streambanks are stabilizing, channel is narrowing, and fish habitat is improving.
17	Crooked River Watershed Council	Local	Riparian Fencing and Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Riparian fencing of .5 miles of Mill Creek with riparian plantings totalling 1 acre.	Livestock exclusion from riparian area has begun revegetation process. Streambanks are stabilizing, channel is narrowing, & fish habitat is improving.

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
18	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	1	Miles	On-going	Riparian/Wetland Habitat	Ochoco Creek		Riparian plantings along 1 mile of Ochoco Creek	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
19	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	McKay Creek		Riparian plantings along .5 mile of McKay Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
20	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	McKay Creek		Riparian plantings along .5 mile of McKay Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
21	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.1	Miles	On-going	Riparian/Wetland Habitat	Crooked River		Riparian plantings along .1 mile of Crooked River.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping reduce stream temperatures.
22	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Duncan Creek		Riparian plantings along .5 mile of Duncan Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping reduce stream temperatures.
23	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.6	Miles	On-going	Riparian/Wetland Habitat	Little Bear Creek		Riparian plantings along .6 mile of Little Bear Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
24	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Bear Creek		Riparian plantings along .5 mile of Bear Creek	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
25	Crooked River Watershed council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.25	Miles	On-going	Riparian/Wetland Habitat	Ochoco Creek		Riparian plantings along .25 mile of Ochoco Creek	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowin the channel, and helping to reduce stream temperatures.
26	Crooked River Watershed council	Local	Riparian Planting	Stream Bank Restoration	City	Crook	State	<\$1,000	2001	2011+	.2	Miles	On-going	Riparian/Wetland Habitat	Ochoco Creek		Riparian plantings along .2 mile of Ochoco Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.



Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
27	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	<\$1,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Ochoco Creek		Riparian plantings along .5 mile of Ochoco Creek.	Plantings have encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
28	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$5,000-10,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	n/a		Riparian fencing in upland headwaters of Sugar Creek. 12 acres of upland habitat, which excludes . Mile of Sugar Creek from grazing.	Fencing has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
29	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	1.5	Miles	On-going	Riparian/Wetland Habitat	Wolf Creek		Riparian fencing of 1.5 miles of Wolf Creek.	Livestock exclusion has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
30	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$10,000-\$25,000	2001	2011+	6	Miles	On-going	Riparian/Wetland Habitat	Little Bear Creek		Riparian fencing of 6 miles of Little Bear Creek and tributaries.	Fencing has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
31	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Riparian fencing of .5 miles of Mill Creek.	Livestock exclusion has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
32	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Riparian fencing of .5 miles of Mill Creek.	Fencing has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
33	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$10,000-\$25,000	2001	2011+	4	Miles	On-going	Riparian/Wetland Habitat	South Fork Crooked River		Riparian fencing of 4 miles of South Fork Crooked River.	Livestock exclusion has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, and helping to reduce stream temperatures.
34	Crooked River Watershed Council	Local	Riparian Planting	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2001	2011+	.5	Miles	On-going	Riparian/Wetland Habitat	Mill Creek		Riparian fencing of .5 miles of Mill Creek	Fencing has encouraged revegetation process, which is stabilizing streambanks, narrowing the channel, an helping to reduce stream temperatures
35	Crooked River Watershed council	Local	Wolf Creek Off-Stream Watering	Agricultural/Rangeland Improvement	Private	Crook	State	\$10,000-\$25,000	2003	2011+	1	Miles	On-going	Water Quality	Wolf Creek		Development of 2 off-stream watering structures (solar & electric) that will improve livestock distribution, & coupled w/riparian fencing, will improve water quality & channel conditions.	Just recently implemented.

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
36	Crooked River Watershed Council	Local	McKay Creek Off-Stream Watering	Agricultural/Rangeland Improvement	Private	Crook	State	\$10,000-\$25,000	2003	2011+	1	Miles	On-going	Water Quality	McKay Creek		Development of 3 off-stream watering structures that will improve livestock distribution, and coupled with riparian fencing, will improve water quality and channel conditions.	Just recently implemented.
37	Crooked River Watershed Council	Local	Beaver Creek Off-Stream Watering	Agricultural/Rangeland Improvement	Private	Crook	State	\$1,000-\$5,000	2003	2011+	2	Miles	On-going	Water Quality	South Fork Beaver Creek		Development of 3 off-stream watering structures (spring developments) that will improve livestock distribution and will improve water quality and channel conditions.	To be implemented Spring 2003.
38	Crooked River Watershed Council	Local	Little Bear Creek Off-Stream Watering	Agricultural/Rangeland Improvement	Private	Crook	State	\$10,000-\$25,000	2003	2011+	2	Miles	On-going	Water Quality	Little Bear Creek		Development of 10 off-stream watering features (solar/troughs and spring developments) that will improve livestock distribution, and coupled with riparian fencing, will improve water quality and channel conditions.	To be implemented Spring 2003.
39	DRC	Private	Annual Water Leasing Program	In-stream Flow Restoration	Private	Deschutes	Federal	\$50,000-\$100,000	2001	2011+	8000	acre feet	On-going	water quantity	Mid. Deschutes, L. Crooked, Tumalo, Squaw		The AWLP is a cooperative effort w/irrigation districts to pay landowner to lease water rights instream to improve streamflow on an annual basis. The program pays landowners a set price to lease water for one year only. It complements efforts to increase	Lease of around 8000 acre feet of water instream in each of 2001 & 2002. The program will likely expand in the future.
40	Wasco County SWCD	Local	Double Barrel Water Works (B bar B)	Upland Habitat Restoration	Private	Wasco	State	\$10,000-\$25,000	2002	2003	100	Acres	On-going	Riparian/Wetland Habitat	White River		Collects runoff water in series of ponds for wildlife habitat. Also stores irrigation water. Includes tree and shrub planting.	Provides for artificial wetland habitat in previously dry area.
41	Wasco County SWCD	Local	Fire Damage Recovery Grants	Other	Private	Wasco	State	\$25,000-\$50,000	2002	2003	400	Acres	On-going	Upland Habitat	Buck Hollow, Bakeoven, Deschutes River		Reseeds & rehabilitates firebreaks & severely burned areas of White River Wildfire. Project actually represents three separate grants. Includes fencing, where necessary to protect new seeding.	Will restore grazing land condition & rotational grazing system to parts of the White River Wildfire.
42	Wasco County SWCD	Local	Buck Hollow Watershed Project	Agricultural/Rangeland Improvement	Private	Wasco	Other	>\$500,000	1999	2003	120,000	Acres	On-going	Multiple	Buck Hollow	BLUE	Buck Hollow Watershed Project start: '90 & sched. for completion in 2005. Treats all aspects of watershed function from upland hydrology/habitat-riparian conditions, - instream habitat. Funded by USDA, State (OWEB) and local landowners. Inc. extensive monitoring	Buck Hollow runs clean. Formerly seasonal tribs are now perennial. 95% of riparian area is in riparian pasture mgmt or exclusion. Upland range conditions are vastly improved. Spawning has risen steadily since '94.
43	Wasco County SWCD	Local	Dancing Wolf Reservoir	Agricultural/Rangeland Improvement	Private	Wasco	State	\$10,000-\$25,000	2002	2003	20	Acres	On-going	Upland Habitat	White River	Green	Improves irrigation conveyance and storage efficiency, reducing the need for water withdrawals during the critical late season.	
44	Wasco County SWCD	Local	McElheran No-till	Agricultural/Rangeland Improvement	Private	Wasco	Federal	\$100,000-\$500,000	1999	2004	600	Acres	On-going	Upland Habitat	White River	Blue	Provides cost share funding for conversion to direct-see (no-till) farming on a farm on Juniper Flat	Reduces runoff and erosion from croplands. Reduces high flows from storm events. Increases infiltration of precipitation into soil and may have a positive effect on summer baseflows and stream temperatures. Improves overall soil quality.

