

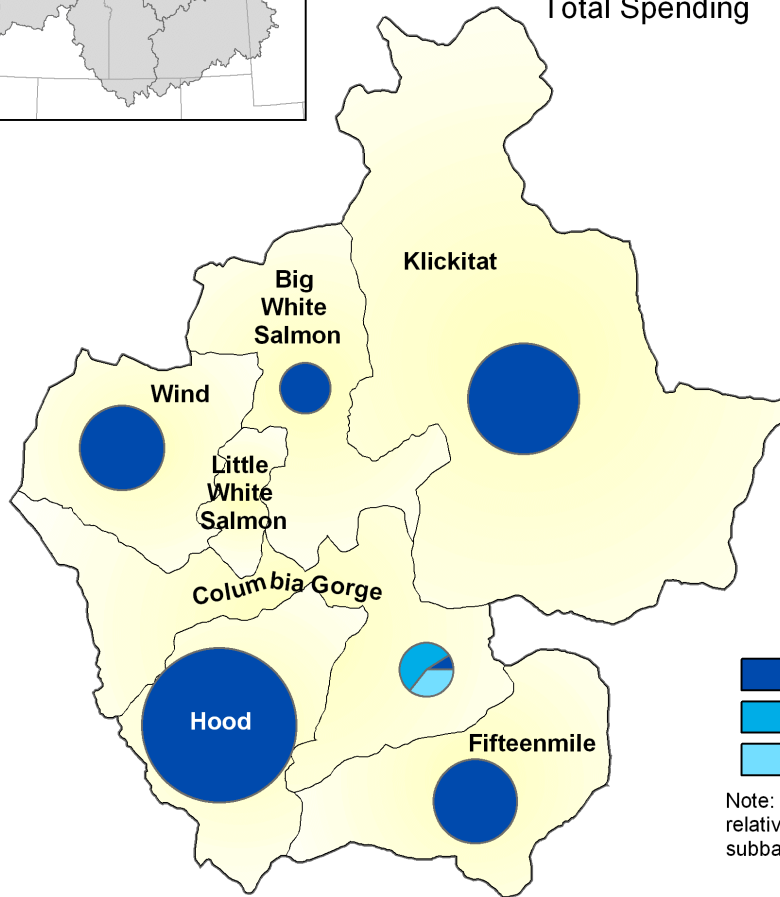
# Columbia Gorge Province

**Columbia Basin  
Fish and Wildlife Authority**



## Columbia Gorge Province BPA Spending, FY 2001-2003

FY 2001	\$2,599,669
FY 2002	\$7,054,200
FY 2003	\$6,703,459
<b>Total Spending</b>	<b>\$16,357,328</b>



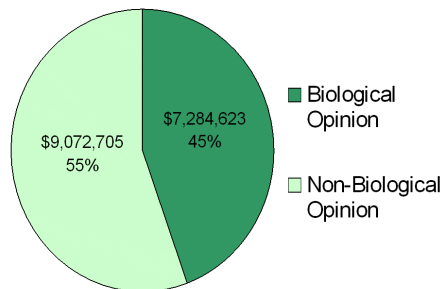
### Legend

- Anadromous (95%)
- Resident (3%)
- Wildlife (2%)

Note: Diameter of pie represents relative funding levels in each subbasin.

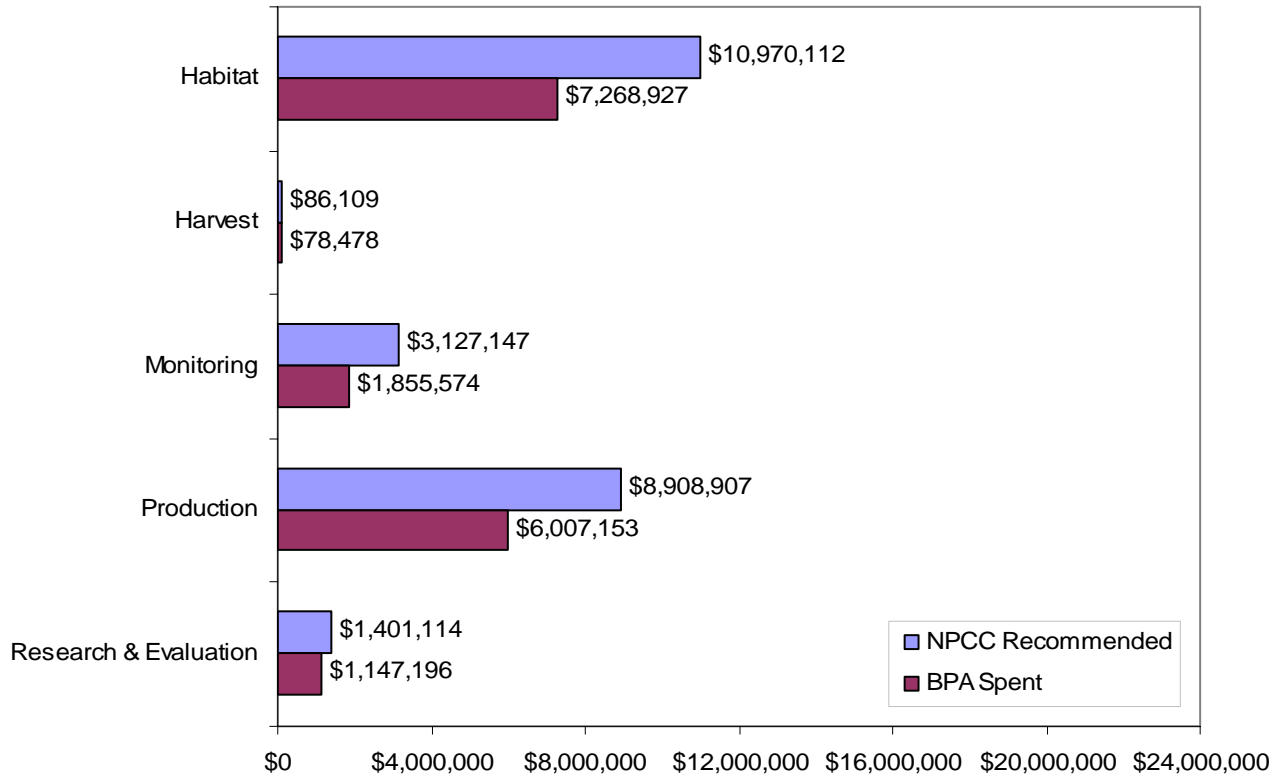
### Biological Opinion Funding, FY 2001-2003 NMFS & USFWS Designated Projects

	BiOp	Non BiOp
Big White Salmon	\$0	\$750,310
Columbia Gorge	\$432,544	\$425,218
Fifteenmile	\$651,172	\$1,415,496
Hood	\$3,363,634	\$3,607,062
Klickitat	\$741,164	\$2,874,619
Wind	\$2,096,109	\$0

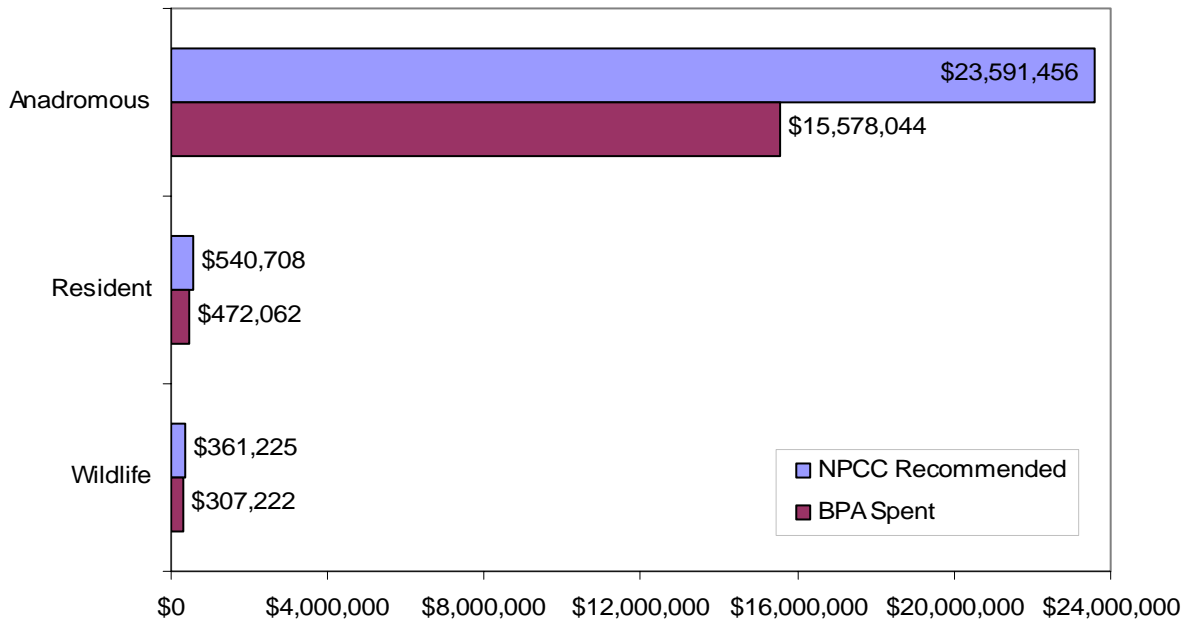


## Columbia Gorge Province FY 2001-2003 Spending Summaries

### NPCC Recommendations and BPA Spending by Project Category, FY01-03



### NPCC Recommendations and BPA Spending by Project Type, FY01-03



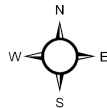
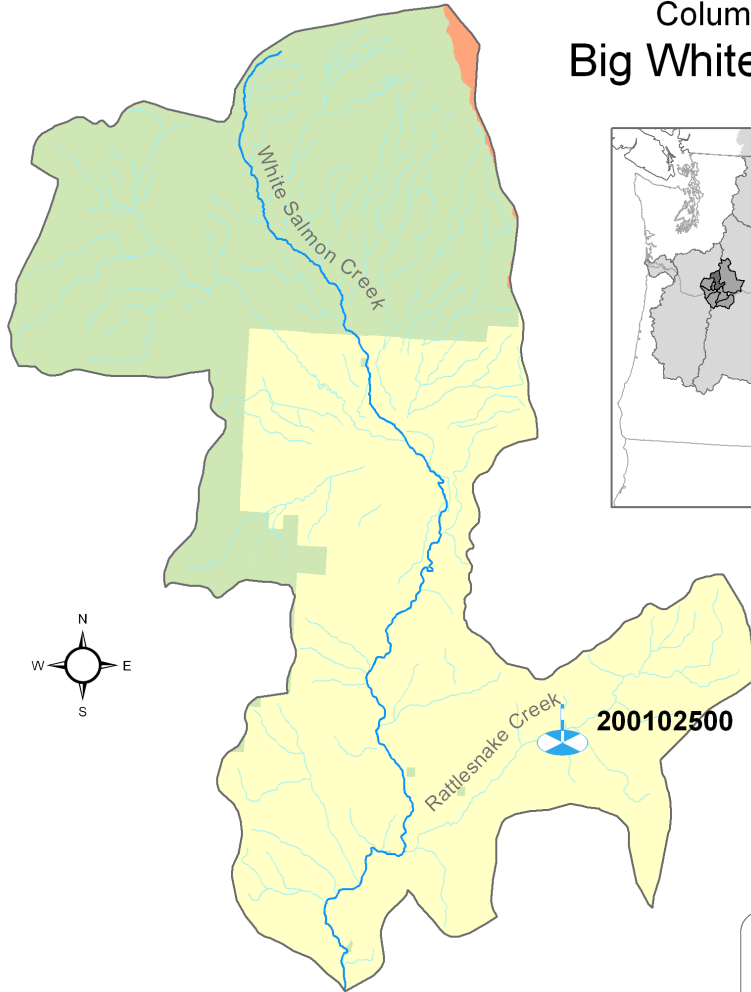
# Big White Salmon Subbasin



**Columbia Basin  
Fish and Wildlife Authority**

FY 2001-2003 NPCC Recommended and/or  
BPA Funded Fish & Wildlife Projects

## Columbia Gorge Province Big White Salmon Subbasin



0 3 6 12 Miles

Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
 Projection: UTM 1983, Zone 11  
 Produced by: Columbia Basin Fish & Wildlife Authority  
 Map Date: 5/20/04

**LEGEND**

Project Category		Location Accuracy	
	Coordination		Funded Province
	Data Management		Unfunded Province
	Habitat		Subbasin
	Harvest		Stream
	Mainstem Survival		Area
	Monitoring		Point
	Production		
	Research & Evaluation		

