

# SALMON AND TROUT ENHANCEMENT PROGRAM (STEP)

**2008-2009 Annual Progress Report**

Salmon-Trout  
Enhancement Program



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## BACKGROUND AND SUMMARY

This report summarizes the activities and accomplishments of the Salmon and Trout Enhancement Program (STEP) from October 1, 2008 to September 30, 2009. The Oregon Legislature established STEP in 1981 as a program of the Oregon Department of Fish and Wildlife (ODFW) that seeks to “achieve the recovery and sustainability of the state’s native salmon and trout through the education of Oregon’s citizens and their involvement with fish management efforts”. Although this goal will not be achieved by the program acting alone, annual volunteer efforts through STEP to enhance fisheries and restore habitats lend critical support to the management programs of ODFW and contribute to the more extensive statewide efforts toward fish and watershed restoration under the Oregon Plan for Salmon and Watersheds.

The role of STEP within ODFW is defined by Oregon Revised Statute (Oregon Revised Statutes 496.430 through 496.465) and Oregon Administrative Rule (Oregon Administrative Rules 635-009-0090 through 635-009-0150) specific to the program. Program activities are also guided by broader ODFW fish and habitat management policies including the Native Fish Conservation Policy (NFCP), Fish Hatchery Management Policy (FHMP), and the Fish Health Management Policy (FHMP). These policies establish direction for the broader ODFW fish and habitat management efforts that include STEP, provide support for a wide range of STEP activities, and set biological impact thresholds. The policies also allow STEP to work with other ODFW programs for which STEP can provide important volunteer and educational support.

The types of projects conducted through STEP reflect the diverse ways that volunteers can assist with fish and habitat management needs throughout Oregon. The issues and priorities within individual watersheds are often unique to that area and the focus of STEP efforts can vary across the state. Generally, activities can be grouped into four main categories:

- ***Education and Program Development*** informs the public about Oregon’s salmon and trout resources, their habitats, and STEP. Projects include classroom incubators (also known as the “Fish Eggs-to-Fry Program”), presentations, classes, volunteer training, tours, displays, printed materials, and equipment construction and maintenance.
- ***Inventory and Monitoring*** activities characterize fish populations and their habitats. Projects include stream and riparian habitat surveys and other methods used to study, monitor or inventory fish life history, presence, distribution or abundance.
- ***Habitat Improvement*** activities enhance, restore and protect habitat for native stocks of salmon, steelhead, and trout. Projects include the placement of large woody debris in streams, riparian protection and restoration, fish passage improvement and fish carcass placement for stream nutrient enrichment. This category also includes aesthetic improvements to lakes and streams achieved through the Keep Oregon’s Rivers Clean (KORC) fishing line and tackle recycling program.

- ***Fish Culture*** activities produce fish to supplement natural fish production, augment fisheries, or, in the case of the classroom egg incubation program, provide educational opportunities. This category also includes fish rescued, transplanted, or reintroduced.
- ***The 25-year angling enhancement plan*** was adopted in February of 2009 to outline strategies for providing diverse, stable and productive angling opportunities and facilitate an increase in angling participation. STEP will be used to directly address recreational fishing priorities; specifically, opportunity, access and mentoring. While the focus is on youth anglers and families it should also provide direct and indirect benefits to all anglers. STEP has been specifically targeted to implement these projects as it is already involved with many of them and because of its strong connection to the volunteer base and local needs and interests.

STEP is funded by a combination of the U.S. Fish and Wildlife Service (USFWS) Sport Fish Restoration (SFR) grant program and ODFW funds (75 percent federal with 25 percent state match). The program has one full-time coordinator and one part-time administrative assistant located in the ODFW headquarters office in Salem. It is implemented in the field by eleven STEP biologists (nine 1.0 FTE and two 0.5 FTE) located throughout the state.

In addition to agency staff, the 13-member STEP Advisory Committee (STAC) is comprised of citizens appointed by the Governor. The Committee advises the Fish and Wildlife Commission (Commission) and ODFW on policy and the implementation of STEP, and the Committee Chair presents the STEP Annual Progress Report to the Commission. The Committee also administers the STAC Mini-Grant Program, funded through a \$50,000 biennial grant from the ODFW Fish Restoration and Enhancement Program. The Mini-Grants are available in amounts up to \$2,000 for projects that further the goals of STEP and are reviewed for approval by STAC at their quarterly two-day meetings. From October 2008 to September 2009, meetings were held at Gresham, Grants Pass, Springfield and Sisters.

No new STAC appointment was made during the reporting period. However, Gary Enoch, Richard Heap and Michael Brochu were reappointed to a second term for their respective districts.