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
45	Wasco County SWCD	Local	White River No-Till	Agricultural/Rangeland Improvement	Private	Wasco	State	\$100,000-\$500,000	2000	2004	600	Acres	On-going	Riparian/Wetland Habitat	White River and tribs	Pink	Provides cost share funding for conservation to direct-see (no-till) farming on several farms in White River Watershed	Reduces runoff and erosion from croplands. Reduces high flows from storm events. Increases infiltration of precipitation into soil and may have a positive effect on summer baseflows and stream temperatures. Improves overall soil quality.
46	Wasco County SWCD	Local	Bakeoven Best Management Practices	Agricultural/Rangeland Improvement	Private	Wasco	Federal	\$100,000-\$500,000	2001	2003	600	Acres	On-going	Riparian/Wetland Habitat	Bakeoven Creek and tribs	Green	Provides cost share for a variety of upland range and crop management practices that protect water quality by reducing runoff and erosion rates from uplands to streams. Funding provided by fed, state and landowners.	Reduces runoff and erosion from croplands. Reduces high flows from storm events. Increases infiltration of precipitation into soil and may have a positive effect on summer baseflows and stream temperatures. Improves overall soil quality.
47	Wasco County SWCD	Local	Bakeoven Instream Habitat	Agricultural/Rangeland Improvement	Private	Wasco	Federal	\$100,000-\$500,000	1999	2004	20	Miles	On-going	Riparian/Wetland Habitat	Bakeoven Creek and tribs	Green	Makes various improvements to riparian conditions and instream habitat in Bakeoven Creek and major tribs.	Directly improves fish habitat. Complements Bakeoven Best Management Practices project by providing another piece of the puzzle.
48	Wasco County SWCD	Local	Butler Canyon Quarry Restoration	Agricultural/Rangeland Improvement	Private	Wasco	State	\$5,000-10,000	2001	2003	12	Acres	On-going	Riparian/Wetland Habitat	Butler Canyon (trib to White R)	Purple	Resoration of a former quarry. Project includes removal of a road and culvert, reshaping of the streambanks, grass seeding, and tree planting.	Reduces streambank erosion and consequent sedimentation. Reduces potential for flood damages at downstream sights
49	Wasco County SWCD	Local	Jordan Creek Restoration Project	Agricultural/Rangeland Improvement	Private	Wasco	Other	\$50,000-\$100,000	2002	2004	4	Miles	On-going	Riparian/Wetland Habitat	Jordan Creek (trib of White R)	Blue	Makes various improvements to riparian conditions on Jordan Creek. Practices include installation of a bridge, repair of an existing bridge, riparian fencing, and tree planting	Protects fish habitat and water quality by eliminating at grade crossings, and improving and protecting riparian corridor.
50	Wasco County SWCD	Local	Columbia Plateau Riparian Buffers	Stream Bank Restoration	Private	Wasco	Other	\$100,000-\$500,000	2001	2003	200	Miles	On-going	Riparian/Wetland Habitat	Deschutes, John Day and tribs		Provides funds to pay SWCD conservation planners to develop riparian buffer plans for the CREP and Continuous Conservation Reserve Programs	100 stream miles in riparian buffers to date, 30 + miles in planning stages, and a constant influx of new signups (countywide data)
51	Wasco County SWCD	Local	Anderson Ditch Piping	Other	Private	Wasco	State	\$10,000-\$25,000	2002	2003	1	Miles	On-going	Riparian/Wetland Habitat	Threemile Creek (Trib of White R)	Purple	Pipes a private irrigation ditch	Creates an on-demand system, reduces withdrawals and eliminates most tailwater.
52	Wasco County SWCD	Local	Forman Feedlot Relocation	Riparian	Private	Wasco	Other	\$10,000-\$25,000	2002	2003	1	Miles	On-going	Riparian/Wetland Habitat	Indian Creek (Trib of Trout Creek)	Blue	Relocates a feed lot out of riparian corridor onto uplands. Develops water sources, installs fences. Multiple funding sourcesincludes state, fed and landowner	Allows riparian recovery, reduces or eliminates organic waste into stream
53	Wasco County SWCD	Local	White River Wire Fencing	Upland Habitat Restoration	Private	Wasco	State	\$100,000-\$500,000	2002	2003	2000	Acres	On-going	Upland Habitat	Buck Hollow, Bakeoven, Deschutes R	Purple	Provides funding to replace fences destroyed by wildfire and reseed. Practices are necessary to ensure good upland pasture mgmt.	Allows Reestablishment of grass stands and rotational grazing system.
54	Portland General Electric	Private	Water Quality Studies	Monitoring		Jefferson	Private		1996				On-going	Water Quality	Deschutes Basin	Blue	Several studies including monitoring program with continuous temp and grab sample pH, turbidity, chlorophyll a, zooplankton, etc.	
55	Portland General Electric	Private	Geomorphology Studies	Monitoring		Jefferson	Private			1998				Fish Habitat	Deschutes River	Brown	Several studies on geomorphology of Deschutes Basin concentrating on Pelton Round Butte Project waters and downstream	

Deschutes Subbasin Inventory Projects

ID	Organization	Organization Type	Project Title	Project Type	Land Owner	County	Funding Source	Budget for Project	Project Start Date	Project End Date	Project Size	Project Units	Project Status	Limiting Factor or Eco Process Addressed	Stream Name	Mapped Color	Project Description	Results
56	Portland General Electric	Private	Fish population research and monitoring	Monitoring		Jefferson	Private		1995				On-going	Fish Habitat	Deschutes Basin	Green	Several studies to determine life history patterns, diseases, and needs of bull trout, kokanee, rainbow, steelhead, spring chinook, signal crayfish. Includes monitoring program.	
57	Portland General Electric	Private	Engineering Studies	Monitoring		Jefferson	Private		1995				On-going	Fish Habitat	Deschutes River	Pink	Various studies to determine and engineering solution to water quality problems, redirection of reservoir currents and other barriers to fish passage.	
58	Deschutes Basin Land Trust	Private	Metolius Preserve	Combination	Private Not	Jefferson	Private	>\$500,000	2002	2001+	1240	Acres	On-going	Multiple	Lake Creek (South, Middle, and North Forks)		Acquisition of developmt-threatened fish/wildlife habitat in Metolius sub-basin. Lake Crk provides current bull trout & redband habitat, & potential sockeye & spring chinook habitat. & includes primary winter range for Metolius Elk herd, exc. Bird habitat	as of 3/03, raised \$1.7 of \$3million project cost. Mgmt planning and restoration begins 7/03. Focus: protectin and enhancement of fish and wildlife habitat.
59	Deschutes Basin Land Trust	Private	Indian Ford Creek Instream Flow Enhancement	In-stream Flow Restoration	Private	Deschutes	Other	<\$1,000	2002	2003	100	Acres	On-going	Fish Habitat, Water Quality and Quantity	Indian Ford Creek		Transfer of approx. 2cfs insteram as result of surface to ground water conversion. Decommissioning of 4 mile long, leaky irrigation ditch. Paterning with DRC and OWT.	Awaiting permit approvals from Water Resources Dept.
60	Deschutes Basin Land Trust	Private	Trout Creek Conservation Area	Combination	County	Deschutes	Private	<\$1,000	1997	2011+	160	Acres	On-going	Multiple	Trout Creek		Easement protects a rare wildflower (Peck's Penstemon) which threatened to derail a land exchange between the Des. Natl. Forest, Des. County and the Sisters School Dist.	Working with Sisters School Dist., UDWC, Native Plant Society, Des. Natl. Forest and local landowners to created a management plan and cirricula to engage local students in conserving this property's natural resources.
61	Deschutes Basin Land Trust	Private	Thomas Preserve	Combination	USFS	Deschutes	Other	<\$1,000	2002	2011+	7	Acres	On-going	Multiple	Squaw Creek		Acquisition of a seven acre oxbow island on the upper Deschutes River.	Currently developing a management plan for the preserve. The plan will focus on managing the Preserve for migratory waterfowl use, as well as providing habitat for the elk, deer and other animals that frequent the island.
62	Deschutes Basin Land Trust	Private	Indian Ford Meadow Preserve	Combination	Private Not	Deschutes	Federal/S	>\$500,000	2000	2011+	63	Acres	On-going	Multiple	Indian Ford (Squaw Creek)		Acquisition and protection of the 63 acre Indian Ford Meadow on a primary tributary to Squaw Creek. The meadow provides redband trout habitat, spectacular views and important avian habitat.	No restoration necessary. Weed control (reed canary grass) and management plans in place; weed control efforts ongoing.
63	Deschutes Basin Land Trust	Private	Alder Springs	Combination	USFS	Deschutes	Federal/S	>\$500,000	1998	2011+	840	Acres	On-going	Multiple	Squaw Creek		With the Trust for Public Lands, we acquired and transferred 840 acre Alder Srpings Ranch to the Crooked River National Grasslands. This project protected Mule Deer winter range, bull trout habitat, chinook/steelhead future spawning habitat	
64	Deschutes Basin Land Trust	Private	Hopkins-Young Conservation Easement	Upland Habitat Restoration	Private	Klamath	Local	\$100,000-\$500,000	2000	2011+	3045	Acres	On-going	Upland Habitat			development of old-growth Ponderosa pine forest east of Crescent. The Land Trust holds, monitors, and enforces this easement, which will also pomote development of additional old growth/late old structure forest.	All harves proposals approved by Land Trust; entire property monitored annually for compliance and effectiveness