**Project Labels**

Biological Opinion    Non Biological Opinion

---

**Land Use/Ownership**

Federal	Tribal	State	Local	Private	Urban

## Projects in the Big White Salmon Subbasin

<i>Project ID</i>	<i>Project Title</i>				<i>Review Cycle</i>		<i>BiOp?</i>
<b>200102500</b>	<b>Assess current and potential salmonid production in Rattlesnake Creek associated with restoration efforts</b>				<b>Columbia Gorge</b>		<b>no</b>
<i>Rec 00-03</i>		\$227,951	\$255,921	\$252,884	Type	Category	Accuracy
<i>Spent 01-03</i>	--	\$48,233	\$446,639	\$255,438	Anadromous	Monitoring	stream

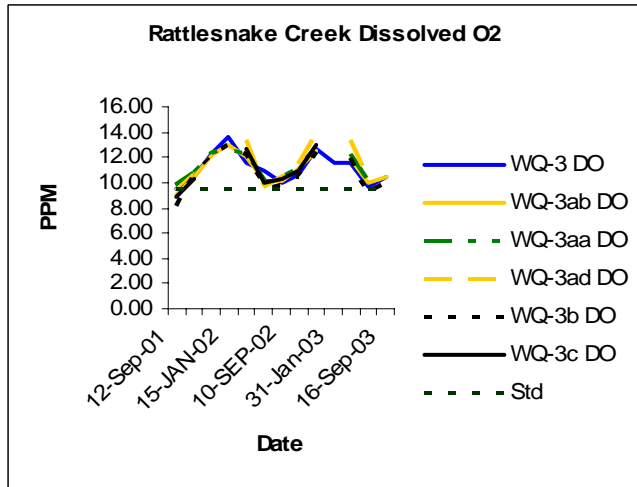
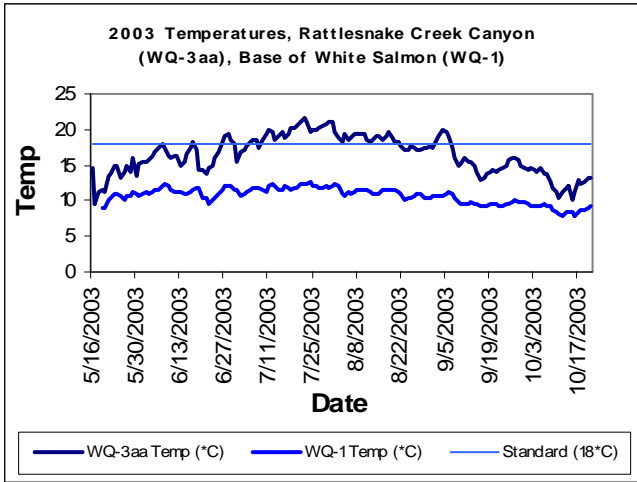
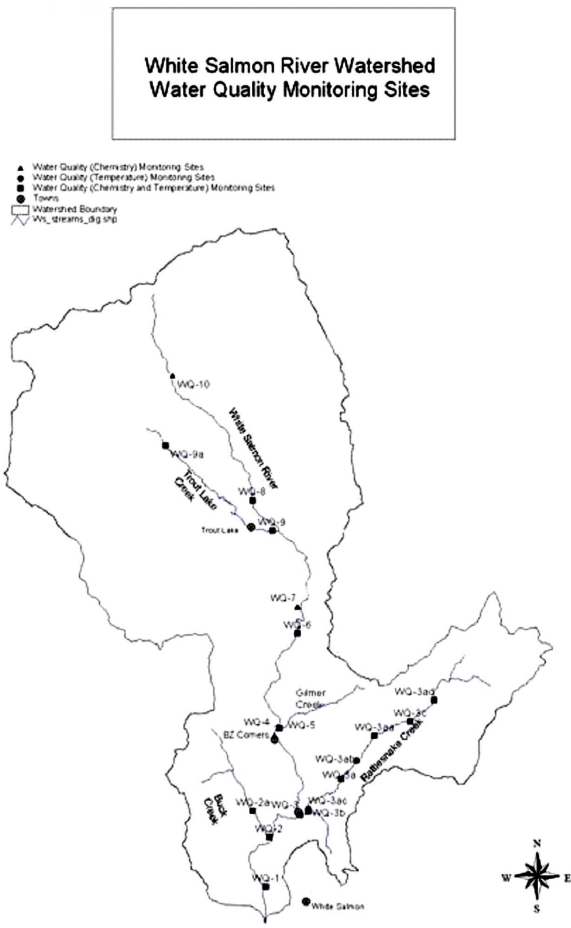
Projects in **bold** have preliminary results data included in this report.

**200102500 — Assess Current and Potential Salmonid Production in Rattlesnake Creek Associated with Restoration Efforts**

**2002 Project Objectives**

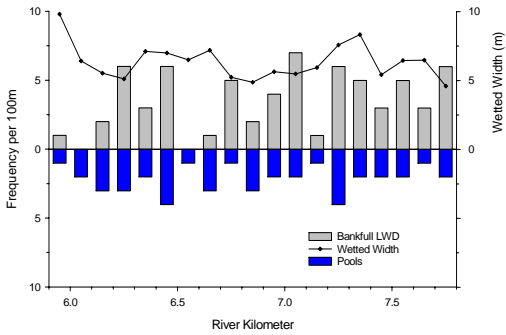
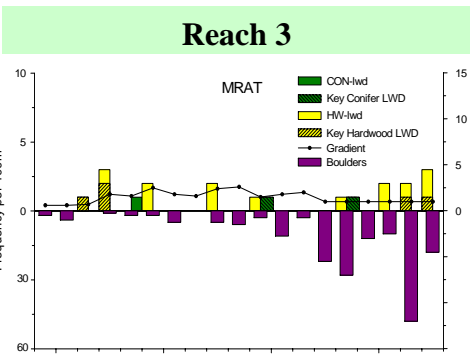
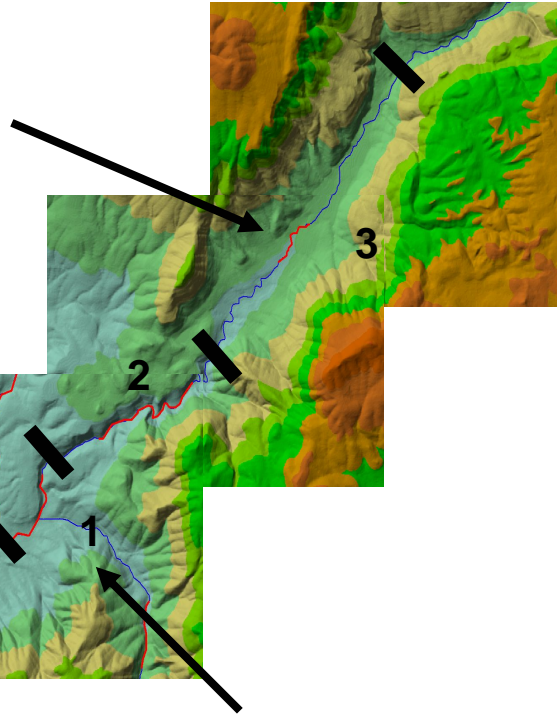
- Characterize stream and riparian habitat conditions in the Rattlesnake Creek drainage
- Determine the status of fish populations in the Rattlesnake Creek drainage

**Water Quality Monitoring - Preliminary Results**

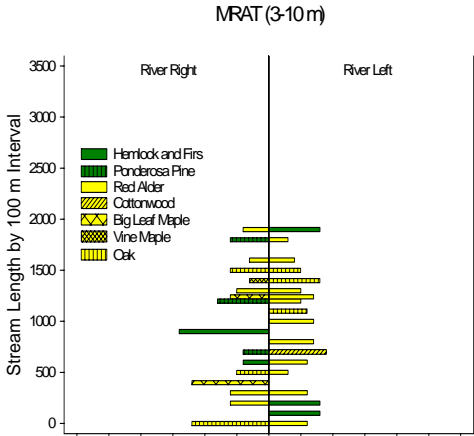


- Most of the White Salmon drainage remains below Washington water quality standards relative to temperature
- Rattlesnake Creek exceeds state water temperature standards during most summers
- Rattlesnake Creek remains above Washington state water quality standards for dissolved oxygen

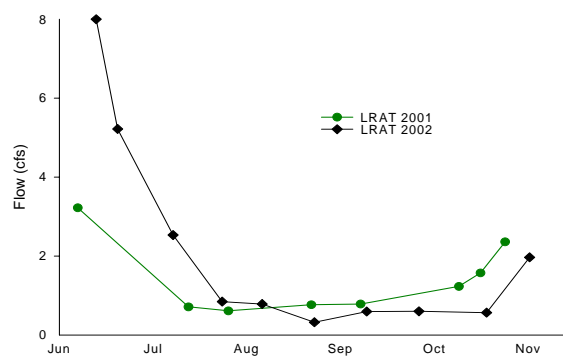
# Riparian Habitat Conditions - Preliminary Results



### Reach 3 Vegetation



### Reach 1 Stream Flows





**Riparian Habitat Conditions - Preliminary Results**

**Fish Presence/Absence**

Species	Location
Rainbow trout	1-4
Cutthroat trout	1
Brook trout	1
Longnose dace	1-4
Shorthead sculpin	1-4
Western brook lamprey	1



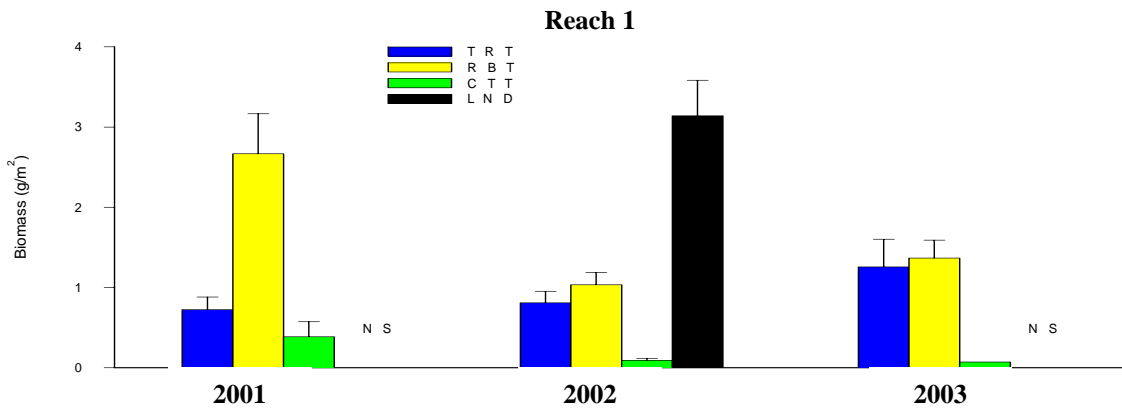
Photo: Courtesy U.S. Geological Survey

U.S. Geological Survey biologists collecting fish from the Rattlesnake Creek drainage.



Photo: Courtesy U.S. Geological Survey

A cutthroat trout collected by the U.S Geological Service while sampling the Rattlesnake Creek drainage.



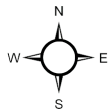
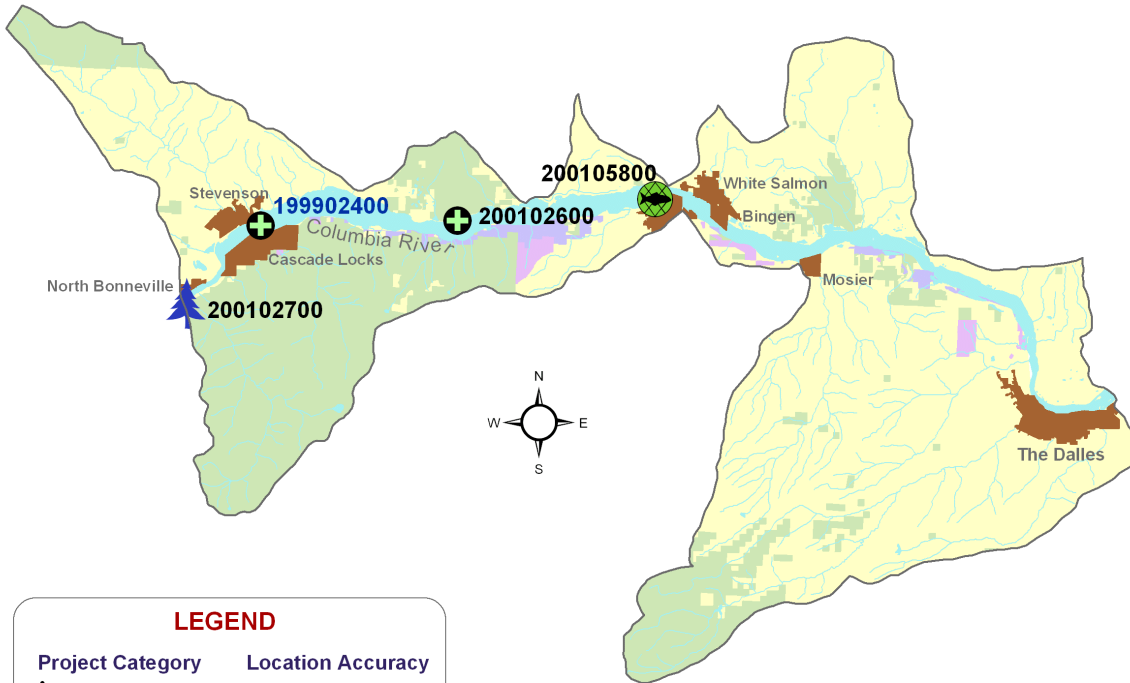
Biomass estimates for rainbow trout (RBT), cutthroat trout (CCT), brook trout (TRT), and longnose dace (LND) populations in the lower section of Rattlesnake Creek.

