

An Estimate of Conservation Dollars Invested in the Restoration of the Deschutes Basin

An estimate of dollars invested since 1995 and projected through 2020
in the Deschutes Basin in Oregon



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Introduction

An extraordinary investment of public and private funding is being allocated to improve watershed health and specifically to ensure the successful reestablishment of steelhead and Chinook salmon in the Deschutes River and its tributaries. This enormous undertaking is of historic significance and is broadly supported at all levels, from small grassroots volunteer efforts to major engineering feats costing millions. The diversity and breadth of the partners involved is extraordinary. Hundreds of millions of dollars, decades of time and thousands of hours of effort on the part of agency staff, nonprofit organizations and volunteers are going into this extensive, voluntary, collaborative effort.

This report attempts to capture some of the larger amounts being allocated, but is, without a doubt, a conservative estimate of the actual amount being invested.

This extensive endeavor to bring back native fish and restore habitat in the basin is supported by more than 50 different entities ranging from watershed councils and other non profit organizations, the Confederated Tribes of the Warm Springs, irrigation districts, cities and counties, and state and federal government (Appendix B). The restoration of the Deschutes Basin is a vibrant and overlooked industry, supporting dozens of full time employees and many more contractors including heavy equipment operators, engineers, hydrologists, scientists, graphic designers, geographic information system operators, water quality monitors, and more.

The effort to restore the Deschutes is voluntary. It is not mandated by any agency. Over the past 10 years this effort has brought together people from across the basin: environmentalists and ranchers, irrigators and fly fishers, paddlers and landowners. Scot Lawrence the Project Manager for Hydro Licensing at Portland General Electric captured the spirit of this exceptional coming together toward a common goal when he wrote:

“One other thing of note is the passion that licensee, local, state and federal, and NGO staffs have toward this project. Many of these projects are extremely complex and to see the cooperation among these people, in order to reintroduce these fish, improve their habitat and still keep the lights turned on in Portland and elsewhere is truly remarkable.”

Methodology

This report is intended to provide a rough estimate in millions of dollars of the amount of funding being devoted to restoration projects in the Deschutes Basin from 1995 through 2020. Individuals in organizations doing extensive work in the basin were contacted and asked to provide a gross estimate of the amount their organization has spent in the past (1995 to 2008) and to provide a ballpark estimate of the amount they are projecting to spend in the future (2009-2020). It was acknowledged that this “best estimate” was a quick and fairly accurate way to tally the investments in the region without an expensive and time-consuming audit. It must be noted that future funding, while anticipated and planned for, is not secured. The amounts are not adjusted for inflation.

The Oregon Watershed Restoration Inventory (OWRI), a voluntary reporting database for completed on-the-ground restoration projects, was also reviewed and organizations reporting projects totaling over one million dollars were removed from the OWRI database and placed individually in Table 1: Estimate of Investments for Restoration In the Deschutes Basin 1995-2020 in Millions. The remaining projects (those under one million dollars) in the OWRI were totaled and shown as a group under “Misc. projects” in Table 1. See Appendix C for a listing of these OWRI projects. If organizations do not report to the OWRI, they could have been missed and it is expected that many hundreds of thousands, perhaps millions of dollars are not accounted for in this report.

The area covered by this report is primarily the upper Deschutes Basin above the Pelton and Round dams west of Madras. However, because of the difficulty in separating out funding for multiple projects, there are some projects included that occur downstream of the dams and in the lower basin. Types of projects accounted for in the report include in-stream flow restoration, piping and lining of canals, the fish tower being constructed at the Round Butte Dam, riparian and in-stream habitat restoration, fish screens on canals, culvert removal, educational projects, monitoring, land acquisitions and more.

It must be acknowledged that without willing funding organizations these projects would not be accomplished. Fortunately there are numerous funders and many of them are recognized in Appendix B.

Funding restoration projects involves a complex sharing of funds, which makes it difficult to accurately track the dollars. Sometimes organizations are the project managers and the project funder, sometimes an organization is a pass through for funding to others and, nearly always, there are multiple funders and partners for projects. All this makes it challenging to track the funding. Every attempt was made to avoid double counting dollars.