Table I.2. Existing Restoration, Conservation Projects

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65	Deschutes Basin Land Trust	Private	Camp Polk Meadow Preserve	Combination	Private Not	Deschutes	Private	>\$500,000	2000	2011+	148	Acres	On-going	Multiple	Squaw Creek		Historic Camp Polk meadow acquisition. Restoration of stream channel, wetland, uplands. Property contains what was historically among the most productive steelhead habitat on the creek. Provide educational and interp. Opportunities.	Completed first phases of wetlands/uplands restoration in 2002. Over 900 central Oregon kids have used site for outdoor ed. Through Wolfree and local programs. Assessing channel work with USACOE.
66	Bureau of Reclamation- LCAO	Federal	Crooked River Fish Screens	Fish Passage Improvements	Other Fede	Crook	Federal	\$100,000-\$500,000	2000	2003	1	Acres	Complete	Fish Habitat	Crooked River		Installation of a vertical fish screen at the diversion of the Crooked River Feed Canal.	No fish diverted from the river in to the canal system of Ochoco Irrigation District.
67	Bureau of Reclamation- LCAO	Federal	Dillman Meadows	Wetland Restoration	USFS	Deschutes	Federal	\$25,000-\$50,000	2000	2003	10	Acres	Complete	Riparian/Wetland Habitat	Deschutes River		Creation of ponds and the relocation of the spotted frog population from the toe drain at wickiup dam.	Frog population is monitored after 1 full year, frogs seem to be doing fine.
68	Sunriver Owners Association	Other	Conservation Planning/CRP	Other	Private Not	Deschutes	Federal	\$100,000-\$500,000	2003	2011+	128	Acres	On-going	Riparian/Wetland Habitat	Deschutes River		Implementing a conservation plan as part of the Conservation Reserve Program. This will include pasture guidelines (rotation, weed control, manure mgmt.), riparian plantings, erosion control and other activities.	
69	Sunriver Owners Association	Other	Sunriver Noxious Weed Control	Other		Deschutes	Private	\$100,000-\$500,000	1998	2011+	3000+	Acres	On-going	Upland Habitat			Integrated Noxious Weed mgmt. In Sunriver, including control and education as part of an ongoing commitment.	
70	OR DEQ and Deschutes Co.	State/Lo	La Pine National Demonstration Project	Other	Other	Deschutes	Federal	>\$500,000	1995	2005			On-going	Water Quality	Deschutes and Little Deschutes watersheds		Install and field test innovative septic systems that provide advanced treatment of residential wastewater. The goal is to identify systems that will reduce the amount of nitrogen entering sole source aquifer of S. Des. Co. area.	Field testing portion of the project is approximately 50% complete with sampling to end in Dec. 2004. Results too extensive to report here.
71	OR DEQ and Deschutes Co.	State/Lo	La Pine National Demonstration Project	Other	Other Fede	Deschutes	Federal	>\$500,000	1999	2003			On-going	Water Quality	Deschutes and Little Deschutes watersheds		A comprehensive groundwater study and 3-D groundwater and nutrient fate and transport model of the La Pine subbasin. Model scenarios indicate the extent of potential nitrate contamination in the groundwater.	Preliminary results have just been made available and too extensive to report here. A public meeting is scheduled for the April May 2003 time frame.
72	OR DEQ	State	TMDL Temperature Monitoring Program	Monitoring	Other Fede	Deschutes	State (OWEB)		2000	2000			Complete	Water Quality	Squaw Creek and Indian Ford Creek		continuous temp. data and Forward Looking Infrared Radiometry (FLIR) data were collected in the Squaw Creek Watershed during 2000. The FLIR survey was conducted July 28, 2000. The data will be used to develop a temp. TMDL for Squaw and Indian Ford Creek	In-stream temp. results are available from DEQ. The FLIR report/data is available from DEQ or the UDWC.
73	OR DEQ	State	TMDL Temperature Monitoring Program	Monitoring	Other	Deschutes	State (OWEB)		2001	2001			Complete	Water Quality	Des., Lil Des., Crescent, Odell, Fall River, Tumalo, Paulina, Metolius, Lake		Continuous temp. data and FLIR data were collected in the Upper and Little Deschutes Subbasins during 2001. The FLIR survey was conducted from July 23-27, 2001. The data will be used to develop a temp. TMDL for streams in the 2 subbasins.	In-stream temperature results and FLIR report/data are available from DEQ

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74	OR DEQ	State	Ambient Monitoring Program	Monitoring	Multiple	Deschutes	State		1998	2011+			On-going	Water Quality	Des., Lil Des., Metolius, Crooked		DEQ monitors 151 sites statewide, every other month, to assess water qual. Conditions/ trends. There are 10 ambient sites in the Deschutes Basin. Parameters include BOD Alkalinity, Chlorophyll, Specidic Conductance, DO, Bacteria, nutrients, solids, tur	Results available from DEQ's Datatbase. Data is also evaluated through Oregon Water Quality Index, used to assess water quality trends. The index evaluates temp., DO, BOD, pH, fecal coliforms, total solids, nitrogen and phosphorus.
75	OR DEQ	State	Regional Environ. Monitoring & Assess (REMAP)	Monitoring	Multiple	Deschutes, Jefferson, Klamath,			1998 prior	1998			Complete	Water Quality	Multiple streams in Des. Basin above lake Billy Chinook		Primary objective of Des. REMAP project was to assess status and trends of the aquatic natural resources of the Des. River Basin above Lake Billy Chinook. Riparian Habitat, water chemistry and biological information were collected at 55 sites over 2 yrs.	Warer Chemistry, temp., and vertebrate summary reports are available from the DEQ website. They are too numerous to describe here.
76	OR DEQ	State	TMDL Intensive Monitoring Program	Monitoring	Multiple	Deschutes	State		2001	2002			Complete	Water Quality	Multiple		July 16 and Nov. 5 weeks,'01, and Apr. 29 week, '02, DEQ did intensive water chem. Monitoring. Parameters: ph, alkalinity, conductivity, DO, turbidity, solids, nutrients. Data used in models to develop TMDLs for Upper & Lil Des. Subbasins.	Available from DEQ's database
77	OR DEQ	State	TMDL Sediment/Turbidity Monitoring	Monitoring	Multiple	Deschutes	State		2001	2001			Complete	Water Quality	Deschutes and Little Deschutes Rivers		Sediment/turbidity monitoring of the Des. River betwn Wickiup & Benham Falls. Continuous samplers collected daily composite samples from Mar. 30-Jun. 7, '01, & for the 1st week of each following month through Oct. '01. Data for TMDL dev.; 6 sites	Samples also collected from mouth of Lil. Des., Results available from DEQ's database.
78	OR DEQ, USFS	State/F	TMDL Monitoring in Odell Lake	Monitoring	USFS	Klamath	State		2001				Complete	Water Quality	Odell lake and tributaries		Water chem. Data was collected for use in water quality modeling to develop a TMDL for Odell Lake. Odell Lake is included on the 303(d) List for not meeting the pH standard. The parameters collected included: temp., pH, DO and nutrients.	Results available from DEQ's database. They indicate that a more intensive study is needed to more adequately determine the nutrient/pH dynamics of the systems and the causes. Grant fundign is currently being sought to expand the project.
79	OR DEQ, USFS, BLM, ODFW, UDWC, OWRD,	State	Continuous Temperature Monitoring	Monitoring	Multiple	Deschutes,	State		1998 prior				On-going	Water Quality	Upper and Middle Deschutes		Agencies have been collecting in-stream continuous temp. data in the Upper/Middle Des. For a number of years. Effort now coordinated by UDWC according to "Framework for Regional, Coordinated Monitoring in the Middle and Upper Deschutes River Basin" report	The ARcView File referenced with this project includes a list of all sites that have been monitored up through 2001. An updated list including 2002 data will be available from the UDWC at some point in the future.
80	US Forest Service	Federal	Road Closures and Seeding	Road Abandonment/R estoration	USFS	Crook	Federal	\$5,000-10,000	2002	2003	13	Miles	Complete	Water Quality	Trout Creek Watershed		Road closures, scarified, seeded and culverts pulled that are contributing to sediment to streams in the Trout creek watershed. Mid-Columbia River steelhead trout are present in this watershed.	Improvement (increase) in filtering riparian vegetation, educed sedimentation in streams; improvement in water quality (1 map enclosed for project 1)
81	US Forest Service	Federal	Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$10,000-\$25,000	2002	2003	11	Miles	Complete	Riparian/Wetland Habitat	Maury's West Side/Lookout Mountain Range		Planting riparian rooted stock in the Maury Mountains to increase riparian habitat along streams to improve and increase riparian vag. Removed by the Hash Rock Fire of 2000.	Improve shade along streams, increase and improve filtering veg. In the watershed to improve water quality and spawning habitat for redband trout. (2 maps enclosed for project 2)