# Columbia Gorge Subbasin



FY 2001-2003 NPCC Recommended and/or BPA Funded Fish & Wildlife Projects

## Columbia Gorge Province Columbia Gorge Subbasin



**LEGEND**

<b>Project Category</b>	<b>Location Accuracy</b>																						
<ul style="list-style-type: none"> <li> Coordination</li> <li> Data Management</li> <li> Habitat</li> <li> Harvest</li> <li> Mainstem Survival</li> <li> Monitoring</li> <li> Production</li> <li> Research &amp; Evaluation</li> </ul>	<table border="0"> <tr> <td>Funded</td> <td>Unfunded</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Province</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Subbasin</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Stream</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Area</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Point</td> <td></td> </tr> </table>	Funded	Unfunded			Province				Subbasin				Stream				Area				Point	
Funded	Unfunded																						
Province																							
Subbasin																							
Stream																							
Area																							
Point																							

**Project Labels**

Biological Opinion      Non Biological Opinion

---

**Land Use/Ownership**

Federal	Tribal	State	Local	Private	Urban



Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
 Projection: UTM 1983, Zone 11  
 Produced by: Columbia Basin Fish & Wildlife Authority  
 Map Date: 5/20/04



## Projects in the Columbia Gorge Subbasin

<i>Project ID</i>	<i>Project Title</i>				<i>Review Cycle</i>		<i>BiOp?</i>
<b>199902400</b>	<b>Bull trout population assessment in the Columbia River Gorge, WA</b>				<b>Columbia Gorge</b>		<b>yes</b>
	<i>Rec 00-03</i>	\$155,938	\$186,000	\$159,000	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$99,701	\$205,281	\$127,562	Resident	Research & Evaluation province
<b>200102600</b>	<b>Evaluate Status of Coastal Cutthroat Trout in the Columbia River Basin above Bonneville Dam</b>				<b>Columbia Gorge</b>		<b>no</b>
	<i>Rec 00-03</i>	\$39,770	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$33,551	\$ 5,967	Resident	Research & Evaluation province
<b>200102700</b>	<b>Western Pond Turtle Recovery - Columbia River Gorge</b>				<b>Columbia Gorge</b>		<b>no</b>
	<i>Rec 00-03</i>	\$167,025	\$104,600	\$89,600	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 8,972	\$143,448	\$154,802	Wildlife	Habitat area
<b>200105800</b>	<b>Locate, Mark, and Removal of Lost "Ghost" Fishing Nets in Selected Columbia River Reservoirs: A Feasibility Study</b>				<b>FY01 Action Plan</b>		<b>no</b>
	<i>Rec 00-03</i>	\$86,109	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$27,265	\$51,213	Anadromous	Harvest subbasin

Projects in **bold** have preliminary results data included in this report.

**199902400 — Bull Trout Assessments in the Columbia River Gorge**

**2002 Project Objectives**

- Investigate presence/absence of bull trout in Columbia River Gorge tributaries
- Determine limiting factors for bull trout production in surveyed waters

**Bull Trout Presence/Absence Assessment - Preliminary Results**

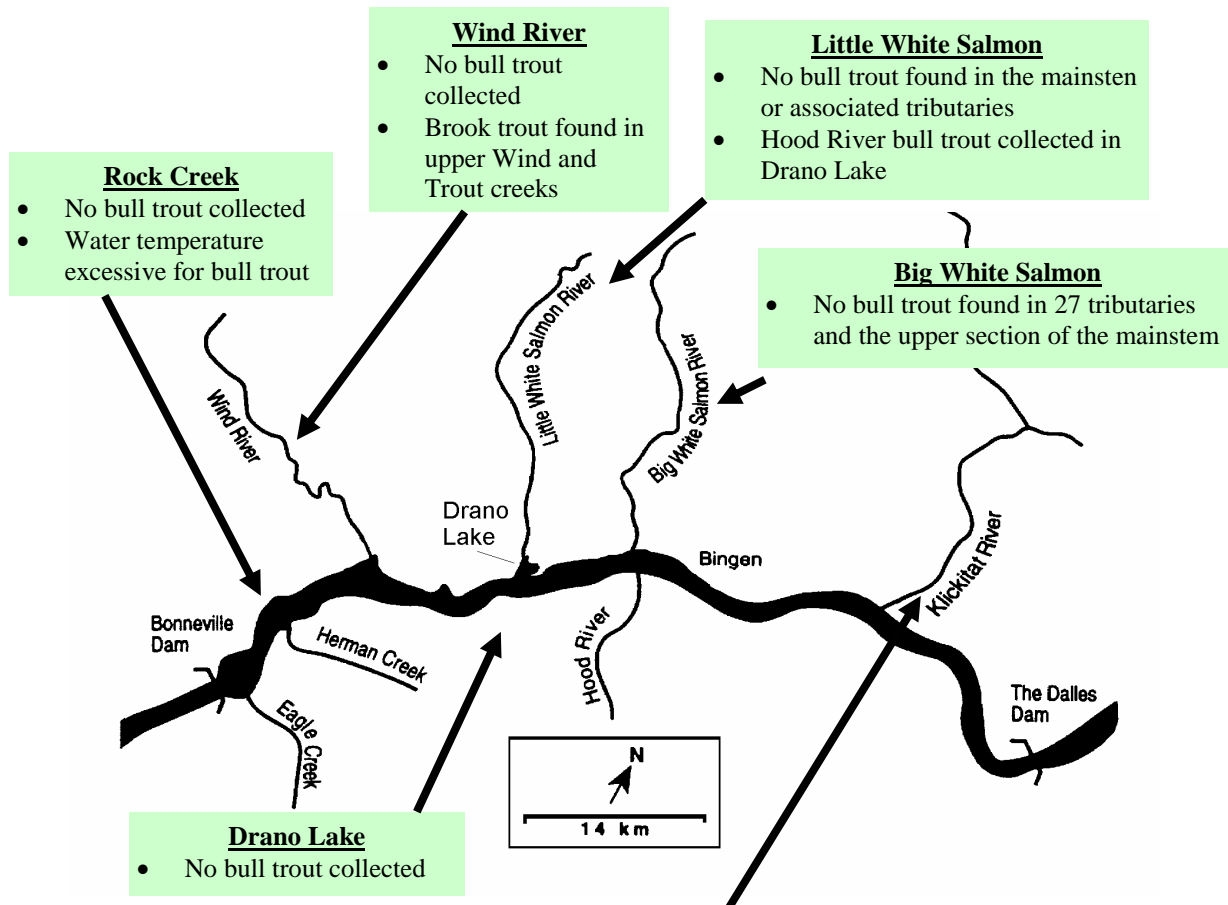


Photo: Courtesy Washington Department of Fish and Wildlife  
 Bull trout collected in the Columbia River Gorge.

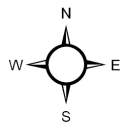
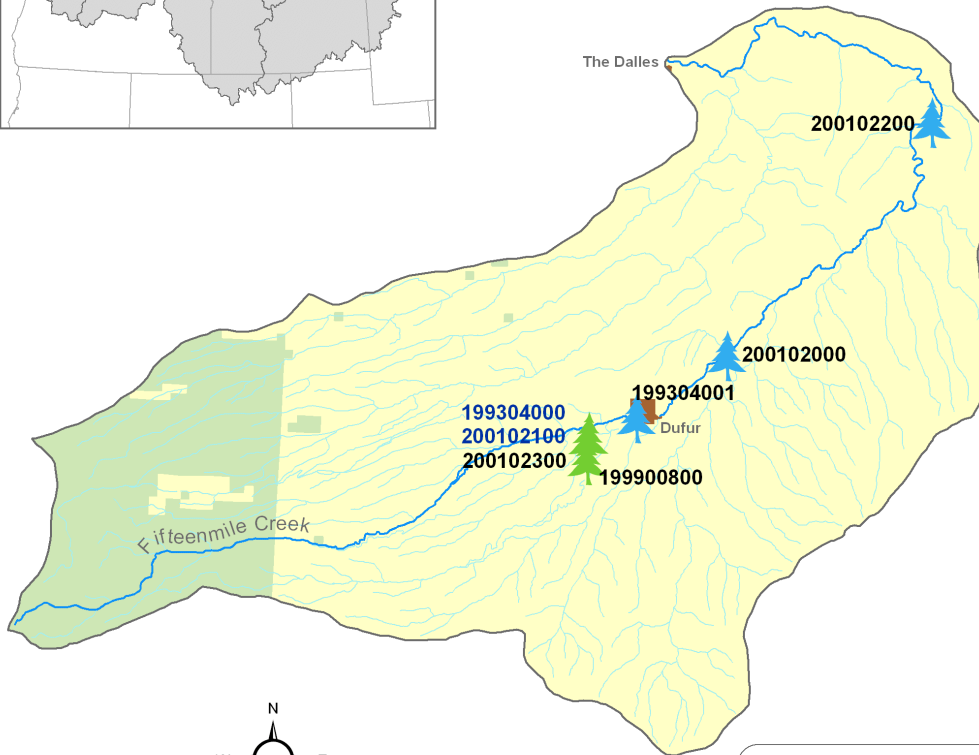
# Fifteenmile Subbasin



FY 2001-2003 NPCC Recommended and/or BPA Funded Fish & Wildlife Projects



## Columbia Gorge Province Fifteenmile Subbasin



0 4 8 16 Miles

Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
 Projection: UTM 1983, Zone 11  
 Produced by: Columbia Basin Fish & Wildlife Authority  
 Map Date: 5/20/04

**LEGEND**

Project Category	Location Accuracy	
	Funded	Unfunded
Coordination	Province	Subbasin
Data Management	Stream	Area
Habitat	Area	Point
Harvest	Point	Point
Mainstem Survival	Point	Point
Monitoring	Point	Point
Production	Point	Point
Research & Evaluation	Point	Point

**Project Labels**

Biological Opinion      Non Biological Opinion

**Land Use/Ownership**

Federal	Tribal	State	Local	Private	Urban
---------	--------	-------	-------	---------	-------

## Projects in the Fifteenmile Subbasin

<i>Project ID</i>	<i>Project Title</i>				<i>Review Cycle</i>		<i>BiOp?</i>	
<b>199304000</b>	<b>Fifteenmile Creek Habitat Restoration Project (Request For Multi-Year Funding)</b>				<b>Columbia Gorge</b>		<b>yes</b>	
	<i>Rec 00-03</i>	\$220,040	\$223,371	\$226,702	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$71,123	\$186,814	\$228,884	Anadromous	Habitat	subbasin
199304001	15-Mile Creek Steelhead Smolt Production				Columbia Gorge		no	
	<i>Rec 00-03</i>	\$33,704	\$ 0	\$ 0	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$ 1,677	\$15,013	\$ 2,000	Anadromous	Habitat	stream
199900800	Columbia Plateau Water Right Acquisition Program				Columbia Plateau		no	
	<i>Rec 00-03</i>	\$140,000	\$144,760	\$ 0	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$43,587	\$189,896	\$229,094	Anadromous	Habitat	subbasin
<b>200102000</b>	<b>Fifteenmile Creek Riparian Fencing / Physical stream Survey Project</b>				<b>Columbia Gorge</b>		<b>no</b>	
	<i>Rec 00-03</i>	\$151,685	\$157,579	\$162,579	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$ 5,512	\$114,033	\$187,237	Anadromous	Habitat	stream
<b>200102100</b>	<b>Riparian Buffers</b>				<b>Columbia Gorge</b>		<b>yes</b>	
	<i>Rec 00-03</i>	\$73,414	\$75,616	\$77,884	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$16,271	\$76,313	\$71,767	Anadromous	Habitat	subbasin
<b>200102200</b>	<b>Accelerate the Application of Integrated Fruit Management to Reduce the Risk of Pesticide Pollution in Fifteenmile Sub-basin Orchards</b>				<b>Columbia Gorge</b>		<b>no</b>	
	<i>Rec 00-03</i>	\$146,100	\$168,410	\$168,410	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$27,941	\$126,363	\$300,423	Anadromous	Habitat	stream
200102300	Fifteenmile Subbasin Water Right Acquisition Program				Columbia Gorge		no	
	<i>Rec 00-03</i>	\$32,000	\$41,775	\$54,225	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$ 0	\$157,397	\$15,323	Anadromous	Habitat	subbasin

Projects in **bold** have preliminary results data included in this report.