Findings

It is estimated that more than \$250 million dollars are being, or will be spent on projects between 1995 and 2020 on restoration projects in the Deschutes Basin. Approximately \$108 million dollars are being spent to ensure fish passage around the Round Butte dam. Another \$90 million is or will be spent on increasing the in-stream flows in the Deschutes. The remaining \$56 million is allocated to a wide-variety of in-stream and riparian restoration projects. The table on the following page shows a breakdown of the dollars.

Estimate of Restoration Dollars - 1995-2020 (in Millions)

Lead Organization or Project Type	Total Est. Cost	Project Description and Source
Portland General Electric (PGE) & The Confederated Tribes of Warm Springs	108	Fish passage tower. http://www.portlandgeneral.com/community_and_env/hydropower_and_fish/deschutes/
Pelton Round Butte Fund	37	Restoration projects, fish passage activities, studies, monitoring & more. See Appendix A for details. http://www.portlandgeneral.com/community_and_env/hydropower_and_fish/deschutes/prb_fund.asp
Portland General Electric	1	Purchase of Trout Creek Ranch for spawning habitat. Source: http://findarticles.com/p/articles/mi_moEIN/is_1999_Sept_2/ai_55641639
OWEB	0	In this table OWEB dollars are counted under the organization implementing the project. OWEB funding is significant in the basin: 4.4 million for projects in 1995-2007; 4 million for 2008 SIP & 4 million per biennium estimated for the next 2 biennium for a total of \$16 million) Source: Rick Craiger
Misc. Projects from Oregon Watershed Resource Inventory (OWRI) under \$1m each	2.5	Wide variety of watershed enhancement projects , instream habitat, fencing, culvert removal, irrigation piping etc. under 1 million dollars. [See Appendix C for details. Source: http://www.oregonexplorer.info/OWRI/OWRI.aspx?Res=17100&View=full#TheOWRIDatabaseandGISdata and Bobbie Rigger.
Deschutes Land Trust	8.7	Past and future projects \$5.2 million, landowner donations \$3.5 million. Source: DLT
Instream Flow Projects (see Appendix E)	90	A variety of projects have or will result in increases to in-stream flow including canal lining, piping and rerouting. Funding comes from a variety of state, federal and private sources including DRC, NFWF, OWEB, BOR and the irrigation districts. Funds have been generally allocated as follows for 1995-2020: \$18m Swalley; \$39m Tumalo; \$31m COID; \$2m Three Sisters. Estimate from OWRI
Oregon Department of Fish & Wildlife	1	Numerous projects including in-stream habitat enhancement, riparian vegetation planting, fish passage improvements. Source: OWRI Database
Wasco Soil Water Conservation District	1	Numerous projects including irrigation systems for improved water conservation, Source: OWRI Database
Crooked River Watershed Council	1.3	Numerous projects including in-stream habitat enhancement, riparian tree planting, bank sloping. Source: OWRI Database
Upper Deschutes Watershed Council (UDWC)	7	Variety of watershed restoration projects, including monitoring, assessment, education and habitat restoration. Funding provided by more than 20 different funders. Source: UDWC
Deschutes Mitigation & Enhancement Fund	1.6	\$60,000 a year ave. from 1995*-present; \$70,000 annual average thru 2020. *program started in 1989. Source: COID
TOTAL	259.1	

There are numerous organizations funding restoration projects in the basin. They include Portland General Electric whose service area covers more than 4,000 square miles. PGE serves more than 1.5 million people in Oregon primarily in the Portland area. For a map of PGE's service area, see Appendix D. The Confederated Tribes of Warm Springs jointly owns and manages the Pelton Round Butte Hydroelectric Project with PGE and has made significant investments in the basin.

The Oregon Watershed Enhancement Board (OWEB) invests significantly in the basin as well. OWEB administers a grant program funded primarily from the Oregon Lottery, as a result of a citizen initiative in 1998. The grant program supports voluntary efforts by Oregonians seeking to create and maintain healthy watersheds. Other important funders of restoration in the basin include the Deschutes River Conservancy which finances large projects, the irrigation districts, and a variety of private foundations. See Appendix B for a more complete list.