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82	USFS Ochoco NF	Federal	Derr Creek Riparian Planting	Stream Bank Restoration	USFS	Wheeler	Federal	\$1,000-\$5,000	2002		.4	Miles	Complete	Water Quality	Derr Creek		Performed riparian planting activities on Derr Creek. Species included: willow and alder.	Increase bank stability and shade.
83	USFS Ochoco NF	Federal	Wolf Creek Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$1,000-\$5,000	2002		2.2	Miles	Complete	Water Quality	Wolf Creek		Performed riparian planting activities in Wolf Creek. Species included: Willow and cottonwood.	Increase bank stability and shade.
84	USFS Ochoco NF	Federal	Trib to N. Wolf Creek Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$1,000-\$5,000	2002		1	Miles	Complete	Water Quality	N. Wolf Creek		Performed riparian planting activities in N. Wolf Creek. Species include: willow	Increase bank stability and shade.
85	USFS Ochoco NF	Federal	Rager Creek Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$1,000-\$5,000	2002		.2	Miles	Complete	Water Quality	Rager Creek		Performed riparian planting activities in Rager Creek. Species included: Willow and cottonwood.	Increase bank stability and shade.
86	USFS Ochoco NF	Federal	Powell Creek Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$1,000-\$5,000	2002		.4	Miles	Complete	Water Quality	Powell Creek		Performed riparian planting activities in Powell Creek. Species included: willow.	Increase bank stability and shade.
87	USFS Ochoco NF	Federal	Little Summit Creek Riparian Planting	Stream Bank Restoration	USFS	Crook	Federal	\$1,000-\$5,000	2002		.6	Miles	Complete	Water Quality	Little Summit Creek		Performed riparian planting activities in Little Summit Creek. Species included: Willow and alder.	Increase bank stability and shade.
88	USFS Ochoco NF	Federal	North Wolf Creek Riparian Planting															
89	USFS Ochoco NF	Federal	Beaver Dam Creek Riparian Planting															
90	USFS Ochoco NF	Federal	Survey Creek LW Placement															
91	USFS Ochoco NF	Federal	Derr Meadow Restoration															
92	Jefferson SWCD	Other	Fish Habitat	Fish Passage Improvements	Private	Crook	State	\$50,000-\$100,000	2002	2003	2	Miles	Not Started	Fish Habitat	Higgins Creek		Provide for native fish passage into the Higgins Creek Watershed. Improve water quality by decreasing sediment inflows and increasing cooling shad.	Pending
93	Jefferson SWCD	Other	Water Quality	Other	Private	Jefferson	State	\$10,000-\$25,000	2002	2003	4.5	Acres	On-going	Water Quality	Willow Creek		Pipe overflow water to a newly created sedimentation pond to filter sidement, nutrients, pesticides, and topsoil and prevent them from flowing into Willow Creek.	Pending
94	Jefferson SWCD	Other	Water Quality	Other	Private	Jefferson	State	\$5,000-10,000	2003	2003	<1	Acres	Not Started	Water Quality	Frog Springs		Repair pond which collects runoff from fields and irrigation tailwater which contains fertilizer, chemicals and sediment.	Pending
95	Jefferson SWCD	Other	Water Quality	Other	Private	Wasco	State	\$10,000-\$25,000	2003	2003	1+	Miles	On-going	Water Quality	Indian Creek		Relocate feed lots away from stream and created livestock watering facilities.	Pending
96	Jefferson SWCD	Other	Sediment Elimination	Other	Private	Jefferson	State	\$5,000-10,000	2003	2003	1400	Feet	Not Started	Water Quality	Trout Creek		Pipe open irrigation delivery ditch that overflows	Pending
97	Jefferson SWCD	Other	Water Quality	Other	Private	Jefferson	State	\$10,000-\$25,000	2003	2003	143	Acres	Not Started	Water Quality	Lake Billy Chinook		Reseeding native veg. For long term controls of erosion and wildlife habitat support on sloping ground	Pending
98	Jefferson SWCD	Other	Sediment Elimination	Other	Private	Jefferson	State	\$5,000-10,000	2002	2003	1375	Feet	On-going	Water Quality	Mud Springs		Pipe open irrigation delivery ditch that overflows	Pending
99	Jefferson SWCD	Other	Stream Monitoring	Monitoring	Private	Jefferson	State		2002	2011+			On-going	Fish Habitat	Willow Creek		Monitoring Willow Creek for changes in stream due to projects and/or events occurring along the stream	Pending
100	Jefferson SWCD	Other	Off Creek Watering	Stream Bank Restoration	Private	Wasco	State	\$5,000-10,000	2001	2003	1	Miles	Complete	Riparian/Wetland Habitat	Antelope Creek		Off creek water facility to keep livestock away from creek and banks.	Pending
101	Jefferson SWCD	Other	Stream Monitoring	Monitoring	Private	Jefferson	State		2002	2006-2012	2	Miles	On-going	Fish Habitat	Higgins Creek		Monitoring Higgins Creek for changes instream due to projects and/or events occurring along the stream.	Pending

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102	Jefferson SWCD	Other	Watershed Analysis Printing Project	Other	Private	Jefferson	State	\$1,000-\$5,000	1999				Complete		Willow Creek		Publish 100 Willow Creek Watershed Analysis documents	Complete
103	Jefferson SWCD	Other	Feral Swine Control	Other	Private	Jefferson	State	\$5,000-10,000	2001				Complete				Eradicate Feral pigs to help reduce soil erosion and habitat destroyed by pigs in Jeff. And Wasco Co.	58 Feral Pigs eradicated.
104	Jefferson SWCD	Other	Willow Creek Monitoring supplies	Other	Private	Jefferson	State	\$10,000-\$25,000	1999				On-going		Willow Creek		Purchase supplies to assist with continued monitoring of Willow Creek.	Successfully completed.
105	Jefferson SWCD	Other	Plantings	Other	Private	Jefferson	State	\$1,000-\$5,000	1999		2	Miles	Complete	Fish Habitat	Willow Creek		Purchase native plantings for riparian restoration after 2 miles fencing placed to keep livestock from having grazing access.	Successfully completed.
106	Jefferson SWCD	Other	Monitoring Equipment Infiltration Galleries	Other	Private	Jefferson	State	\$5,000-10,000	1998	2011+			On-going	Fish Habitat	Willow Creek		Purchase 5 temp. data loggers and software that will be used by the local high school class to monitor temperatures throughout Willow Creek.	Monitoring is ongoing.
107	Jefferson SWCD	Other	Infiltration Galleries	Other	Private	Jefferson	Federal	\$50,000 each	1998	2003			Complete	Fish Habitat	Trout Creek		Eliminate 11 push up dams and replace with infiltration galleries	Successfully completed.
108	Jefferson SWCD	Other	Sprinkler System	Other	Private	Jefferson	Federal	\$100,000-\$500,000	2000	2006-2011	217	Acres	Complete	Water Quality	Trout Creek		Converting from flood irrigation to sprinkler irrigation	Project completed, monitoring is ongoing.
109	Jefferson SWCD	Other	Streamside Restoration	Other	Private	Jefferson	State	\$50,000-\$100,000	1999	2005	.25	Miles	Complete	Riparian/Wetland Habitat	Trout Creek		Stream Bank stabilization to improve fish habitat and water quality.	Project successfully completed, monitoring ongoing.
110	Jefferson SWCD	Other	Riparian Fencing	Stream Bank Restoration	Private	Jefferson	State	\$10,000-\$25,000	1998	2004	2	Miles	Complete	Riparian/Wetland Habitat	Willow Creek		Riparian fencing installed on both sides of stream to exclude livestock	Project completed, monitoring ongoing.
111	Jefferson SWCD	Other	Solar Powered Off-Site Watering Facility	Stream Bank Restoration	Private	Jefferson	State	\$5,000-10,000	2000	2005			Complete	Riparian/Wetland Habitat	Willow Creek		Solar powered off-site watering facility for livestock excluded from riparian area.	Project completed, monitoring ongoing.
112	Jefferson SWCD	Other	CREP	Stream Bank Restoration	Private	Jefferson	State	\$100,000-\$500,000	2002	2011+	3860	Feet	On-going	Riparian/Wetland Habitat	Trout Creek		Riparian fencing installed on both sides of stream to exclude livestock, off-site watering facility, spring development, plantings.	Fencing completed, remaining practices pending
113	Jefferson SWCD	Other	CREP	Stream Bank Restoration	Private	Jefferson	State	\$100,000-\$500,000	2003	2011+	5	Miles	Not Started	Riparian/Wetland Habitat	Amity/Board Hollow Creeks		Riparian fencing installed on both sides of stream to exclude livestock, off-site watering facility, spring development, plantings.	To begin spring of 2003
114	Jefferson SWCD	Other	Wetland Enhancement	Wetland Restoration	Private	Jefferson	State	\$25,000-\$50,000	1999	2003	23	Acres/ft	Complete	Riparian/Wetland Habitat	Newbill Creek			
115	Jefferson SWCD	Other	Riparian fencing/well Sediment Retention Dams	Stream Bank Restoration	Private	Jefferson	State	\$25,000-\$50,000	1999	2003	4.5	Miles	Complete	Riparian/Wetland Habitat	Tenmile Creek/Tourt Creek/Deschutes R.		Livestock Exclusion and water gap removal from creeks and river. Well for livestock watering.	Project Completed.
116	Jefferson SWCD	Other	Sediment Retention Dams	Other	Private	Jefferson	Other	\$10,000-\$25,000	2003	2005			Not Started	Water Quality	Trout Creek		Sediment retention from runoff.	To begin spring of 2003
117	Jefferson SWCD	Other	Irrigation System Buried Mainline	Other	Private	Jefferson	Federal	\$10,000-\$25,000	1999	2003	4340	Feet	Complete		Trout Creek		Buried Mainline	Project Completed. Project Completed
118	Jefferson SWCD	Other	Berm Removal/Channel Reconstruction	In-stream Flow Restoration	Private	Jefferson	Federal	>\$500,000	2003	2011+	8	Miles	Not Started	Riparian/Wetland Habitat	Trout Creek		Remove channel straightening and "flood control" berms installed in 1965. Construct new channel, create new floodplain, and plant riparian forest buffer.	Proposed to be started in 2003
119	Jefferson SWCD	Other	Pond - EQIP	Other	Private	Jefferson	Federal	\$5,000-10,000	2000	2003			Complete		Trout Creek		Pond - EQIP	Project Completed.