**199304000 — Fifteenmile Creek Habitat Restoration Project**

**2002 Project Objectives**

- Perform ongoing operation and maintenance of completed habitat treatment measures
- Monitor habitat, water temperature trends, and steelhead production

**Habitat Restoration Projects - Inventory of Completed Projects**

**Fifteenmile Creek Habitat Restoration Projects**

Stream	Miles of Fence with Lease Agreements	Stream Miles	Water Gaps Inst.	Off Site Water Devel.	Water Gaps Eliminated with Off Site Water	Instream Structures
Fifteenmile Creek	55.26	27.63	76	8	18	610
Eightmile Creek	16.56	8.26	37	1	6	191
Ramsey Creek	10.18	5.08	15	0	0	123
Dry Creek	27.61	13.8	35	5	16	0
<b>Total</b>	<b>109.61</b>	<b>54.77</b>	<b>163</b>	<b>14</b>	<b>40</b>	<b>924</b>

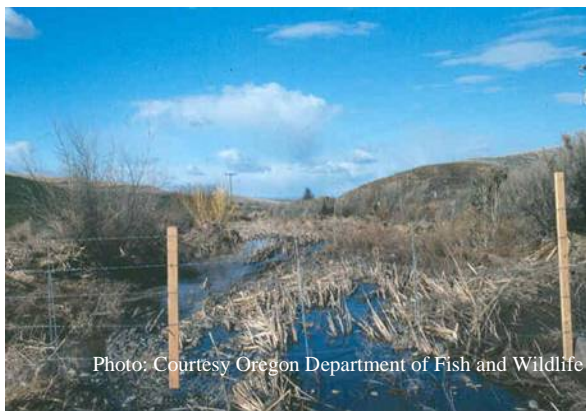


Photo: Courtesy Oregon Department of Fish and Wildlife

The Oregon Department of Fish and Wildlife used fences and off-site water developments along almost 55 miles of Fifteenmile Creek to restore degraded habitat.



## Screening and Passage Projects - Inventory of Completed Projects

### Screening and Passage Projects Completed in the Fifteenmile Subbasin

Project Title:	Stream & River Mile:	Type of Device:	Date Installed:
Underhill	Fifteenmile / 33.5	Passage / Ladder	1988
Underhill	Fifteenmile / 33.5	Rotary Screen	1993
Taylorville Ditch	Fifteenmile / 39.5	Rotary Screen	1993
City of Dufur	Fifteenmile / 40	Passage / Ladder	1988
Olsen	Ramsey / 3	Passage / Ladder	1994
Olsen	Ramsey / 3.8	Passage / Ladder	1996
Olsen	Ramsey / 3.8	Solar Rotary Screen	1996
Wolf Run Ditch	Eightmile / 30	Rotary Screen	1999
Lyda Screen	Fifteenmile / 43.5	Rotary Screen	1995
Lyda Ladder	Fifteenmile / 43.5	Passage / Ladder	1997

- 75 self-cleaning pump screens installed
- All known points of diversion are screened and all artificial obstructions provide passage

## Monitoring and Evaluation - Preliminary Results



Photo: Courtesy Oregon Department of Fish and Wildlife

*An example of riparian regeneration in 1998 (right) in Ramsey Creek (RM 3.0) resulting from fencing efforts implemented in 1989 (left) by the Oregon Department of Fish and Wildlife.*



**Monitoring and Evaluation - Preliminary Results Continued**

**Water Temperature Exceeding DEQ Standard (17.8 C)  
May-Sept. 2002**

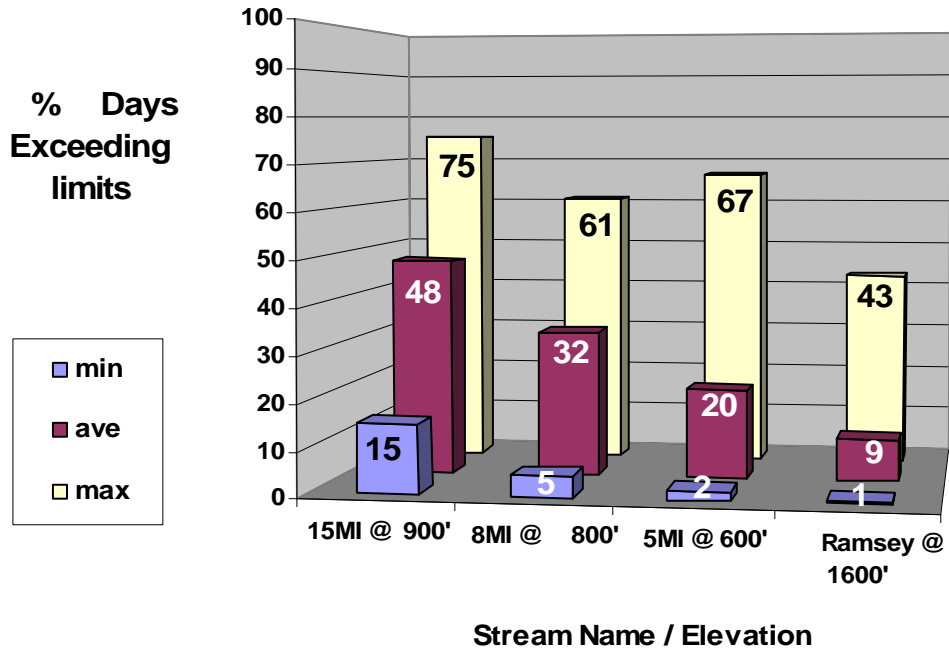


Photo: Courtesy Oregon Department of Fish and Wildlife

Oregon Department of Fish and Wildlife and U.S. Forest Service biologists preparing to survey steelhead redds in the Fifteenmile Creek Subbasin in 2003.

- Surveyed 21.15 miles from April 7-May 28, 2003
- 7.19 steelhead redds/mile
- 68 live adults observed
- 24 carcasses recovered

**Monitoring and Evaluation - Preliminary Results Continued**

**15 Mile Steelhead Spawning Ground  
Survey Summary: 1986-2003**

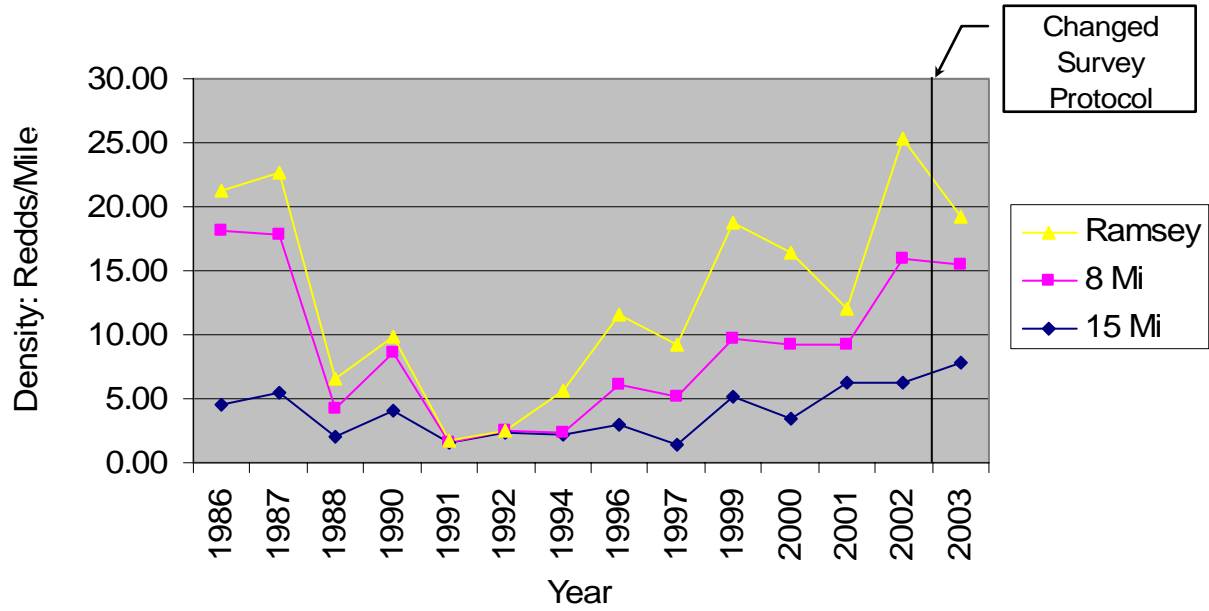


Photo: Courtesy Oregon Department of Fish and Wildlife

*Screw traps were used the Oregon Department of Fish and Wildlife to collect out-migrating steelhead smolts in the Fifteenmile Creek Subbasin.*

**Out-migrating Fifteenmile Creek  
Subbasin Steelhead Smolts**

Year	Steelhead Smolts Captured
1998	241
2000	233
2003	464

**200102000 — Fifteenmile Creek Riparian Fencing/Stream Survey**

**2002 Project Objectives**

- Develop cooperative agreements with landowners to allow for the construction of 10 miles of fence annually
- Install off-site water developments
- Survey approximately 30 miles of stream annually

**Installation of Fences and Off-site Watering - Inventory of Completed Projects**

**Fences Installed in the Fifteenmile Creek Subbasin from 2001-2003**

Owner	Stream	River Mile	Miles of Fence	Off-Site Water
<b>2001</b>				
DH	Fivemile	6.8-7.4	1.25	Yes
GG	Fivemile	7.4-7.6	0.5	No
D&D	Fivemile	7.6-8.1	1.0	No
KT	Eightmile	28.7-31.2	5	No
PK	Fifteenmile	5.0-5.5	0.5	No
BJ	Fifteenmile	5.5-6.0	1.0	No
MM	Fifteenmile	6.0-7.1	1.17	No
<b>2002</b>				
OT	Fivemile	4.0-5.5	3.03	Yes
KT	Eightmile	28.1-28.7	1.25	No
KT	Eightmile	27.4-28.1	1.25	No
CE	Dry Cr.	18.5-21.0	5	Yes
<b>2003</b>				
DB	Fifteenmile	25.0-26.3	2.75	Yes
PS	Fifteenmile	22.3-22.9	1.25	Yes
GF	Dry Cr.	0.0-1.1	1.12	Yes
DW	Fivemile	5.5-5.8	0.75	No
WW	Fivemile	13.0-13.2	0.5	No
KT	Eightmile	25.8-27.5	3.28	No
<b>TOTAL</b>			<b>30.60</b>	





**Stream Surveys - Preliminary Results**

**Stream Reaches Surveyed in the Fifteemile Creek Subbasin**

Year	Stream	From Mile	To Mile
2001	Fifteemile	0.0	44.6
2002	Eightmile	0.0	26.4
2002	Ramsey	0.00	4.5
2002	Fivemile	12.0	18.5
2003	Dry Cr.	0.0	20.0
2003	Fivemile	0.0	12.0
2003	Ramsey	4.5	9.2

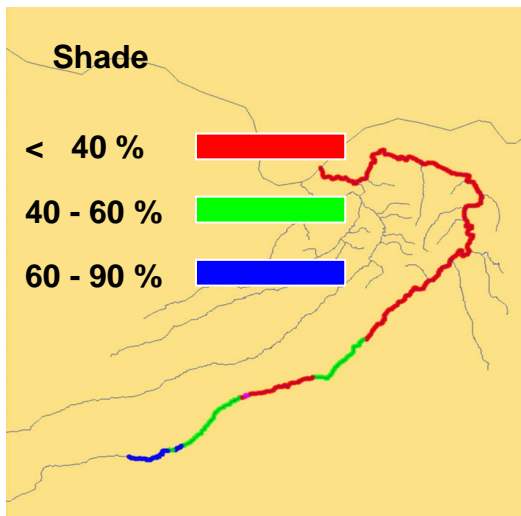
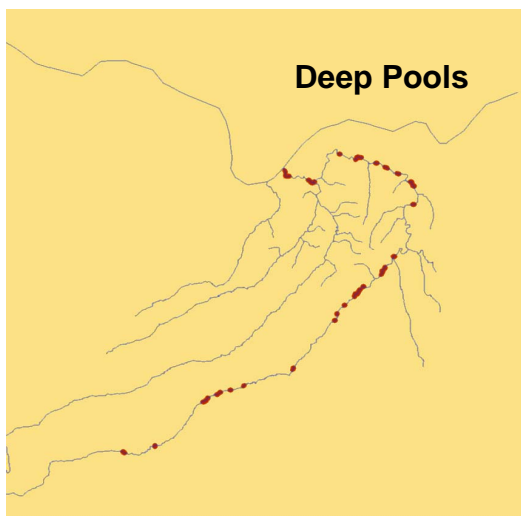


Photo: Courtesy Oregon Department of Fish and Wildlife  
 Example of a shaded riparian area in the Fifteemile Creek Subbasin.