Within each watershed management district, the STEP biologist fills several roles including fish and habitat biologist, educator, outreach specialist, community or technical advisor and lead for volunteer management. The program works with a variety of individuals, groups and organizations including adult and youth volunteers, angling and conservation interests, watershed councils, soil and water conservation districts, private landowners, schools, individual students, and other state, federal and local government agencies. Through STEP, these individuals and organizations work with ODFW to conduct community-based watershed restoration and species recovery efforts throughout Oregon.

## **Summary of Current Efforts**

The following summarizes accomplishments of the program in 2008-2009:

- Over 71,000 people participated in STEP training, classes, tours, presentations or workshops, or visited STEP activities or displays at public events (Table 1). These activities involved over 4,270 youth and adult volunteers. This includes 505 individual Fish Eggs-to-Fry classroom projects that reached over 17,870 students.
- Over 640 volunteers contributed 10,362 hours to participate in 71 projects to inventory and monitor fish populations, assess sport fisheries, conduct fish passage inspections and survey habitat in streams and rivers across the state (Table 2).
- Approximately 605 miles of waterways were improved for fish use by 550 volunteers through fish passage, in-stream, riparian and fish carcass placement projects and the KORC program (Table 3).
- STEP volunteers assisted with rearing and releasing of approximately 4.5 million Chinook salmon, coho salmon, steelhead and trout for enhancement or augmentation purposes; 2,409,472 of these fish were reared (fed and cared for) before release and 6,342 broodstock fish were collected (Table 4).
- The agency finalized the 25-Year Angling Enhancement Plan and moved into the implementation phase. Work completed included the development of the Inland Sport Fish Advisory Committee (ISFAC), identification of means by which to reach the goals and initial identification of priority projects. STAC reviewed this plan, provided guidance to ODFW on implementation and is represented on the ISFAC.
- The two most pressing priorities for STEP over the coming years will be to provide simple, low cost fishing opportunities for youth and families (i.e. still-water, “bait and bobber”) and to promote close and easy access to angling opportunities, especially in or near urban and rural communities that are easily accessible by car, bicycle, public transit, etc. Twenty projects across the state have been initially identified as meeting one or both of these priorities.

As indicated by the amount of work accomplished, volunteers made a substantial contribution to STEP and ODFW. Because STEP activities are integral to accomplishing ODFW’s fish management objectives, ODFW staff also contributes time and resources to the program beyond what is funded by the SFR grant. Highlights of the 2008-2009 statewide volunteer efforts include:

- 7,750 youth and 5,710 adult volunteers in Oregon participated in STEP activities.
- Volunteers participated in an estimated 1,443 projects, totaling 128,758 hours.

- Using the estimated dollar value of \$20.85 for volunteer time for Oregon in 2009, the value of STEP volunteer hours was \$2,684,604.

Since the program was established in 1981, more than 305,740 adult and youth volunteers (Figure 1) have contributed more than 2.7 million hours (Figure 2) to an estimated 30,363 STEP projects. This data does not include the many additional adult and youth who have participated in presentations, workshops, field tours, or classroom projects conducted through STEP.

For this report, each STEP biologist provided a narrative that describes their district and an overview of activities in that district for each of the four main program components (education and program development, inventory and monitoring, habitat improvement, and fish culture).

The appendices include the following program information:

- Appendix 1. A list of the current STAC members
- Appendix 2. A list of the current STEP biologists
- Appendix 3. A partial list of the schools that work with STEP
- Appendix 4. A partial list of the groups and organizations that work with STEP

## Tables and Figures

Table 1. Education and development activities, participation and volunteer effort by STEP district, 2008-2009. Activities were defined as those projects having at least one participant or volunteer; figures in parentheses indicate the number of Fish Eggs-to-Fry classroom incubator projects.

EDUCATION AND DEVELOPMENT						
STEP District	Activities	Participants	Youth	Volunteers		
				Youth Hours	Adults	Adult Hours
Coos-Coquille	76 (12)	12,521	1,246	6,548	1,085	7,051
Eastern Oregon	32 (74)	6,423	23	75	179	2,359
Lower Rogue	44 (8)	3,414	12	61	200	730
Mid-Coast	46 (20)	3,038	36	116	194	1,800
Mid-Willamette	122 (58)	11,341	0	0	240	1,072
North Coast	7 (13)	1,775	0	0	200	1,678
Lower Willamette	32 (210)	19,208	55	150	455	10,355
Umpqua	65 (10)	7,985	194	1,142	456	5,953
Upper Rogue	30 (22)	2,003	0	0	53	2,077
Upper Willamette	16 (80)	3,612	2	8	40	192
<b>Total</b>	<b>470 (505)</b>	<b>71,320</b>	<b>1,568</b>	<b>8,100</b>	<b>3,102</b>	<b>33,267</b>

Table 2. STEP inventory and monitoring activities, miles affected and surveyed and volunteer effort, 2008-2009. Activities were defined as those projects having at least one participant or volunteer.