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120	North Unit Irrigation District	Special	Main Canal Lining	In-stream Flow Restoration	Private	Deschutes	Local	>\$500,000	Prior to 1998	1998	11.5	Miles	Complete	Water Quantity		Blue	Lined 11.5 Miles of main canal.	Reduced water loss by approx. 20300 acre/ft. per year. Water went back to N. Unit ID.	
121	North Unit Irrigation District	Special	Silt Pond Removal/ Canal Lining	In-stream Flow Restoration	BLM	Deschutes	Other, Mu	\$100,000-\$500,000	2003	2003	1300	Feet	Complete	Water Quantity		Blue and	Lined 1300 feet of main canal and removed old silt pond. Silt pond was no longer needed. It was built to catch logging debris from mills. It was being used as a party place.	Project just completed; no results.	
122	North Unit Irrigation District	Special	51-4 Piping Project	In-stream Flow Restoration	Private	Jefferson	Other, Mu	\$100,000-\$500,000	1998	2001	27000	Feet	Complete	Water Quantity		Blue and	Piped 27000 ft. of canal 51-4. 598 acft of water were conserved.	Conserved water by lining canal. Half of conserved water went to N. Unit ID and half went instream.	
123	North Unit Irrigation District	Special	58-1 Piping Project	In-stream Flow Restoration	Private	Jefferson	Federal	\$100,000-\$500,000	2003	2004	17000	Feet	On-going	Water Quantity		Blue, Yell	Piping total of 17000 feet of canal.	Project underway, no results.	
124	North Unit Irrigation District	Special	L-52 Piping Project	In-stream Flow Restoration	Private	Jefferson	Other	\$100,000-\$500,000	Prior to 1997	1997	12600	Feet	Complete	Water Quantity		Blue	Piped 12600 feet of lateral canal (L-52). Conserved 433 acft of water.	Conserved water. Half of conserved water went to N. Unit ID and half went instream.	
125	Upper Deschutes Watershed Council	Private	Trapper Creek	Instream Habitat Restoration	Federal	Klamath	State	\$50,000-\$100,000	2002	2003	2000	Feet	On-going	Fish Habitat	Trapper Creek			Bull Trout spawning habitat restoration on Odell Lake	
126	Upper Deschutes Watershed Council	Private	Log Deck Park Riparian/Wetland Rest.	Wetland Restoration	Other Fede	Deschutes	State	\$50,000-\$100,000	2003	2005	2600	Feet	Not Started	Riparian/Wetland Habitat	Deschutes River			Wetland and riparian area enhancement/restoration at Log Deck park, Bend.	
127	Upper Deschutes Watershed Council	Private	Alder Springs Road Obliteration	Instream Habitat Restoration	Other Fede	Jefferson	State	\$50,000-\$100,000	2001	2003	2000	Feet	Complete	Upland Habitat	Squaw Creek			Road restoration to manage sediment input into lower Squaw Creek.	
128	Upper Deschutes Watershed Council	Private	Sunriver Fish habitat enhancement	Instream Habitat Restoration	Private	Deschutes	State	\$50,000-\$100,000	2000	2003	3.5	Miles	Complete	Fish Habitat	Deschutes River			Large woody material placement in-stream to enhance fish habitat.	
129	Swalley Irrigation District	Special	New Fish Screen	Fish Passage Improvements	Private	Deschutes	Private	\$50,000-\$100,000	2003	2005			Not Started	Fish Habitat	Deschutes River			Swalley currently has a fish screen that needs to be replaced to meet state or federal guidelines. The district is aware of this and is planning on doing this work in the near future.	Improved screening to prevent/reduce the number of fish entering the irrigation canal system.
130	Swalley Irrigation District	Special	Piping Study	Agricultural/Rangeland Improvement	Private	Deschutes	Other	>\$500,000	2001	2003			On-going	Fish Habitat	Deschutes River			City of Bend is paying Swalley to complete an engineering study to pipe approx. 6 mi. of main canal for use by city for mitigation credits that can be used by them to drill a well. The water saved will remain in the middle Des. & benefit stream/habitat.	Study nearly complete. Once finished, Swalley will meet with the city to determine the next step and related funding issues.
131	Tumalo Irrigation District	Special	Tumalo Creek Irrigation	In-stream Flow Restoration	Usfs and P	Deschutes	Federal a	>\$500,000	Prior to 1994	1994	12	Miles	Complete	Water Quantity	Tumalo Creek			Abandoned 9 miles of Upper Columbia Southern canal and restored water to 12 miles of Tumalo Creek by relocating the diversion	12 miles of restored stream, 20cfs saved in transmission loss went back to district.
132	Tumalo Irrigation District	Special	Red Rock Siphon	In-stream Flow Restoration	Private	Deschutes	Federal a	>\$500,000	Prior to 1995	1995	890	Feet	Complete	Water Quantity				Replaced leaky wood pipe and replaced with new pipe.	saved 5-6 cfs back to district.
133	Tumalo Irrigation District	Special	Flume #4	In-stream Flow Restoration	Private	Deschutes	Local	>\$500,000	2001	2001	470	Feet	Complete	Water Quantity				Removed leaky wooden flume replaced with underground steel pipe.	Saved 5-6 cfs back to district.
134	Tumalo Irrigation District	Special	Webber	In-stream Flow Restoration	Private	Deschutes	Federal a	>\$500,000	1999	2000	690	Feet	Complete	Water Quantity				Removed leaky wooden flume, replace with 84" steel pipe	1-2 cfs back to district.
135	Tumalo Irrigation District	Special	Kipple	In-stream Flow Restoration	Private	Deschutes	Federal a	\$100,000-\$500,000	1999	2000	690	Feet	Complete	Water Quantity				Removed leaky wooden flume, replace with 84" steel pipe	
136	Tumalo Irrigation District	Special	Telemetry	Monitoring	Multiple	Deschutes	Federal	\$100,000-\$500,000	1999				On-going	Water Quantity				Installing telemetry equipment at the head and tail of diversions across the district.	More accurate measurements will result in more precision diversions.