Percentage shade and deep pools identified by the Oregon Department of Fish and Wildlife during surveys of the Fifteemile Creek Subbasin.

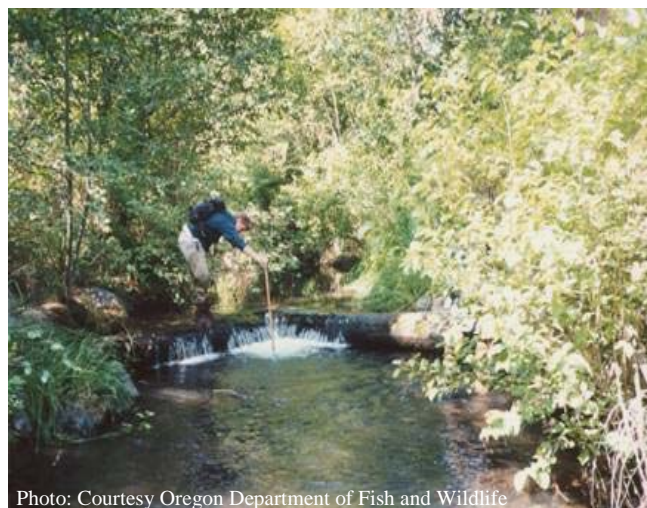


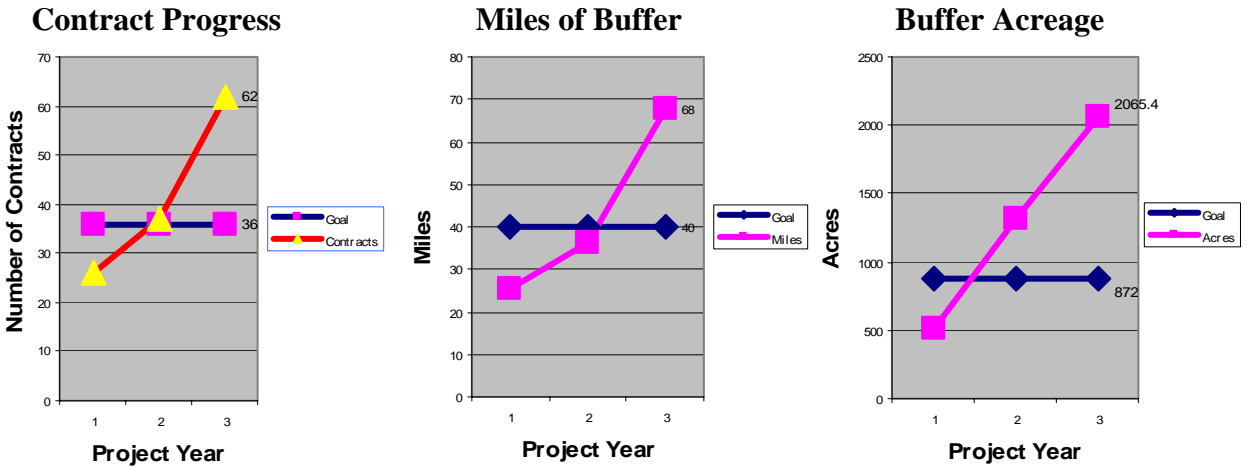
Photo: Courtesy Oregon Department of Fish and Wildlife  
 Oregon Department of Fish and Wildlife biologist collecting pool depth data from in the Fifteemile Creek Subbasin.

**200102100 — Fifteenmile Creek Riparian Buffers**

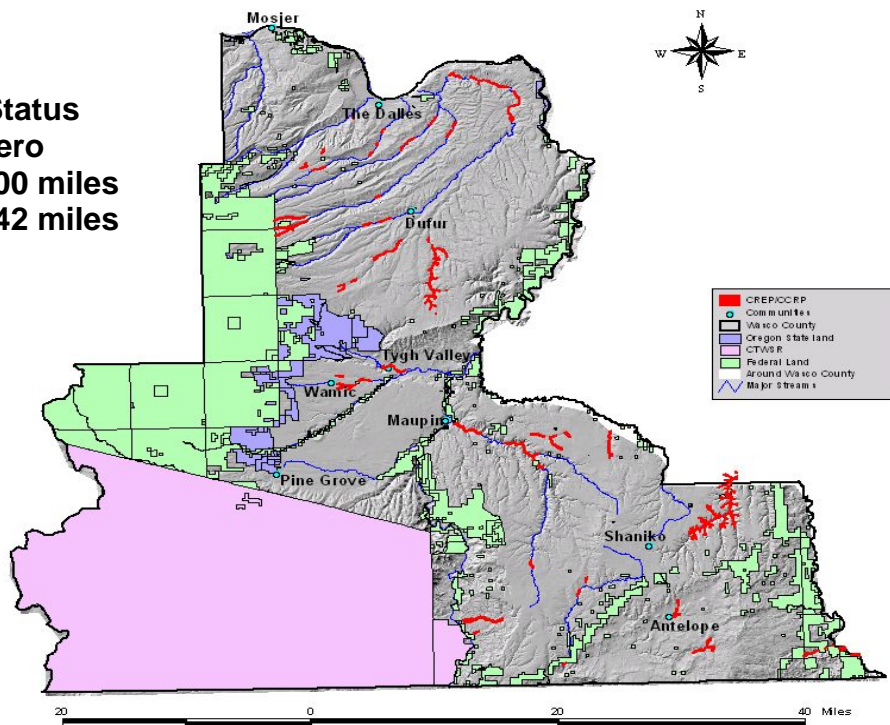
**2002 Project Objectives**

- Implement 36 new CRP/CREP riparian buffer system agreements with participating landowners on 40 miles of anadromous stream to improve 872 riparian acres

**Landowner Participation - Preliminary Results**



**Buffer Status**  
 2/99 Zero  
 6/03 100 miles  
 11/03 142 miles



**200102200 — Fifteenmile Creek Orchard Pesticide Pollution Risk Study**

**2002 Project Objectives**

- Establish a network of remote weather stations in area orchards
- Develop a web-based software interface for degree-day modeling, irrigation water management, and spray condition notification
- Design and implement an Integrated Fruit Production (IFP) plan for individual growers

**Installation of Weather and Stream Monitoring Stations - Preliminary Results**

**Weather Stations Installed**

- 2002 — 15
- 2003 — 32
- 2004 — 11 (will be installed in Spring 2004)

**Stream Monitoring Stations Installed**

- 2003 — 4
- 2004 — 5 sites will be installed



Photo: Courtesy Wy'East Resource Conservation and Development Area

One of the 47 weather stations in the Fifteenmile Creek Subbasin that provide "real-time" data every 15 minutes

**Integrated Fruit Production Web-based Software and Plans - Preliminary Results**

Radford: Leadout Area	ReQuery	LastUpdate	UpdateDate
BatteryVolts 12.42	Volts	9:33:15 AM	11/19/2003
LeafWet 99.79	Percent	9:33:15 AM	11/19/2003
AirTemp 44.46	DegreesF	9:33:15 AM	11/19/2003
RelHumidity 73.31	Percent	9:33:15 AM	11/19/2003
WindMiles 1946	Miles	9:34:56 AM	11/19/2003
RainInches 1.93	Inches	9:34:56 AM	11/19/2003
WindSpeed 2.93	mph	9:34:56 AM	11/19/2003
WindDir 287.85	0-360Degrees	9:34:56 AM	11/19/2003
WetBulbF 40.8	DegreesF	9:33:15 AM	11/19/2003
DewPointF 36.48	DegreesF	9:33:15 AM	11/19/2003

- 11 orchard operations farming 3,000 acres have plans
- 10-15 additional plans scheduled for 2004

Example of web-based data now available to fruit growers in the Fifteenmile Creek Subbasin as a result of the implementation of real-time weather stations.



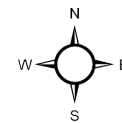
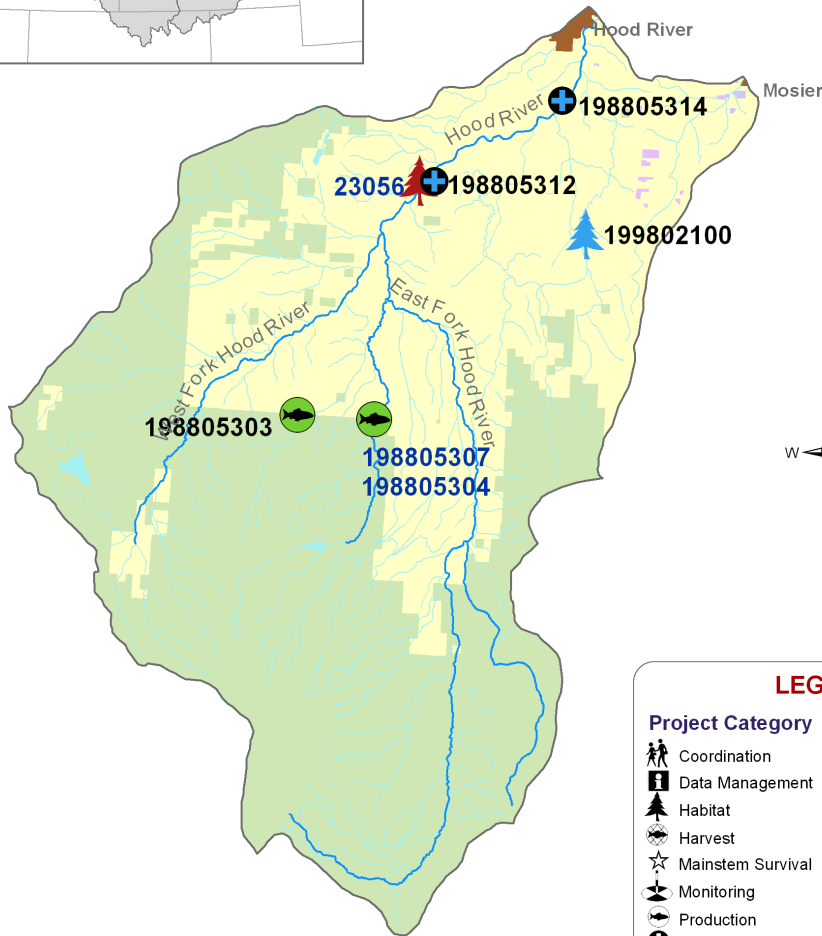
# Hood Subbasin



FY 2001-2003 NPCC Recommended and/or BPA Funded Fish & Wildlife Projects



## Columbia Gorge Province Hood Subbasin



Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
 Projection: UTM 1983, Zone 11  
 Produced by: Columbia Basin Fish & Wildlife Authority  
 Map Date: 5/20/04

**LEGEND**

<b>Project Category</b>	<b>Location Accuracy</b>										
<ul style="list-style-type: none"> <li> Coordination</li> <li> Data Management</li> <li> Habitat</li> <li> Harvest</li> <li> Mainstem Survival</li> <li> Monitoring</li> <li> Production</li> <li> Research &amp; Evaluation</li> </ul>	<table border="0"> <tr> <td>Funded</td> <td>Unfunded</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	Funded	Unfunded								
Funded	Unfunded										

**Project Labels**

Biological Opinion    Non Biological Opinion

**Land Use/Ownership**

Federal	Tribal	State	Local	Private	Urban

## Projects in the Hood Subbasin

<i>Project ID</i>	<i>Project Title</i>				<i>Review Cycle</i>		<i>BiOp?</i>
23056	Farmers Irrigation District Mainstem Hood River Fish Screen Project				FY01 High Priority		yes
	<i>Rec 00-03</i>	\$500,000	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	\$ 0	Anadromous	Habitat area
<b>198805303</b>	<b>Hood River Production Program - CTWSRO M&amp;E</b>				<b>Columbia Gorge</b>		<b>no</b>
	<i>Rec 00-03</i>	\$519,959	\$540,000	\$560,000	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$496,571	\$547,216	\$496,584	Anadromous	Production subbasin
<b>198805304</b>	<b>Hood River Production Program - ODFW M&amp;E</b>				<b>Columbia Gorge</b>		<b>yes</b>
	<i>Rec 00-03</i>	\$431,331	\$438,000	\$452,000	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$421,540	\$295,320	\$575,916	Anadromous	Production subbasin
198805307	Hood River Production Program: Powerdale, Parkdale, Oak Springs O&M (88-053-07 & 88-053-08)				Columbia Gorge		yes
	<i>Rec 00-03</i>	\$727,733	\$949,198	\$3,119,722	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$537,985	\$678,579	\$854,294	Anadromous	Production subbasin
198805312	Hood River Steelhead Genetic				Columbia Gorge		no
	<i>Rec 00-03</i>	\$ 0	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	\$96,883	Anadromous	Research & Evaluation stream
198805314	Hood River Program Review				Columbia Gorge		no
	<i>Rec 00-03</i>	\$ 0	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	\$252,904	Anadromous	Research & Evaluation stream
199802100	Hood River Fish Habitat Project				Columbia Gorge		no
	<i>Rec 00-03</i>	\$299,953	\$700,000	\$700,000	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$47,329	\$1,001,053	\$668,522	Anadromous	Habitat stream

Projects in **bold** have preliminary results data included in this report.