Conclusion

This report provides a rough estimate of the dollars being allocated toward restoration projects in the Deschutes Basin. It is meant to demonstrate that there is a significant investment being made in the basin from a broad and diverse group of funding sources - both public and private. Much more work could be done to determine more precisely the amount being invested but this report provides a conservative estimate.

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- Lee, Jan. General Manager. Swalley Irrigation District
- McCaulou, Scott. Program Director, Deschutes River Conservancy
- McDaniel, Elmer. Manager, Tumalo Irrigation District
- Nye, Brad, Deschutes Land Trust
- Richter, Joanne. Watershed Professional Network
- Rife, Daniel. US Forest Service
- Riggers, Bobbi. Oregon Watershed Enhancement Board, Oregon Watershed Restoration Inventory Coordinator

References

- Deschutes River Conservancy: www.deschutesriver.org
- Deschutes Subbasin Plan, Inventory of Existing Activity: www.nwcouncil.org/fw/subbasinplanning/deschutes/plan/
- Information on restoring fish passage on the Deschutes: www.deschutespassage.com
- Portland General Electric: www.portlandgeneral.com
- Oregon Watershed Enhancement Board Strategic Investment Partners (SIP) 2008.
- Oregon Watershed Enhancement Board website: www.oweb.state.or.us/OWEB/index.shtml
- Oregon Watershed Restoration Inventory: www.oregonexplorer.info/OWRI/OWRI.aspx?Res=17100
- Upper Deschutes Watershed Council: www.restorethedeschutes.org

Appendix A

**Breakdown of Restoration Dollars from
PGE & The Confederated Tribes of Warm Springs
(excluding Fish Tower)**

Total: \$37 million

Project	Estimated Amounts	Description
Pelton Fund	21 million	Pelton Fund for water rights and habitat improvements where salmon and steelhead will migrate, spawn and rear through the year 2020.
Fish passage activities	5 million	Fish passage activities including construction of new fish passage facilities or upgrades to existing fish passage facilities. Examples of fish passage facilities are locations where juvenile migrating fish will be released into the Deschutes to make their way to the ocean, and capture/release facilities upon their return as adults. Initially, juveniles and adults will be captured and trucked around the Round Butte dam.
Large wood management	2 million	Large wood management is a project to collect large wood that enters Lake Billy Chinook and place it to provide rearing habitat and protection for small fish.
Gravel Study	2 million	Monitor the movement of spawning-size gravel for a minimum of 5 years. Included in the study is placement of fresh gravel in three selected locations to monitor whether it moves and whether salmonids use it for spawning.
Reconstruction of Trout Creek	1 million	Reconstruction of Trout Creek to emulate the historic bends and turns, control and monitor invasive grasses and weeds, and replant native vegetation to provide more suitable rearing habitat for young steelhead, rainbow trout and other native fish species. This is one of a number of similar projects taking place in the Trout Creek basin.
Monitoring of fish & water quality	6 million	Cost is approximately \$500,000 a year – estimate is for 10 years, plus another 1 million for capital costs for a new lab and office to conduct the work.

Source: personal communication with Scot Lawrence and www.deschutespassages.com.

Appendix B

Organizations Involved in Restoring the Deschutes Basin

A myriad of agencies and organizations support conservation projects throughout the basin by funding and/or implementing projects. Below is a list of many of them.

Agencies

- Bonneville Power Administration
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Confederated Tribes of Warm Springs
- National Fish & Wildlife Foundation
- National Marine Fisheries Service
- Northwest Power and Conservation Council
- Oregon Department of Fish & Wildlife
- Oregon Dept of Environmental Quality
- Oregon Watershed Enhancement Board
- US Bureau of Reclamation
- US Fish and Wildlife Service
- US Forest Service