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137	Tumalo Irrigation District	Special	Pipeline 3B	In-stream Flow Restoration	Private	Deschutes	Federal	>\$500,000	2002	2002	1	Miles	Complete	Water Quantity			Piped one mile of canal using 84" plastic pipe.	10 cfs saved back to district.
138	Tumalo Irrigation District	Special	Pipeline 2B	In-stream Flow Restoration	Private	Deschutes	Other	>\$500,000	2000	2000	1100	Feet	Complete	Water Quantity			Piped 1100 feet of leaky canal	saved 3 cfs back to district.
139	Tumalo Irrigation District	Special	River's Edge piping	In-stream Flow Restoration	Private	Deschutes	Federal	>\$500,000	2003	2003	1200	Feet	Complete	Water Quantity			Piped 1200 feet of leaky canal	Saved 5cfs back to district.
140	Tumalo Irrigation District	Special	Bend Feed Canal	In-stream Flow Restoration	Private	Deschutes	Local	\$100,000-\$500,000	1999	1999	1200	Feet	Complete	Water Quantity			Piped 1200 feet of leaky canal.	Saved 5 cfs back to district.
141	Tumalo Irrigation District	Special	Davis Linder pipeline	In-stream Flow Restoration	Private	Deschutes	Federal	\$100,000-\$500,000	Prior to 1998	1998	2.75	Miles	Complete	Water Quantity			Piped 2.75 miles of leaky canal. Linder pipeline was 2 miles, Davis Fill Lateral was 3/4 mile.	3 cfs saved back to district.
142	Tumalo Irrigation District	Special	Highland Project	In-stream Flow Restoration	Private	Deschutes	Private	\$1,000-\$5,000	2002	2002	.25	Miles	Complete	Water Quantity			Piped a quarter mile of leaky canal and metered it.	1cfs saved back to district.
143	Oregon Dept. of Transportation	State	Crooked River Mitigation	Wetland Restoration	County	Crook	Federal	\$100,000-\$500,000	2003	2005	5	Acres	Not Started	Riparian/Wetland Habitat	Crooked River	crooked	Expansion of existing wetlands adjacent to the Crooked, removal of grazing from wetland areas.	pending; plan is to have approx. 5-10 acres of emergent wetlands and restored riparian habitat.
144	Oregon Dept. of Transportation	State	Culver Railroad Crossing	Wetland Restoration	County	Jefferson	Federal	\$100,000-\$500,000	2003	2004	.13	Acres	Not Started	Riparian/Wetland Habitat		lower	Removal of roadbed to restore underlying wetlands and reconnect two wetlands.	restoration of small wetland area and creation of one continuous wetland.
145	Oregon Dept. of Transportation	State	Riley bridge	In-stream Flow Restoration	State	Deschutes	Federal	\$100,000-\$500,000	2003	2005	300	Feet	Not Started	Water Quality	North Unit Main Canal	Upper	Pipe canal where it passes under US 97	portion of canal is piped.
146	Oregon Dept. of Transportation	State	Biggs-Wasco	Stream Bank Restoration	State	Sherman	Federal	\$100,000-\$500,000	2003	2005	500	Feet	Not Started	Riparian/Wetland Habitat	Spanish Hollow	Lower	installation of biostabilization consisting of seed filled sandbags, willow cuttings, and vegetated cribwalls.	currently unstable streamside slopes will be stabilized with combination of primitive structures, plantings and seeding.
147	Oregon Dept. of Transportation	State	Butler Canyon Quarry restoration	Road Abandonment/Restoration	Private	Wasco	State	\$5,000-10,000	2002	2003	1	Acres	Complete	Fish Habitat	Butler Canyon Creek	Lower	Project involved decommissioning a stream crossing within the quarry and rehabilitating the streamband and channel in the area.	Rehab has taken and channel is flowing well. Habitat has been restored to reflect surrounding area.
148	Oregon Dept. of Transportation	State	OR 216 Shoulder Repair	Stream Bank Restoration	Tribal	Wasco	State	\$1,000-\$5,000	2003	2003	.1	Acres	Not Started	Riparian/Wetland Habitat	Winter Water Creek	Lower	Shoulder of road eroding and pavement is undercut, crumbling. To rebuild slop and stabilize road bed. No work will be done below the high water mark and no impacts to existing riparian veg expected. Rehab will involve willow planting for addtl stabliza	No construction yet.
149	US Fish and Wildlife Service	Federal	Lower Crooked R. Channel Restoration	Stream Bank Restoration	Private	Crook	Federal	\$50,000-\$100,000	2003	2003	6	Miles	On-going	Water Quality	Lower Crooked River	Upper	Lower Crooked river channel restoration coordinated by Crooked R Watershed council: DRC, OWEB and ODFW major contributors.	improved water quality.
150	US Fish and Wildlife Service	Federal	Juniper Removal	Upland Habitat Restoration	Private	Crook	Federal	\$5,000-10,000	2003	2003	250	Acres	On-going		Upper Crooked River Basin	Crooked	removal of juniper	upland habitat restoration.
151	US Fish and Wildlife Service	Federal	Opal Springs Dam Fish Ladder	Fish Passage Improvements	Private	Jefferson	Other	\$100,000-\$500,000	2002	2005	70	Miles	Not Started	Fish Habitat	Crooked River	upper	Fish ladder for upstream passage, which is needed to complement upstream/downstream passage and anadromous reintroduction at the Pelton Round Butte hydro project downstream.	upsteam passage to 70 miles of the Crooked River for bull trout, steelhead, chinook salmon and other species.
152	Oregon Dept. of Fish and Wildlife	State	Wickiup Bioengineering Project	Stream Bank Restoration	USFS	Deschutes	Multiple	\$50,000-\$100,000	2001	2002	1000	Feet	Complete	Water Quality/Fish Habitat	Deschutes R.		Placed lg. Woody material, org. matting, willow, sedges and spirea along 1000 ft. of eroding streambank on the Des. R. (1/2 mile from Wickiup dam) to increase streambank stability. Adjacent uplands were planted with 500 ponderosa pine seedlings.	Unknown at present.

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153	Oregon Dept. of Fish and Wildlife	State	Beith Fish Habitat Restoration Project	In-stream Habitat Restoration	Private	Deschutes	Multiple	\$1,000-\$5,000	2001	2001	1000	Feet	Complete	Water Quality/Fish Habitat	Deschutes R.		Installed 25 trees instream to provide fish habitat and reduce erosion adjacent to a steep 30 foot high bank.	Project is successfully reducing erosion. Monitoring over next 5 yrs. Will determine if this is a permanent solution.
154	Oregon Dept. of Fish and Wildlife	State	Austin Fish Habitat Restoration Project	In-stream Habitat Restoration	Private	Deschutes	Other	\$5,000-10,000	2001	2001	300	Feet	Complete	Water Quality/Fish Habitat			Installed 7 large trees instream to reduce erosion and provide habitat.	Several tons of sediment have been trapped and creek channel has moved away from bank by 8-10 ft.
155	Oregon Dept. of Fish and Wildlife	State	Sunriver I	In-stream Habitat Restoration	Multiple	Deschutes	Multiple	\$1,000-\$5,000	Prior to 1	2002	7	Miles	Complete	Water Quality/Fish Habitat	Deschutes R.		Objective was to restore bank stability and fish habitat from Harper Bridge to Sunriver Marina by planting nearly 5000 willows and placing 300 whole trees along the banks of both sides of a 3.5 mile stretch of the Deschutes.	Hundreds of tons of sediment have been deposited at the project site. Success of planting was varied.
156	Oregon Dept. of Fish and Wildlife	State	La Pine State park Willow Planting	In-stream Habitat Restoration	State	Deschutes	Multiple	<\$1,000	Prior to 1	2001	8	Miles	Complete	Water Quality/Fish Habitat	Deschutes, Little Des?		Experiment with willow plating on a medium slope area with a gravel toe. 900 willow stakes were planted in 2001 along 4 miles of river on both sides. Trees were placed on streambank in 1997.	Success varied from 5% to 25% depending on location. Trees that were placed in 1997 need to be repositioned because they are not diverting water.
157	Oregon Dept. of Fish and Wildlife	State	Odell Creek Phase I & II	In-stream Habitat Restoration	USFS	Deschutes	Multiple	\$1,000-\$5,000	2001	2001	3500	Feet	Complete	Water Quality/Fish Habitat	Odell Creek		Replace cable that rusted out and pull wood back to the cahnnel that floated away from projects that occurred in '92 and '94. Each phase treated 1500 ft of creek.	Cable was successfully replaced. Wood was noit moved due to equipment problems. Time ran out and fish were spawning by the time equipment was available.
158	Oregon Dept. of Fish and Wildlife	State	Oldham Sedge Planting	In-stream Habitat Restoration	Private	Deschutes	Other	\$1,000-\$5,000	2001	2001	700	Feet	Complete	Water Quality/Fish Habitat	Deschutes R.		Planted 416 sedge clumps along 700 ft. of one side of Des. R.	Vegetation restoration of the site is complete. Final step will be to add more woody debris.
159	The Nature Conservancy	Private	Juniper Burn	Upland Habitat Restoration	Private No	Crook	Federal	\$1,000-\$5,000	1999	2003	30	Acres	Complete	Upland Habitat	Lost Creek		A cooperative fall prescribed burn was completed with BLM. Objective to reduce juniper population.	Monitoring results show that small junipers were reduced. However in areas where the fire burned, cheatgrass increased on site.
160	The Nature Conservancy	Private	USFS north boundary fire	Upland Habitat Restoration	Private No	Crook	Federal	\$1,000-\$5,000	2000	2003	300	Acres	Complete	Upland Habitat	Lost Creek		USFS and TNC conducted a spring prescribed burn. Objective to reduce fuel hazards.	No monitoring conducted. Unsure of results.
161	The Nature Conservancy	Private	Lost Creek Crossings	In-stream Flow Restoration	Private No	Crook	State	\$5,000-10,000	2001	2003	5	Acres	Complete	Upland Habitat	Lost Creek		Creek crossings were graveled and culverts were placed.	Project seems to be reducing sediment.
162	The Nature Conservancy	Private	Noxious Weed control	Upland Habitat Restoration	Private No	Crook	Private	\$1,000-\$5,000	1999	2003	300	Acres	On-going	Upland Habitat	Lost Creek		TNC is controlling white top, russian knapweed and medusahead rye.	weed populations are drastically reduced.
163	The Nature Conservancy	Private	Ungulate exclosures	Instream Habitat Restoration	Private No	Crook	Federal	\$25,000-\$50,000	2001	2003	9	Acres	Complete	Riparian/Wetland Habitat	Lost Creek		Junipers were cut along steam to help protect deciduous woody vegetation. Five elk exclosures were built to protect riparian habiatat and allow for recovery. Some planting was included.	Vegetation is beginning to recover.
164	The Nature Conservancy	Private	head cut repair	Stream Bank Restoration	Private No	Crook	State	<\$1,000	2001	2003	200	Feet	Complete	Riparian/Wetland Habitat	Lost Creek		A small headcut on Lost creek with a less than 3 ft drop was repaired using fiber mat and veg. The project was complete with volunteers in a day. TNC hired a consultant.	The project has held for 2 seasons now. Looks successful.
165	The Nature Conservancy	Private	Junipers removed from springs	Upland Habitat Restoration	Private No	Crook	State	\$1,000-\$5,000	2002	2003	10	Acres	Complete	Upland Habitat	Lost Creek	4 sites	Junipers were cut and removed from 10 springs.	vegetation is beginning to recover.
166	The Nature Conservancy	Private	Juniper removal from aspen groves	Upland Habitat Restoration	Private No	Crook	State	<\$1,000	2002	2003	8	Acres	Complete	Riparian/Wetland Habitat	Lost Creek	3 sites	There are 3 aspen patches found on the Juniper Hills preserve. Junipers were removed from within and around the stands.	Vegetation is recovering.