198805303 — Hood River Production Program

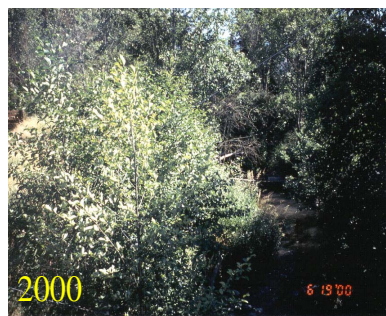
2002 Project Objectives

- Restore and recover fish habitat lost due to anthropogenic activities

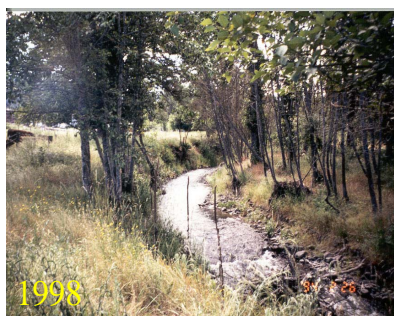
Neal Creek Fencing Projects - Preliminary Results

- Three projects from 1996-1998
- 1 mile of stream fenced with cattle exclusion fence and 10-16 foot setbacks
- Native vegetation planted

Location 1



Location 2



Location 3



Habitat responses following the implementation of fences in Neal Creek by the Confederated Tribes of the Warm Springs Reservation of Oregon. Photos: Courtesy Confederated Tribes of the Warm Springs Reservation of Oregon



## Irrigation Fish Screen Projects - Preliminary Results

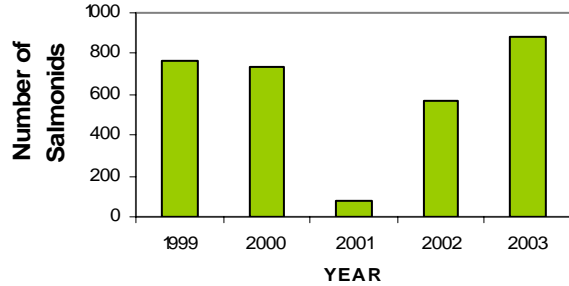
### East Fork Irrigation Fish Screens

- Construction completed in 1998
- Annual salvage operations used to monitor screen effectiveness

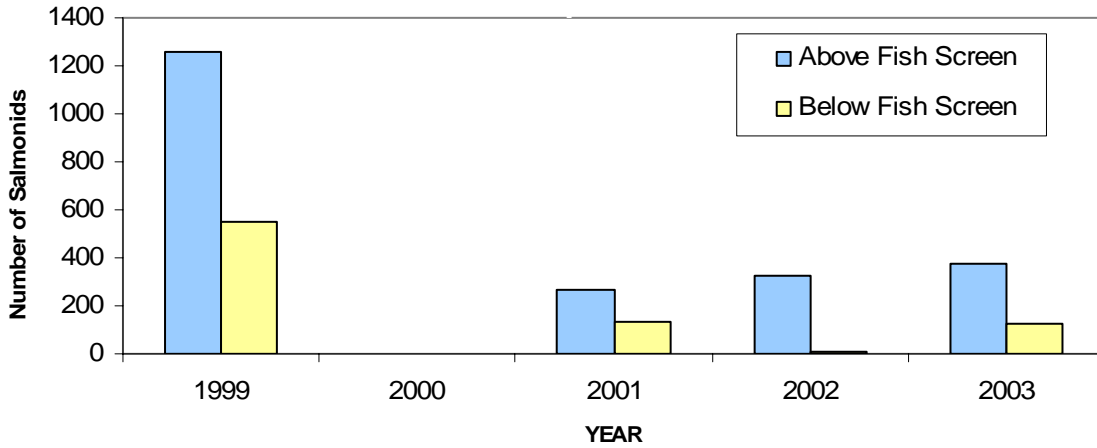
### Tony Creek

- Removed irrigation diversion and improved habitat

**EAST FORK IRRIGATION DISTRICT:  
Neal Creek Fish Salvage**



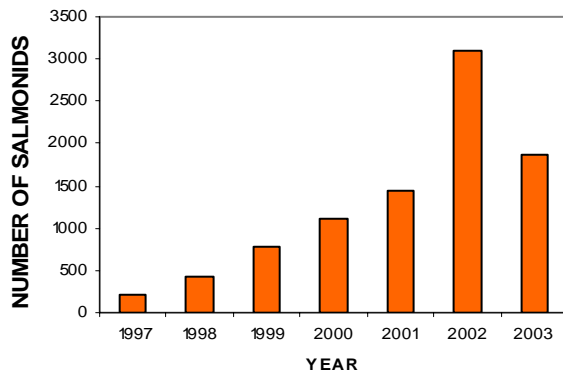
**EAST FORK IRRIGATION DISTRICT: Main Canal Fish Salvage**



### Farmers Irrigation Fish Screens

- Construction completed in 2002 and NOAA approval in 2004
- Annual salvage operations used to monitor screen effectiveness

**FARMERS IRRIGATION DISTRICT: Fish Salvage**



**198804304 — Hood River Production Program**

**2002 Project Objectives**

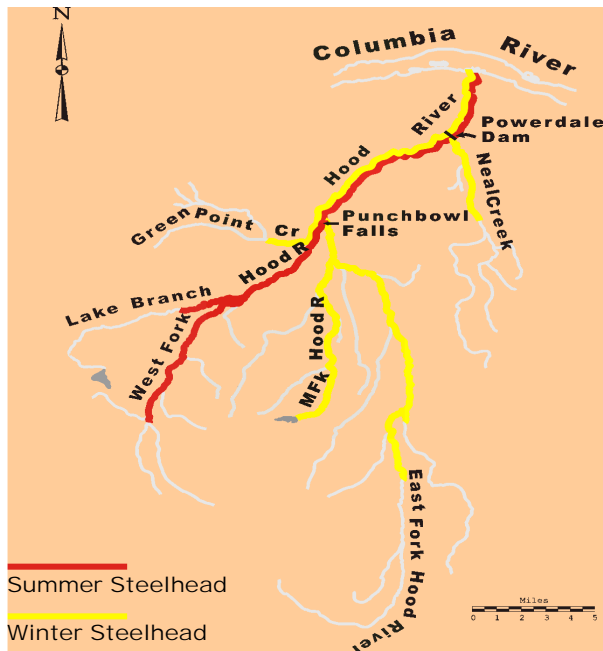
- Determine abundance, distribution, and life history patterns of steelhead in the Hood River Subbasin

**Distribution and Harvest - Preliminary Results**

**Steelhead Distribution in the Hood River Subbasin**

**Hood River Subbasin Hatchery Steelhead**

Run Year	Hatchery Adult Summer Steelhead Harvest (percent exploitation )	Hatchery Adult Winter Steelhead Harvest (percent exploitation)
1996-97	735 (35)	317 (33)
1997-98	337 (39)	231 (39)
1998-99	355 (44)	172 (36)
1999-00	224 (37)	214 (42)
2000-01	439 (30)	351 (30)
2001-02	776 (32)	846 (49)
2002-03	842 (38)	411 (46)



**Hood River Stock Adults Steelhead Escapement Above Powerdale Dam**

Run Year	Summer	Winter	Total
1995-96	0	372	0
1996-97	0	491	0
1997-98	0	345	0
1998-99	102	444	546
1999-00	148	1,092	1,240
2000-01	178	1,538	1,716
2001-02	539	1,635	2,174
2002-03	1,041	1,067	2,108

**Hood River Stock Winter Steelhead Run Timing**

Run Year	Sep-Nov wild/hatchery	Dec wild/hatchery	Jan wild/hatchery	Feb-Jul wild/hatchery
1995-96	0/2	0/0	0/0	0/257
1996-97	1/0	2/0	1/1	271/612
1997-98	0/6	0/0	2/1	206/356
1998-99	0/18	0/0	12/0	278/285
1999-00	0/7	8/1	2/3	898/279
2000-01	0/0	0/0	0/2	1,025/927

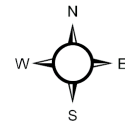
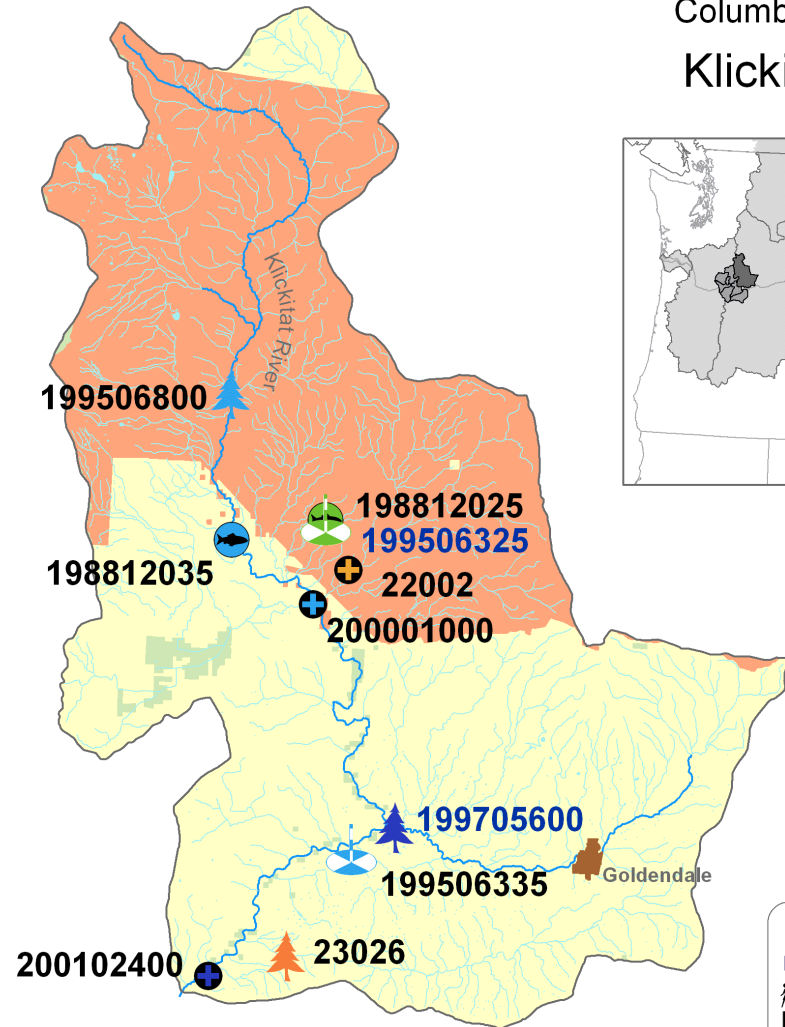
# Klickitat Subbasin



**Columbia Basin  
Fish and Wildlife Authority**

FY 2001-2003 NPCC Recommended and/or  
BPA Funded Fish & Wildlife Projects

## Columbia Gorge Province Klickitat Subbasin



0 5 10 20 Miles

Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
Projection: UTM 1983, Zone 11  
Produced by: Columbia Basin Fish & Wildlife Authority  
Map Date: 5/20/04