Local Government & Special Districts

- Arnold Irrigation District
- Avion Water Company
- Bend Metro Parks and Recreation District
- Central Oregon Irrigation District
- City of Bend
- City of LaPine
- City of Madras
- City of Prineville
- City of Redmond
- City of Sisters
- Columbia Basin Water Transactions Program
- Crook County
- Crook County Irrigation District #1
- Deschutes County
- Jefferson County
- Jefferson County Soil & Water Conservation District
- LaPine Cooperative Water Association
- North Unit Irrigation District
- Ochoco Irrigation District
- Swalley Irrigation District
- Three Sisters Irrigation District
- Wy'East RC&D
- Tumalo Irrigation District

Non Profit Organizations

- Climate Trust of Oregon
- Crooked River Watershed Council
- Deschutes Land Trust
- Deschutes River Conservancy
- Friends of the Metolius
- National Forest Foundation
- Native Fish Society
- Oregon Trout
- Sunriver Owners Association
- The Nature Conservancy
- The Wetlands Conservancy
- Trout Unlimited
- Trust for Public Land
- Trust for Public Lands
- Upper Deschutes River Coalition
- Upper Deschutes Watershed Council
- WaterWatch of Oregon
- Wolftree

Foundations, Sponsors, Business Supporters

- Bella Vista Foundation
- Bob Thomas Chevrolet
- Bonneville Education Foundation
- Brooks Resources
- Brooks Resources North Rim Development Fund
- Deschutes County
- Jubitz Family Foundation
- Keen Footware, LLC
- Lee Romney Foundation, Inc.
- Meyer Memorial Trust
- National Fish and Wildlife Foundation
- Oregon Community Foundation
- Pelton Round Butte Fund
- Pronghorn Community Foundation
- REI Inc.
- Sunriver Anglers
- The Bend Foundation

Appendix C

About the Oregon Watershed Restoration Inventory Database

The Oregon Watershed Restoration Inventory (OWRI) database contains information about completed restoration projects funded by OWEB grants, and also tracks the voluntary actions of private citizens and landowners, working in partnership with federal, state, and local groups to improve aquatic habitat and water quality conditions. Information provided to the OWRI has been used to report on Oregon Plan accomplishments, support effectiveness monitoring of restoration activities, and support watershed assessments and future restoration project planning and prioritization. Retrieved from: <http://www.oregon.gov/OWEB/MONITOR/OWRI.shtml>

Summary of Projects reported to the Oregon Watershed Restoration Inventory Database for The Deschutes Basin 1995- 2007

Year	Total Cost	Number of Projects	Number of Projects w/OWEB funding	Amount of OWEB funding
1995	\$42,009	4	0	\$0
1996	\$63,581	5	0	\$0
1997	\$401,934	10	1	\$0
1998	\$467,667	11	0	\$0
1999	\$966,925	11	3	\$78,124
2000	\$451,573	10	3	\$137,442
2001	\$868,840	29	21	\$180,260
2002	\$3,793,748	27	22	\$783,140
2003	\$2,683,330	42	38	\$620,338
2004	\$1,860,773	29	28	\$512,392
2005	\$1,369,613	30	28	\$497,890
2006	\$3,090,631	38	36	\$717,852
2007	\$1,901,700	25	25	\$840,228
Total	\$17,962,324	271	205	\$4,367,666

Based on Completed Projects Reported to the Oregon Watershed Restoration Inventory Database. Prepared on 10/13/08 by Bobbi Riggers, Oregon Watershed Restoration Inventory Coordinator.

Project List from OWRI under One Million Dollars.

Restoration projects from conducted in the Deschutes Basin and listed in the OWRI are shown below sorted by organization then by year for the years 1995-2005. Organizations with projects totaling more than one million dollars were removed from the project list below and captured individually in Table 1 of this report. Retrieved from:

<http://www.oregonexplorer.info/OWRI/OWRI.aspx?Res=17100&View=full#TheOWRIDatabaseandGISdata>