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167	The Nature Conservancy	Private	Junipers removed from creek	Stream Bank Restoration	Private	Crook	State	\$1,000-\$5,000	2002	2003	30	Acres	Complete	Upland Habitat	Lost Creek		Junipers were cut and removed on 30 ft each side of a trib of Lost Creek.	Vegetation is beginning to recover.
168	The Nature Conservancy	Private	Mechanical Juniper removal study	Upland Habitat Restoration	Private	Crook	State	\$10,000-\$25,000	2002	2003	20	Acres	Complete	Riparian/Wetland Habitat	Lost Creek		We are comparing 2 removal treatments. One with handcut chainsaw, lopped and scattered branches, and large wood removed with 4 wheeler. The other was removed with a hydroax and skidder. Wood will be piled and burned.	TNC is monitoring results.
169	Oregon Dept. Of Fish and Wildlife	State	Trout Creek habitat restoration project	In-stream Flow Restoration	Private	Jefferson	Federal	\$100,000-\$500,000	Prior to 1	2011+	20	Stream Miles	On-going	Fish Habitat	Low Trout Creek (below Ashwood) & Antelope Creek	Red	20 stream miles riparian fence (mostly on trib). One mile instream work, numerous low head check dams (Sagebrush Creek).	Moderate mainstem instream recovery. Mainstem Trout Crk insteam function limited by USACE berms. Tributary recover is good with increase riparian veg. And improved width to depth ratio. Modest increase in steelhead spawning/rearing. Flow limiting fctr
170	Oregon Dept. Of Fish and Wildlife	State	Trout Creek habitat restoration project	In-stream Flow Restoration	Private	Jefferson	Federal	\$100,000-\$500,000	Prior to 1	2011+	30	stream Miles	On-going	Fish Habitat	Upper Trout Creek (above Ashwood).	Yellow	30 stream miles riparian fence. Numerous log weirs, habitat boulders, and rock check dams.	Moderate mainstem recovery where berms are present. Trib recovery is good with increased riparian veg and improved width to depth ratios. Substantial increase in steelhead spawning and rearing. Instream flow still a limiting factor.
171	Bureau of Land Management	Federal	Ammons Chaining Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			694	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
172	Bureau of Land Management	Federal	Sheep Mountain Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			4000	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.
173	Bureau of Land Management	Federal	Flat Pasture Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			595	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.
174	Bureau of Land Management	Federal	South Boundary Rx Burn (F)	Upland Habitat Restoration	BLM	Crook	Federal	\$5,000-\$10,000			388	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.
175	Bureau of Land Management	Federal	South Boundary Rx Understory burn (G)	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			1647	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.
176	Bureau of Land Management	Federal	South Boundary Rx burn (D)	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			1194	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
177	Bureau of Land Management	Federal	South Boundary Understory burn (E)	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			105	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
178	Bureau of Land Management	Federal	South Boundary Rx Burn (B)	Upland Habitat Restoration	BLM	Crook	Federal	\$1,000-\$5,000			93	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
179	Bureau of Land Management	Federal	South Boundary understory burn ©	Upland Habitat Restoration	BLM	Crook	Federal	\$1,000-\$5,000			182	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
180	Bureau of Land Management	Federal	Studhorse II Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$100,000-\$500,000			5381	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.

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181	Bureau of Land Management	Federal	South Boundary Understory burn (A)	Upland Habitat Restoration	BLM	Crook	Federal	<\$1,000			41	Acres	Complete	Upland Habitat		BLM Map	prescribed burn	Not reported.
182	Bureau of Land Management	Federal	Gerry Mountain Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$100,000-\$500,000			9400	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
183	Bureau of Land Management	Federal	South Dagis Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			1022	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
184	Bureau of Land Management	Federal	Maupin Butte Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			2977	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
185	Bureau of Land Management	Federal	Owens Juniper Cut	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			1022	Acres	Complete	Upland Habitat		BLM map	Mechanical juniper thinning	Not reported.
186	Bureau of Land Management	Federal	Liggett Table Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$5,000-10,000			623	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
187	Bureau of Land Management	Federal	Cave Allotment Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$5,000-10,000			273	Acres	Complete	Upland Habitat		BLM map	prescribed burn	Not reported.
188	Bureau of Land Management	Federal	Paulus North Fence	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$5,000-10,000			1	Miles	Complete	Upland Habitat		line Blue	fenced 1 mile.	Not reported.
189	Bureau of Land Management	Federal	pine Ridge Fence Repair	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$1,000-\$5,000			5	Miles	Complete	Upland Habitat		line Blue	fenced 5 miles.	Not reported.
190	Bureau of Land Management	Federal	Millican Cattle Guards	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$10,000-\$25,000			15	each	Complete	Upland Habitat		point red	installed 15 cattle guards in Millican area at \$3000 each.	excluded cattle.
191	Bureau of Land Management	Federal	Sontag Fence	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$10,000-\$25,000			1.5	Miles	Complete	Upland Habitat		line blue		Not reported.
192	Bureau of Land Management	Federal	South Dry Creek Fence	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$10,000-\$25,000			1.5	Miles	Complete	Upland Habitat		line Blue	fenced 1.5 miles	Not reported.
193	Bureau of Land Management	Federal	Paulina Aspen Cut	Upland Habitat Restoration	BLM	Crook	Federal	\$5,000-10,000			96	Acres	Complete	Upland Habitat		poly, blue	reduce juniper and pine so aspen can regenerate and provide forage and cover for wildlife.	Not reported.
194	Bureau of Land Management	Federal	Dykstra Pasture Fence	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$5,000-10,000			1.3	Miles	Complete	Upland Habitat		line blue	fenced 1.3 miles.	Not reported.
195	Bureau of Land Management	Federal	East Frederick Fence Reconstruction	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$1,000-\$5,000			2	Miles	Complete	Upland Habitat		line Blue	fence construction on an allotment.	Not reported.
196	Bureau of Land Management	Federal	Fehrenbacher Fence Reconstruction	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$1,000-\$5,000			1.5	Miles	Complete	Upland Habitat		line blue	2 fences. One is .5 miles and the other is 1 mile.	Not reported.
197	Bureau of Land Management	Federal	Burke Fence	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$5,000-10,000			1	Miles	Complete	Upland Habitat		line blue	1 mile of fence.	Not reported.
198	Bureau of Land Management	Federal	Yreka Butte Rx Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			580	Acres	Complete	Upland Habitat		poly pink	prescribed burn to reduce juniper occupation and restoration of upland habitat.	Not reported.
199	Bureau of Land Management	Federal	ZX Allotment Fence Reconstruction	Agricultural/Rangeland Improvement	BLM	Crook	Federal	\$25,000-\$50,000			30	Miles	Complete	Upland Habitat		line blue	30 Miles of fence.	Not reported.
200	Bureau of Land Management	Federal	West Butte Juniper thinning project area	Upland Habitat Restoration	BLM	Crook	Federal	\$100,000-\$500,000			3306	Acres	Complete	Upland Habitat		BLM map	mechanical juniper cut	Not reported.