### LEGEND

Project Category	Location Accuracy	
	Funded	Unfunded
Coordination	Province	Subbasin
Data Management	Stream	Area
Habitat	Area	Point
Harvest	Point	
Mainstem Survival		
Monitoring		
Production		
Research & Evaluation		

Project Labels	
Biological Opinion	Non Biological Opinion

Land Use/Ownership					
Federal	Tribal	State	Local	Private	Urban



## Projects in the Klickitat Subbasin

<b>Project ID</b>	<b>Project Title</b>				<b>Review Cycle</b>		<b>BiOp?</b>
22002	Influences of Stocking Salmon Carcass Analogs on Salmonids in Columbia River Tributaries				FY01 Innovative		no
	<i>Rec 00-03</i>	\$399,829	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	Anadromous	Research & Evaluation	subbasin
23026	Klickitat Basin Key Habitat Acquisition				FY01 Action Plan		no
	<i>Rec 00-03</i>	\$3,000,000	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	Anadromous	Habitat	stream
198812025	Yakima/Klickitat Fisheries Project (YKFP) Management				Columbia Gorge		no
	<i>Rec 00-03</i>	\$363,510	\$391,780	\$415,674	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$119,870	\$548,773	Anadromous	Production	subbasin
198812035	Klickitat Fishery Mgmt, Data/Habitat Project				Columbia Gorge		no
	<i>Rec 00-03</i>	\$ 0	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 160,371	Anadromous	Production	stream
<b>199506325</b>	<b>Yakima/Klickitat Fisheries Project Monitoring and Evaluation</b>				<b>Columbia Gorge</b>		<b>yes</b>
	<i>Rec 00-03</i>	\$447,723	\$474,586	\$545,773	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$ 0	Anadromous	Monitoring	subbasin
199506335	Klickitat Fishery YKFP M & E				Columbia Gorge		no
	<i>Rec 00-03</i>	\$447,723	\$474,586	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$ 0	\$596,571	Anadromous	Monitoring	stream
199506800	Klickitat Passage/Habit Design				FY 1999		no
	<i>Rec 00-03</i>	\$ 0	\$ 0	\$ 0	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$76,816	\$ 0	Anadromous	Habitat	stream
<b>199705600</b>	<b>Lower Klickitat Riparian and In-Channel Habitat Enhancement Project</b>				<b>Columbia Gorge</b>		<b>yes</b>
	<i>Rec 00-03</i>	\$313,318	\$379,727	\$397,414	Type	Category	Accuracy
	<i>Spent 01-03</i>	--	\$62,451	\$360,707	Anadromous	Habitat	area

Projects in **bold** have preliminary results data included in this report.

## Projects in the Klickitat Subbasin, continued...

<i>Project ID</i>	<i>Project Title</i>					<i>Review Cycle</i>		<i>BiOp?</i>
200001000	Klickitat River Sub Basin Review					FY 2000		no
<i>Rec 00-03</i>	\$141,035	\$ 0	\$ 0	\$ 0	Type	Category	Accuracy	
<i>Spent 01-03</i>	--	\$ 0	\$14,484	\$12,434	Anadromous	Research & Evaluation	stream	
200102400	Determination of difficult passage areas, migration patterns and energetic use of upriver migrating salmon and steelhead					Columbia Gorge		no
<i>Rec 00-03</i>	\$319,542	\$ 0	\$ 0	Type	Category	Accuracy		
<i>Spent 01-03</i>	--	\$ 0	\$283,593	\$14,836	Anadromous	Research & Evaluation	area	

**199506325 — Yakama/Klickitat Project M&E**

**2002 Project Objectives**

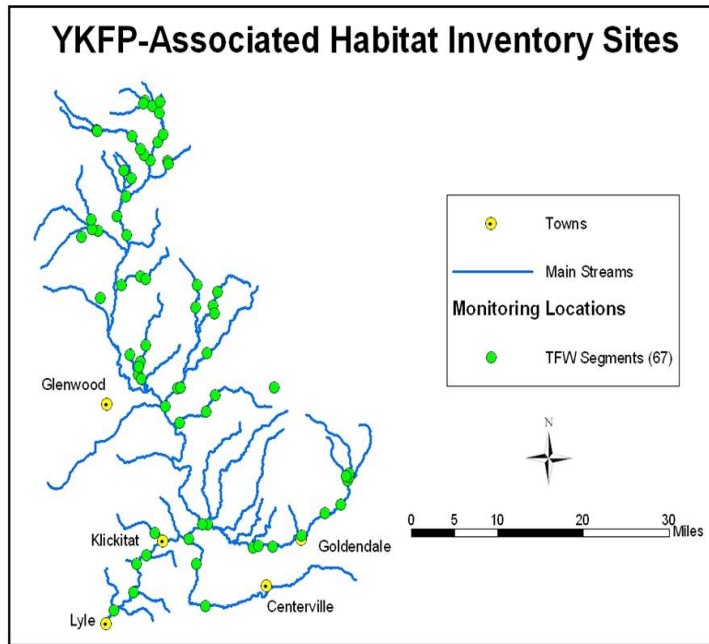
- Gather baseline information on habitat quantity and quality, and the demographics, life history, and abundance of Klickitat spring Chinook and steelhead and other fish species

**Habitat Surveys - Preliminary Results**

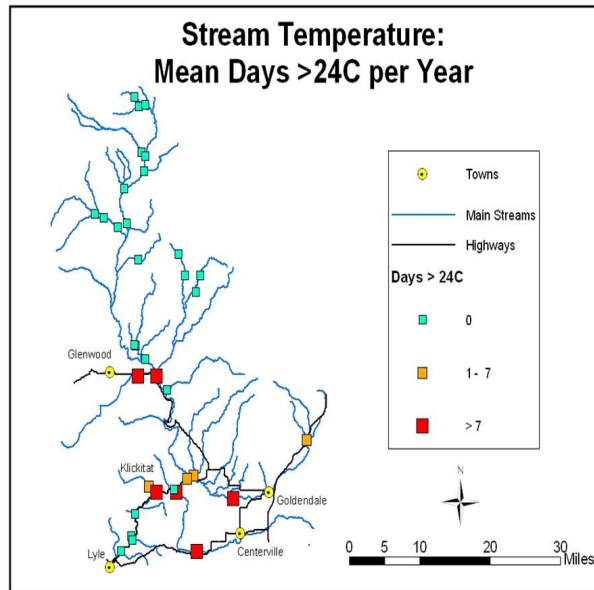
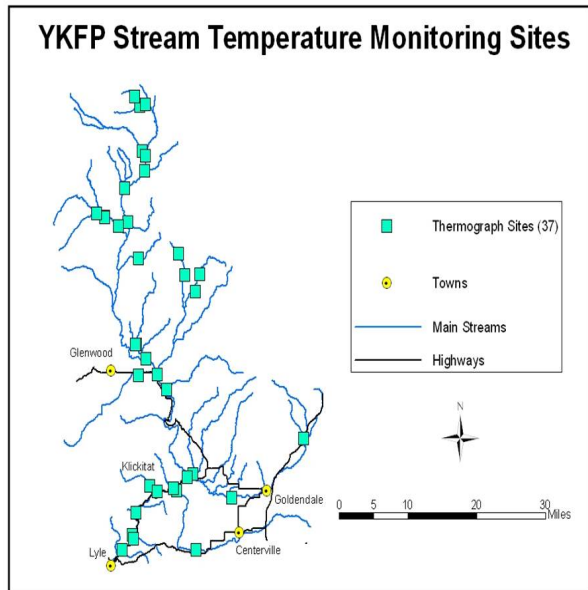
- Surveys initiated in 1996
- A total of 67 sites surveyed in 39 streams
- 6 sites in 4 streams surveyed in 2003



Photo: Courtesy Yakima Indian Nation  
White Creek is one of 67 sites that have been surveyed in the Klickitat Subbasin by the Yakima Indian Nation.



**Water Quality Measurements- Preliminary Results**



Water temperatures are monitored by the Yakima Indian Nation at 37 sites in 22 streams. Water temperatures exceeding 24°C for more than seven days were observed at six sampling locations.

### Sediment Monitoring- Preliminary Results



Photo: Courtesy Yakima Indian Nation

Anthropogenic activities such as logging and road construction contribute to the sediment load observed in the Klickitat Subbasin.

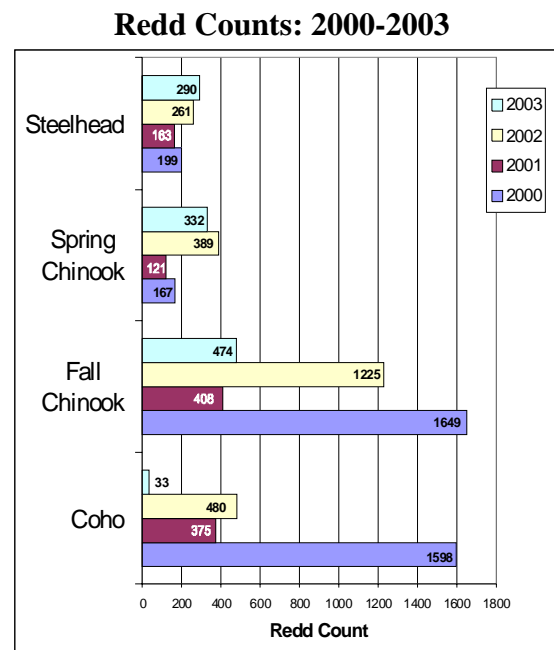
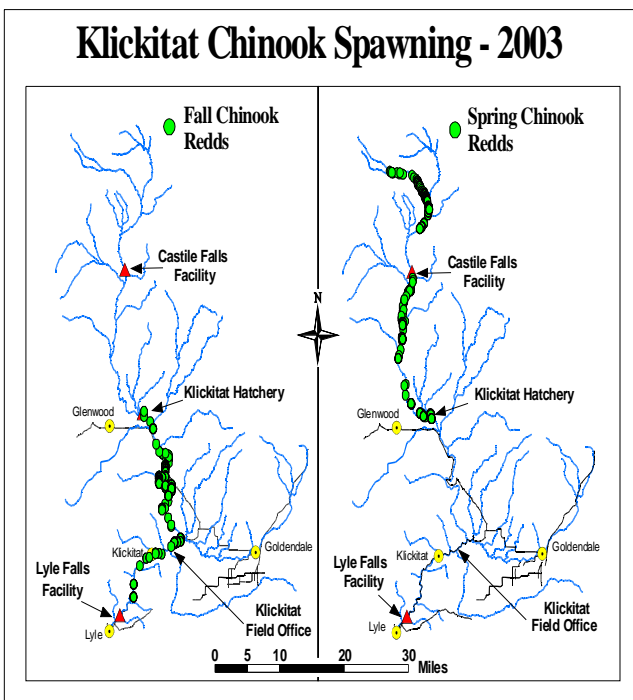
- 12 sites currently monitored
- Generally < 20% fine sediment (particles < 2 mm) in the upper portion of the Klickitat mainstem
- >20% fine sediment in Diamond Creek



Photo: Courtesy Yakima Indian Nation

Glacial run-off from Mt. Adams, Washington, is a primary source of sediment to the Klickitat Subbasin.