TOTAL: \$2,461,995						
Project Number	Stream Name	Year	Organization	Project Name	Total Cost	Project Description
20020864		2002	Bedortha Ranches, Inc.	Little Camp Creek Spring Improvement	\$10,717.00	off-channel livestock watering
	992 Mill Cr, trib of	1996	Central Oregon Small Woodlands Association	Fencing Project	\$1,100.00	riparian fencing
	1201 Willow Cr	1997	Central Oregon Small Woodlands Association	1996-97 Conservation Project	\$25,700.00	instream habitat enhancement: weirs, bank stabilization; riparian tree planting, riparian fencing; peak flow passage improvements
	993 Sanford Cr, trib of	1997	Central Oregon Small Woodlands Association		\$34.00	legacy road improvements
	980013 Sanford Cr	1997	Central Oregon Small Woodlands Association		\$172.00	erosion control: slash placement
20010957	Newsome Cr	2000	Crook County Road Department	Newsome Creek Rd	\$3,200.00	fish passage improvements: 3 culverts with weirs installed below outlet
20010958	South Fork Crooked R, trib of	2000	Crook County Road Department	Price Twelve Mile	\$1,637.00	fish passage improvements: 1 culvert with weirs installed below outlet
20010956	Bear Cr	2001	Crook County Road Department	Kloochman Creek Rd	\$133.00	fish passage improvements: 1 culvert with weirs installed below outlet
20001144	Ochoco Cr	2000	Crook SWCD	Ochoco Creek Streambank Restoration Project	\$104,592.00	instream habitat enhancement: deflectors, natural boulder placement; riparian tree planting, riparian fencing
20020855	Pine Cr	2002	Crook SWCD	Kastor - Pine Creek	\$21,013.00	upland erosion control
20020854	Bear Cr	2002	Crook SWCD	Two Dog Ranch - Vernon Bowers	\$16,681.00	off-channel livestock watering, other grazing management, upland erosion control

20020856 Ochoco Cr	2002 Crook SWCD	Brian Barney - Ochoco Creek	\$11,822.00 natural boulder placement; riparian fencing
20020868 Eagle Cr	2002 Crook SWCD	Jameson Juniper Control	\$2,300.00 upland vegetation management: juniper removal
20040906 Pine Cr	2003 Crook SWCD	Pine Creek Project	\$40,686.00
20030718 South Fork Beaver Cr	2003 Crook SWCD	Beaver Cr #1	\$14,071.00 instream habitat enhancement: weirs; gss (410 pc)
20030717 Freeman Cr	2003 Crook SWCD	Freeman Cr 18-02-006	\$14,736.00 instream habitat enhancement: weirs; gss (410 pc)
20030763 Japanese Cr	2003 Crook SWCD	Japanese Cr Solar Project	\$12,987.00
20030762	2003 Crook SWCD	Rocky Butte Juniper Project	\$1,658.00
20040656 Long Hollow Cr	2004 Crook SWCD	Jameson/McGrath Restoration Project	\$17,524.00
20040655 Freeman Cr	2004 Crook SWCD	Freeman Creek Restoration project	\$14,552.00
20040657 Clover Cr	2004 Crook SWCD	Weaver Cattle Co. Solar Project	\$13,839.00
20040658 Wickiup Cr	2004 Crook SWCD	Wickiup Creek Solar Project	\$7,956.00
20040659 Long Hollow Cr	2004 Crook SWCD	Long Hollow Cr	\$5,244.00
20050686 Shotgun Cr	2005 Crook SWCD	Shotgun Creek Restoration Project	\$44,931.00
20050693 McKay Cr	2005 Crook SWCD	McKay Creek Irrigation Project	\$10,550.00
20040772 Crooked R	2003 Crooked River Weed Management Area	Upper Crooked River Weed Management Project	\$185,906.00
20010983 Deschutes R	2001 Deschutes SWCD		\$72,000.00 noxious weed control
20020571 Squaw Cr	2002 Deschutes SWCD	Fryrear Pipeline Conservation Project	\$548,233.00 instream water rights transfer; irrigation systems for improved water conservation
20020572 Little Deschutes R	2002 Deschutes SWCD	Vandevent Ranch Streamside Recovery	\$11,444.00 instream habitat enhancement: anchored structures
20040915 Deschutes R	2003 Deschutes SWCD	Native Species Restoration Project	\$10,029.00