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201	Bureau of Land Management	Federal	Frederick Butte Burn	Upland Habitat Restoration	BLM	Crook	Federal	\$10,000-\$25,000			1000	Acres	Complete	Upland Habitat		poly pink		Not reported.
202	Bureau of Land Management	Federal	Upper Bear Juniper thinning project area	Upland Habitat Restoration	BLM	Crook	Federal	\$100,000-\$500,000			1924	Acres	Complete	Upland Habitat		BLM map	mechanical juniper cut	Not reported.
203	Bureau of Land Management	Federal	Taylor Butte Juniper thinning project area	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			1194	Acres	Complete	Upland Habitat		BLM map	mechanical juniper thinning area	Not reported.
204	Bureau of Land Management	Federal	Upper Prineville Res.Activity Plan area	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			1145	Acres	Complete	Upland Habitat		BLM map	mechanical juniper cut around prineville res.	Not reported.
205	Bureau of Land Management	Federal	Taylor Butte Thinning project area	Upland Habitat Restoration	BLM	Crook	Federal	\$50,000-\$100,000			1194	Acres	Complete	Upland Habitat		BLM map #3		Not reported.
206	Bureau of Land Management	Federal	Mecca Tree Planting	Upland Habitat Restoration	BLM	Crook	Federal	<\$1,000			1	Acres	Complete	Upland Habitat		point blue		Not reported.
207	Bureau of Land Management	Federal	Windy Flats Fire rehab	Upland Habitat Restoration	BLM	Jefferson	Federal	\$100,000-\$500,000			180	Acres	Complete	Upland Habitat		poly blue		Not reported.
208	Bureau of Land Management	Federal	Grass Valley Fire Rehab	Upland Habitat Restoration	BLM	Wasco	Federal	\$50,000-\$100,000			1000	Acres	Complete	Upland Habitat			poly pink and scattered	Not reported.
209	Bureau of Land Management	Federal	Harpham Flat Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$10,000-\$25,000			1.5	Miles	Complete	Upland Habitat		point blue		Not reported.
210	Bureau of Land Management	Federal	Bully Point Fence	Agricultural/Rangeland Improvement	BLM	Wasco	Federal	\$10,000-\$25,000			5	Miles	Complete	Upland Habitat		line blue		Not reported.
211	Bureau of Land Management	Federal	King Canyon Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	<\$1,000			.1	Miles	Complete	Upland Habitat		line blue		Not reported.
212	Bureau of Land Management	Federal	Criterion Boundary Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$10,000-\$25,000			5	Miles	Complete	Upland Habitat		point blue		Not reported.
213	Bureau of Land Management	Federal	Trout Creek OHV Rehab project	Upland Habitat Restoration	BLM	Jefferson	Federal	<\$1,000			.4	Miles	Complete	Upland Habitat		line blue		Not reported.
214	Bureau of Land Management	Federal	Wood Side Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$5,000-\$10,000			1	Miles	Complete	Upland Habitat		point blue		Not reported.
215	Bureau of Land Management	Federal	North Juniper camp fence	Upland Habitat Restoration	BLM	Jefferson	Federal	\$1,000-\$5,000			.3	Miles	Complete	Upland Habitat		point blue		Not reported.
216	Bureau of Land Management	Federal	Jones Canyon Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$5,000-\$10,000			1	Miles	Complete	Upland Habitat		point blue		Not reported.
217	Bureau of Land Management	Federal	Salt Springs Creek Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.5	Miles	Complete	Upland Habitat		line blue		Not reported.
218	Bureau of Land Management	Federal	Buck Hollow Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$10,000-\$25,000			5	Miles	Complete	Upland Habitat		point blue		Not reported.
219	Bureau of Land Management	Federal	Trout Creek Campground Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.2	Miles	Complete	Upland Habitat		point blue		Not reported.
220	Bureau of Land Management	Federal	Criterion Spring protection fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.5	Miles	Complete	Upland Habitat		line blue		Not reported.

Deschutes Subbasin Inventory Projects

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221	Bureau of Land Management	Federal	Macks Canyon campground fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.5	Miles	Complete	Upland Habitat		point blue		Not reported.
222	Bureau of Land Management	Federal	Ten Mile Fence	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.5	Miles	Complete	Upland Habitat				Not reported.
223	Bureau of Land Management	Federal	Rock Corral Spring	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.25	Acres	Complete	Upland Habitat		point red		Not reported.
224	Bureau of Land Management	Federal	Blue Gate Parking Area	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	<\$1,000			.25	Acres	Complete	Upland Habitat		point red		Not reported.
225	Bureau of Land Management	Federal	Sheep Spring	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$5,000-10,000			.75	Miles	Complete	Upland Habitat		point red		Not reported.
226	Bureau of Land Management	Federal	Delude Spring	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.25	Miles	Complete	Upland Habitat		point red		Not reported.
227	Bureau of Land Management	Federal	N. Fk. Crooked R. Berm Removal	Instream Habitat Restoration	BLM	Crook	Federal	\$5,000-10,000	2002		30	Feet	Complete	Fish Habitat		point red	Removal of stock pond berm and spillway channel. Floodplain reconstructed.	Not reported.
228	Bureau of Land Management	Federal	Reckman Springs	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$1,000-\$5,000			.5	Miles	Complete	Upland Habitat		point red		Not reported.
229	Bureau of Land Management	Federal	BLM Cattle Guards (not millican)	Agricultural/Rangeland Improvement	BLM	Jefferson	Federal	\$50,000-\$100,000			30	each	Complete	Upland Habitat		point red	install 30 cattle guards in various locations @ \$3000 each. BLM proj #: 737085 (3), 104, 106, 144-145, 147-152, 177,228,234, and 735104-05,107,114-117,120,122,125.	Not reported.
230	Bureau of Land Management	Federal	North Stearns Water Development	In-stream Flow Restoration	BLM	Crook	Federal	\$1,000-\$5,000			.5	Acres	Complete	water Quantity		line blue	storage tanks, troughs and pipelines for livestock and wildlife.	Not reported.
231	Bureau of Land Management	Federal	Brickie Pipeline	In-stream Flow Restoration	BLM	Crook	Federal	\$5,000-10,000			1	Miles	Complete	water Quantity		line blue		Not reported.
232	Bureau of Land Management	Federal	Sanford Creek Road Closures	Road Abandonment/Restoration	BLM	Crook	Federal	\$5,000-10,000			6	Miles	Complete	Water Quality		line red	Road closures in the Sanford creek watershed to reduce erosion and improve water quality.	Not reported.
234	Oregon Dept. of Fish and Wildlife					Deschutes		\$10,000-\$25,000			3000	Feet	Complete	Water Quantity				
266	Bureau of Land Management	Federal	South Stearns Pipeline	In-stream Flow Restoration	BLM	Deschutes	Federal	\$5,000-10,000			1	Miles	Complete	water Quantity				
267	Squaw Creek Irrigation District	Special	Vermilyea	In-stream Flow Restoration		Deschutes		\$10,000-\$25,000			3000	Feet	Complete	Water Quantity	Squaw Creek		Piped 3000 feet of the 7000 foot ditch.	Conserves 50-75 acre feet per irrigation season.
268	Squaw Creek Irrigation District	Special	Brown	In-stream Flow Restoration				\$50,000-\$100,000			8000	Feet	Complete	Water Quantity	Squaw Creek		Eliminated 8000 feet of ditch. The 5 farms the ditch served were converted from flood to pressurized sprinklers.	Conserves 500 acre feet per irrigation season.
269	Squaw Creek Irrigation District	Special	Bartlemy Pipeline	In-stream Flow Restoration				\$50,000-\$100,000			7200	Feet	Complete	Water Quantity	Squaw Creek		Piped 7200 feet of ditch w/a 50% loss factor and lined 3 ponds.	Conserves 300-500 acre feet per irrigation season.
270	Squaw Creek Irrigation District	Special	Thompson	In-stream Flow Restoration				\$50,000-\$100,000			7000	Feet	Complete	Water Quantity	Squaw Creek		Eliminated entire Thompson ditch - 7000 feet. Changed from flood to sprinkler system.	Returned 1 cfs of 1885 senior water right & 1 cfs junior 1900 water right to Squaw Creek between SCID diversion & Deggendorfer property. Eliminated ditch losses and conserves additional water due to irrigation method change.
271	Squaw Creek Irrigation District	Special	Cloverdale	In-stream Flow Restoration				>\$500,000			14880	Feet	Complete	Water Quantity	Squaw Creek		Piped 14880 feet of canal.	Conserved 6 cfs. 3 cfs dedicated to instream; 3 cfs to district farmers.

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272	Squaw Creek Irrigation District	Special	Scheid	In-stream Flow Restoration				\$25,000-\$50,000			8000	Feet	Complete	Water Quantity	Squaw Creek		Piped 8000 feet of open ditch using HDPE ADS pipe.	Conserved 200-300 acre feet per irrigation season.
273	Squaw Creek Irrigation District	Special	B-Ditch	In-stream Flow Restoration			Private	\$10,000-\$25,000			6000	Feet	Complete	Water Quantity	Squaw Creek		Piped 6000 feet of a 7000 foot ditch using culverts and PVC pipe.	Conserved 200-300 acre feet per irrigation season.
274	Squaw Creek Irrigation District	Special	Fryrear	In-stream Flow Restoration	Multiple			>\$500,000			19000	Feet		Water Quantity	Squaw Creek		Piped 19,000 feet of Fryrear Ditch which serves 475 acres.	Conserved estimated 600 acre feet per season and return a flow rate of 1.5 cubic foot per second to Squaw Creek.
275	Squaw Creek Irrigation District	Special	McKenzie Canyon/Black Butte Canal	In-stream Flow Restoration				>\$500,000						Water Quantity	Squaw Creek			Permanent transfer of 1.2 cfs of water to Squaw Creek.