### Spawning Surveys- Preliminary Results

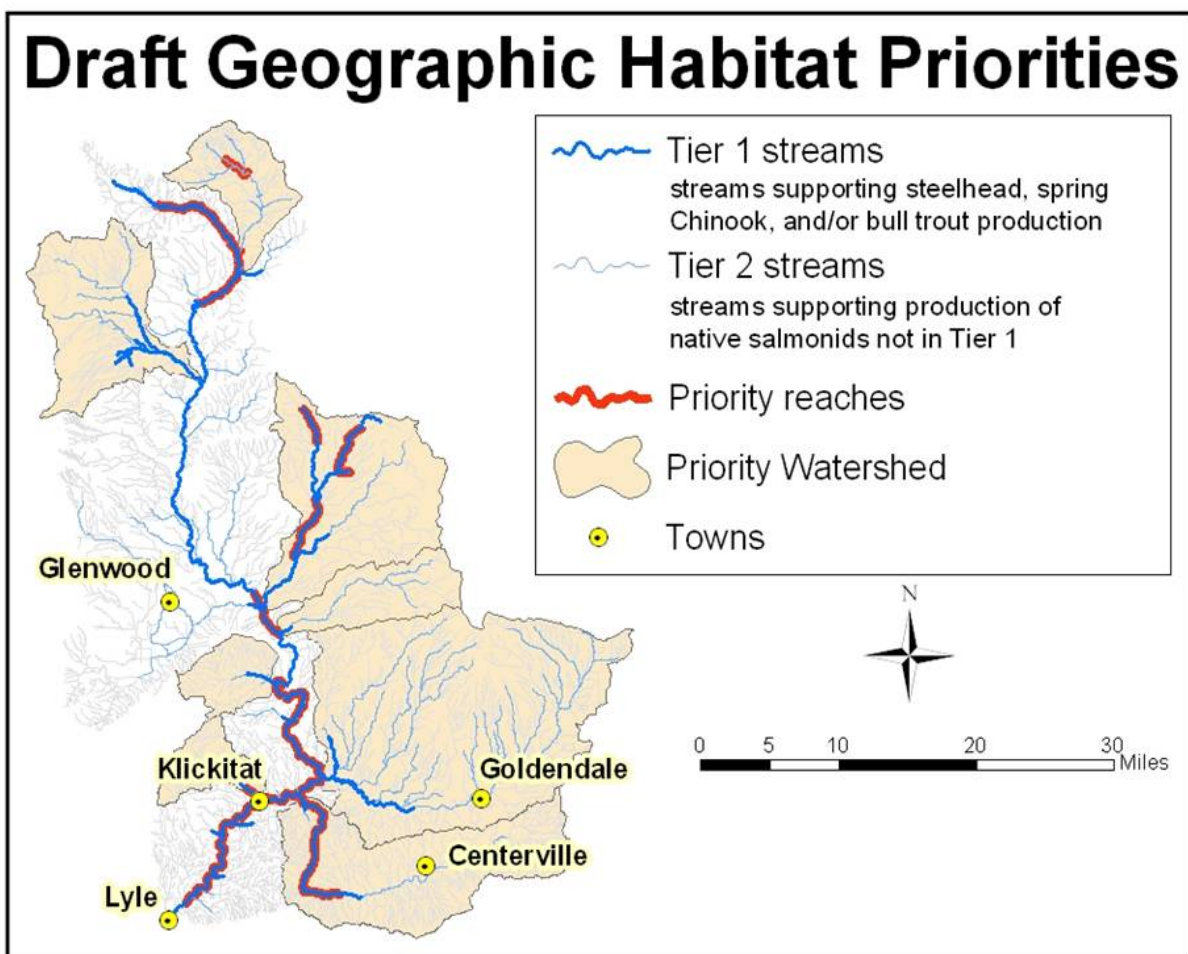


199705600 — Klickitat Watershed Enhancement Project

2002 Project Objectives

- Identify and prioritize reaches for restoration activities
- Protect, restore, and enhance priority reaches to increase riparian, wetland, and stream habitat values
- Monitor habitat conditions on restored reaches to ensure desired habitat levels are reached and maintained

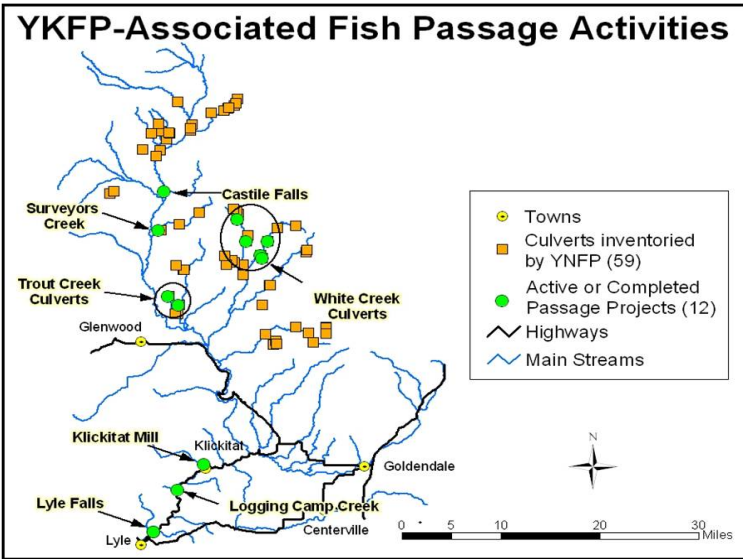
Prioritized Reaches for Restoration - Preliminary Results





**Protecting, Restoring, and Enhancing Prioritized Reaches - Preliminary Results**

**Surveyors Creek**



**Logging Camp Creek**



**Klickitat Mill**



*Examples of fish passage improvements (before and after) implemented by the Yakima Indian Nation in the Klickitat Subbasin.*

## Restoring and Enhancing Prioritized Reaches - Preliminary Results Continued

### Klickitat Meadows Project

- Collected >7,400 willow cuttings and planted them along about 5,300 feet of the Diamond Fork Creek
- Initiated the construction of two sites in Fall 2003
  - collection of 43 trees on-site
  - delivery and stockpiling of rock materials



Photo: Courtesy Yakima Indian Nation

*Riparian area along the Klickitat River scheduled for restoration..*



Photo: Courtesy Yakima Indian Nation

### Klickitat River Meadows Project

- Collected >3,100 willow cuttings and planted them along about 1,200 feet of the Klickitat River
- Installed a cattle guard and about 300 feet of drift fence
- Initiated construction of two sites in Fall 2003
  - collected and stockpiled 158 trees
  - collected and stockpiled 135 boulders



Photo: Courtesy Yakima Indian Nation

*Riparian areas along the Klickitat River scheduled for restoration.*



Photo: Courtesy Yakima Indian Nation

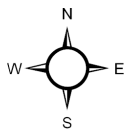
*Yakima Indian Nation stockpiling boulders for Klickitat River Meadows restoration activities.*



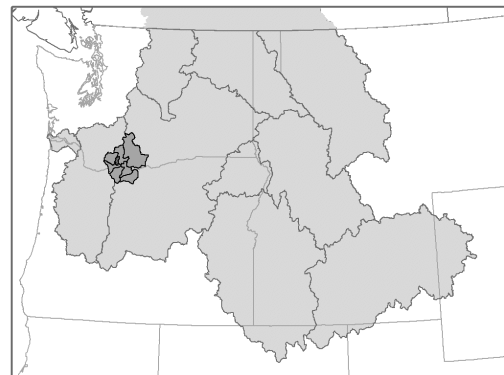
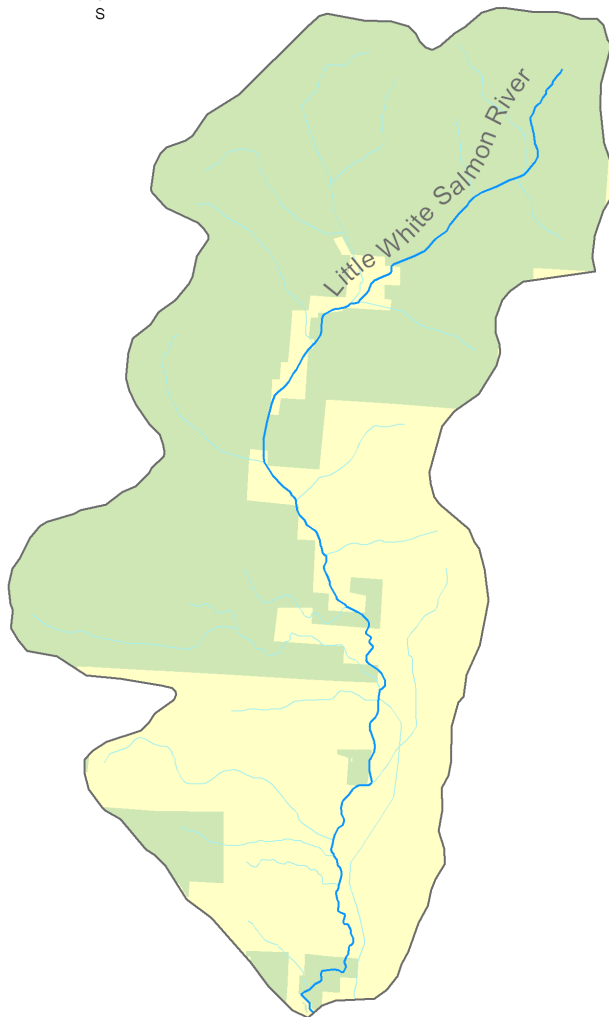
# Little White Salmon Subbasin



FY 2001-2003 NPCC Recommended and/or  
BPA Funded Fish & Wildlife Projects



## Columbia Gorge Province Little White Salmon Subbasin



0 2 4 8 Miles

Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
Projection: UTM 1983, Zone 11  
Produced by: Columbia Basin Fish & Wildlife Authority  
Map Date: 5/20/04

**LEGEND**

<b>Project Category</b>		<b>Location Accuracy</b>	
Coordination	Province	Unfunded	
Data Management	Subbasin	Stream	
Habitat	Area	Point	
Harvest	Area		
Mainstem Survival	Point		
Monitoring			
Production			
Research & Evaluation			

**Project Labels**

Biological Opinion    Non Biological Opinion

---

**Land Use/Ownership**

Federal	Tribal	State	Local	Private	Urban
---------	--------	-------	-------	---------	-------

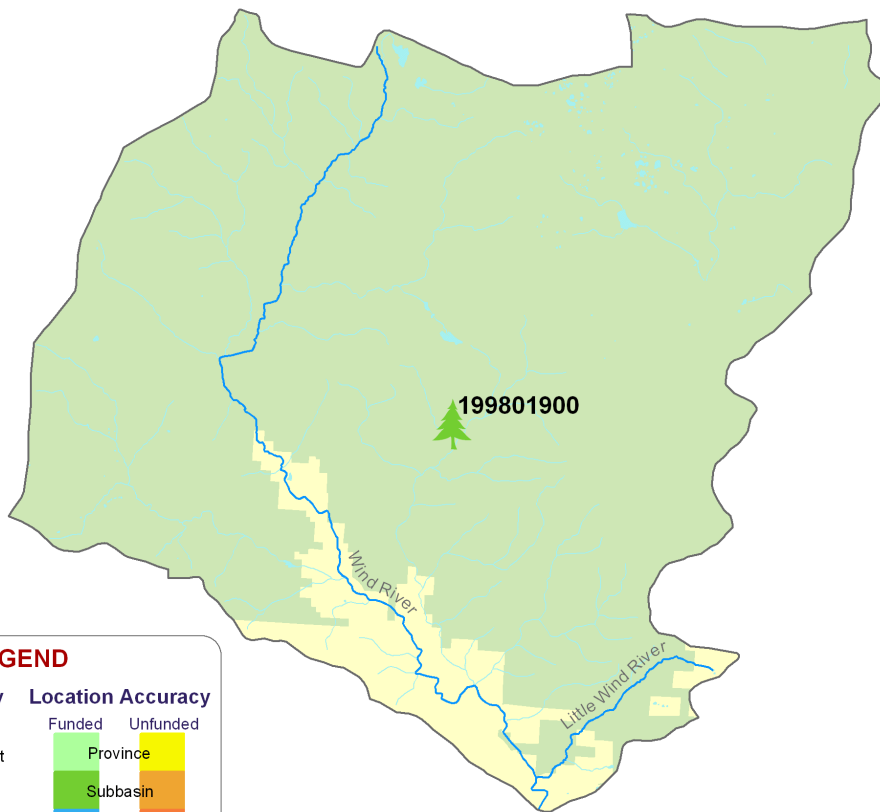
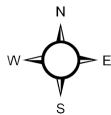
# Wind Subbasin



## Columbia Basin Fish and Wildlife Authority

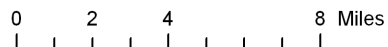
FY 2001-2003 NPCC Recommended and/or BPA Funded Fish & Wildlife Projects

Columbia Gorge Province  
Wind Subbasin



### LEGEND

Project Category		Location Accuracy	
Coordination	Province	Province	Province
Data Management	Subbasin	Stream	Stream
Habitat	Area	Point	Point
Harvest	Point		
Mainstem Survival			
Monitoring			
Production			
Research & Evaluation			
<b>Project Labels</b>			
Biological Opinion		Non Biological Opinion	
<b>Land Use/Ownership</b>			
Federal	Tribal	State	Local
Private	Urban		



Data Layers: Land Ownership (ICBEMP), 100k Hydrography (Streamnet), Urban Areas (State Data), Projects (CBFWA)  
 Projection: UTM 1983, Zone 11  
 Produced by: Columbia Basin Fish & Wildlife Authority  
 Map Date: 5/20/04



## Projects in the Wind Subbasin

<i>Project ID</i>	<i>Project Title</i>				<i>Review Cycle</i>		<i>BiOp?</i>	
199801900	Wind River Watershed Restoration				Columbia Gorge		yes	
	<i>Rec 00-03</i>	\$658,532	\$702,237	\$659,452	Type	Category	Accuracy	
	<i>Spent 01-03</i>	--	\$514,090	\$1,005,891	\$576,128	Anadromous	Habitat	subbasin