20030728 Deschutes R	2003 Deschutes SWCD	The John Henry Project	\$11,123.00	
20040660 Trout Cr	2004 Deschutes SWCD	Trout Creek Conservation and Fuels Reduction Project	\$13,000.00	
20050691 Deschutes R	2005 Deschutes SWCD	Irrigation Efficiency for Native Plant Nursery	\$23,108.00	
20050689	2005 Deschutes SWCD	Clark Irrigation Conservation Piping	\$17,912.00	
20050692 Deschutes R	2005 Deschutes SWCD	Marshall water Conservation Project	\$9,843.00	
995 Lawson Cr	1995 Dixie Meadows Co.	Access & Habitat Program #94044	\$28,700.00	riparian tree planting, riparian fencing; off-channel livestock watering, upland vegetation management
994 Lawson Cr	1997 Dixie Meadows Co.	Access & Habitat Program #97006	\$8,225.00	riparian tree planting, riparian fencing; off-channel livestock watering; legacy road improvements
20010980 Trout Cr	1998 Jefferson SWCD	Trout Creek Watershed Improvement Project	\$64,705.00	fish passage improvements: 3 push-up dams removed, replaced with infiltration galleries
20001189 Trout Cr	1999 Jefferson SWCD	98-204	\$98,802.00	boulder placement; grass seeding; fish passage improvements: 3 push-up dams removed and replaced with infiltration galleries
20020811 Trout Cr	2002 Jefferson SWCD	Mid-Trout Creek Gravel Push-Up Dam Removal Project	\$115,681.00	fish passage improvements: 6 push-up dams removed, replaced with infiltration galleries
20010981 Trout Cr	2002 Jefferson SWCD	Rohde Irrigation Project	\$124,400.00	fish passage improvements: 1 push-up dam removed, replaced with infiltration gallery
20030768 Foley Cr	2003 Jefferson SWCD	Foley Cr Riparian Restoration	\$56,880.00	riparian fencing; off-channel livestock watering
20030769 Willow Cr	2003 Jefferson SWCD	Fox Hollow Ranch Riparian Project	\$25,079.00	
20030919 Mud Springs	2003 Jefferson SWCD	Adams Irrigation Delivery Improvement	\$13,165.00	
20030766 Metolius Arm of Lake Billy Chinook	2003 Jefferson SWCD	Three River Reseeding	\$18,055.00	

20030767	Metolius Arm of Lake Billy Chinook	2003 Jefferson SWCD	Three River Reseeding	\$7,160.00
20030770	Frog Springs	2003 Jefferson SWCD	Irrigation Pumping Facility Repair	\$7,067.00
20040687	Willow Cr	2004 Jefferson SWCD	Fox Hollow Ranch Tailwater Pond	\$13,416.00
20050690	Deschutes R	2005 Jefferson SWCD	Maximum Irrigation Efficiency	\$26,933.00
20050683	Trout Cr	2005 Jefferson SWCD	Marshall Water Conservation Project	\$30,975.00
20050687		2005 Jefferson SWCD	Irrigation Water Management	\$5,668.00
545	^Willow Cr & Higgins Cr	1995 Ochoco Lumber Company	Willow Ck Coord Resource Plan	\$3,500.00 bank stabilization
544	Allen Cr	1995 Ochoco Lumber Company	Prt of Pine Prods Salvage Sale	\$300.00 instream large wood placement
20010959	Lawson Cr	2001 ODF	Crooked River Road Mitigation-Breese Project	\$613.00 road vacated, road relocated
991045	Squaw Cr	1998 Oregon Water Trust	Squaw Creek Instream Water Right	\$54,343.00 instream water rights transfers/leases
991046	Squaw Cr	1999 Oregon Water Trust	Lower Squaw Creek Instream Water Right	\$17,211.00 instream water rights transfers/leases
20020575	Wickiup Cr	2002 Private Ron/Mary Gillen	Wickiup Restoration	\$25,147.00 wetland improvement
20030926		2003 Sherman County Weed District	Sherman Co Rush Skeletonweed Control Project	\$14,756.00
20020526		2002 Sherman SWCD	Fulton & Gordon Canyons Conservation Work	\$55,603.00 WASCOBs, Terraces
20020784		2002 Sherman SWCD	Jim Belshe - Conservation Work	\$3,100.00 upland erosion control
20030923	Macks Canyon	2003 Sherman SWCD	Macks Canyon WS Restoration Phase 2	\$34,664.00
20030922	Macks Canyon	2003 Sherman SWCD	Macks Canyon Restoration Project	\$8,673.00
20030924	Buck Hollow Cr	2003 Sherman SWCD	Buck Hollow Ranch Fire Rehab	\$2,364.00
20040724	Elder Cr, Area of	2004 Sherman SWCD	Elder Canyon Fire Rehab Project	\$4,024.00
20030960		2004 Sherman SWCD	McDermid WASCOBs	\$3,671.00
20040725	Deschutes, trib of	2004 Sherman SWCD	Olsen upland structure project	\$3,242.00
20040726	Macks Canyon, Area of	2004 Sherman SWCD	Sharp watering facility and terrace	\$3,245.00

20030921 Lost Cr	2002 The Nature Conservancy	Lost Cr Watershed Restoration	\$54,449.00
20001129 Tenmile Cr	2000 Trout Creek Watershed Council	Tenmile Cr Riparian Fencing/Off-Site Watering	\$57,521.00 upland pasture fencing
990906 Trout Cr	1999 Trout Creek Watershed Council, Jefferson SWCD	OWEB 98-203	\$58,900.00 instream habitat enhancement: anchored structures, bank stabilization
980009 ^Cadle, Wolf, Boardtree, Veazie, Crusher, Tamarack, Sheep, South Fork Wolf Crks	1998 U.S. Timberlands	Culvert Assessment Project and Other Activities	\$16,300.00 instream large wood placement; riparian fencing; livestock removal, livestock exclusion; road relocated; fish passage improvements: 3 culverts replaced
990806 Cadle Cr	1999 U.S. Timberlands		\$16,321.00 road closed
990805 South Fork Wolf Cr	1999 U.S. Timberlands		\$4,767.00 peak flow passage improvements, road vacated
990804 Dixie Cr	2000 U.S. Timberlands		\$10,530.00 riparian fencing; grazing management: deferred grazing
20001193 ^Deschutes R, Browns Cr, Paulina Cr	2000 USFS	Upper Deschutes Watershed Streambank Stabilization	\$33,178.00 riparian tree planting; wetland creation; road sidecast pulled back, road vacated
20040806 Little Deschutes R	2004 Vandeventer Ranch HOA, Inc	Vandeventer Ranch Streamside Recovery Phase II	\$11,079.00 instream habitat enhancement: anchored structures
990905 Willow Cr	1999 Willow Creek Watershed Council, Jefferson SWCD	OWEB 98-201	\$19,150.00 riparian fencing

Appendix E

The dollars for in-stream flow, in particular, are complicated by multiple funding sources. The Deschutes River Conservancy (DRC) works closely with irrigation districts to finance large-scale canal piping and lining projects. In order to avoid double counting dollars going toward in-stream flow restoration, estimates of spending were taken from the irrigation districts and compared with the estimate from the DRC in the tables below.

Deschutes River Conservancy Estimates

Lead Organization or Project Type	Total Est. Cost	Estimate Spent 1995 - 2008	Projected Est. 2009 - 2020	Project Description and Source
Deschutes River Conservancy (DRC)	80	20	60	Projects include instream flow, piping, water, wetland and riparian restoration. Anticipated \$5 million a year for 2009 thru 2020 for flow restoration. Source: DRC

Irrigation District Estimates

Lead Organization or Project Type	Total Est. Cost	Project Description and Source
Swalley Irrigation District	18	\$9m main canal piping, \$3m laterals, \$100k lining \$1.5m diversion, est. \$4m to be spent 2009-2020. Source: Swalley
Tumalo Irrigation District	39	\$14-16m Pipe Tumalo Feed Canal, \$16m pipe laterals, \$6m Bend Feed, \$1m Fish screen Source: TID
Central Oregon Irrigation District	31	Canal piping resulting in water in-stream. \$30 m is est. to be spend from 2009 – 2020. Source COID
Three Sisters Irrigation District	2	Source OWRI
Total	90	