INVENTORY AND MONITORING				Volunteers			
STEP District	Activities	Miles Affected	Miles Surveyed	Youth	Youth Hours	Adults	Adult Hours
Coos-Coquille	5	28	33	91	357	31	130
Eastern Oregon	9	0	54	0	0	76	1,041
Lower Rogue	6	245	18	18	72	69	1,363
Mid-Coast	11	0	48	23	88	64	3,026
Mid-Willamette	10	0	10	30	85	16	107
North Coast	2	0	60	0	0	26	536
Lower Willamette	0	0	0	0	0	0	0
Umpqua	11	0	4	67	498	42	974
Upper Rogue	3	0	0	0	0	41	1,054
Upper Willamette	14	0	49	2	43	47	988
<b>Total</b>	<b>71</b>	<b>273</b>	<b>276</b>	<b>231</b>	<b>1,143</b>	<b>412</b>	<b>9,219</b>

Table 3. Habitat restoration activities, miles affected and restored and volunteer effort by STEP district, 2008-2009. Activities were defined as those projects having at least one participant or volunteer.

HABITAT				Volunteers			
STEP District	Activities	Miles Affected	Miles Restored	Youth	Youth Hours	Adults	Adult Hours
Coos-Coquille	2	1	0	109	731	65	280
Eastern Oregon	1	3	0	20	320	10	80
Lower Rogue	5	27	1	25	125	23	127
Mid-Coast	2	35	1	0	0	22	118
Mid-Willamette	10	92	0	2	8	25	393
North Coast	3	85	0	0	0	18	336
North Willamette	45	81	0	111	503	77	578
Umpqua	1	10	0	0	0	2	24
Upper Rogue	3	153	43	0	0	21	261
Upper Willamette	10	72	2	1	12	19	244
<b>Total</b>	<b>82</b>	<b>558</b>	<b>47</b>	<b>268</b>	<b>1,699</b>	<b>282</b>	<b>2,441</b>

Table 4. Fish culture activities and volunteer effort by STEP district, 2008-2009. Activities were defined as those projects having at least one participant or volunteer; figures in parentheses indicate the number of Fish Eggs-to-Fry classroom incubator projects. For classroom incubation projects, this table reflects only the number of fish reared and released. Participation and volunteer efforts for the classroom incubator program were included under education and development (Table 1).

FISH CULTURE					
STEP District	Number of Fish				
	Activities	Broodstock			Released
		Collected	Incubated	Reared	
Coos-Coquille	31 (12)	4,382	1,509,134	1,305,802	2,753,367
Eastern Oregon	0 (74)	0	14,800	14,800	14,800
Lower Rogue	5 (8)	810	105,889	97,028	104,660
Mid-Coast	16 (20)	531	457,893	284,448	274,286
Mid-Willamette	0 (58)	0	22,050	0	22,050
North Coast	13 (13)	234	473,771	201,602	434,878
Lower Willamette	18(210)	0	115,000	276,000	488,000
Umpqua	11(10)	385	271,069	229,792	370,960
Upper Rogue	4 (22)	0	6,150	0	6,150
Upper Willamette	1 (80)	0	9,100	0	115,965
<b>Total</b>	<b>315 (507)</b>	<b>6,342</b>	<b>2,984,856</b>	<b>2,409,472</b>	<b>4,585,116</b>

Volunteers					
STEP District	Youth	Youth Hours	Adults	Adult Hours	Total Hours
Coos-Coquille	4,748	30,956	937	18,481	49,437
Eastern Oregon	0	0	0	0	0
Lower Rogue	17	203	89	3,318	3,521
Mid-Coast	120	626	190	3,820	4,446
Mid-Willamette	0	0	0	0	0
North Coast	176	336	331	3,269	3,605
Lower Willamette	5	10	58	834	844
Umpqua	611	763	226	9,656	10,419
Upper Rogue	5	25	70	494	519
Upper Willamette	1	7	13	91	98
<b>Total</b>	<b>5,683</b>	<b>32,926</b>	<b>1,914</b>	<b>39,963</b>	<b>72,889</b>

Figure 1. Number of volunteers who participated in STEP activities, 1981-2009. Values for 1981-1990 and 1993 are estimates.

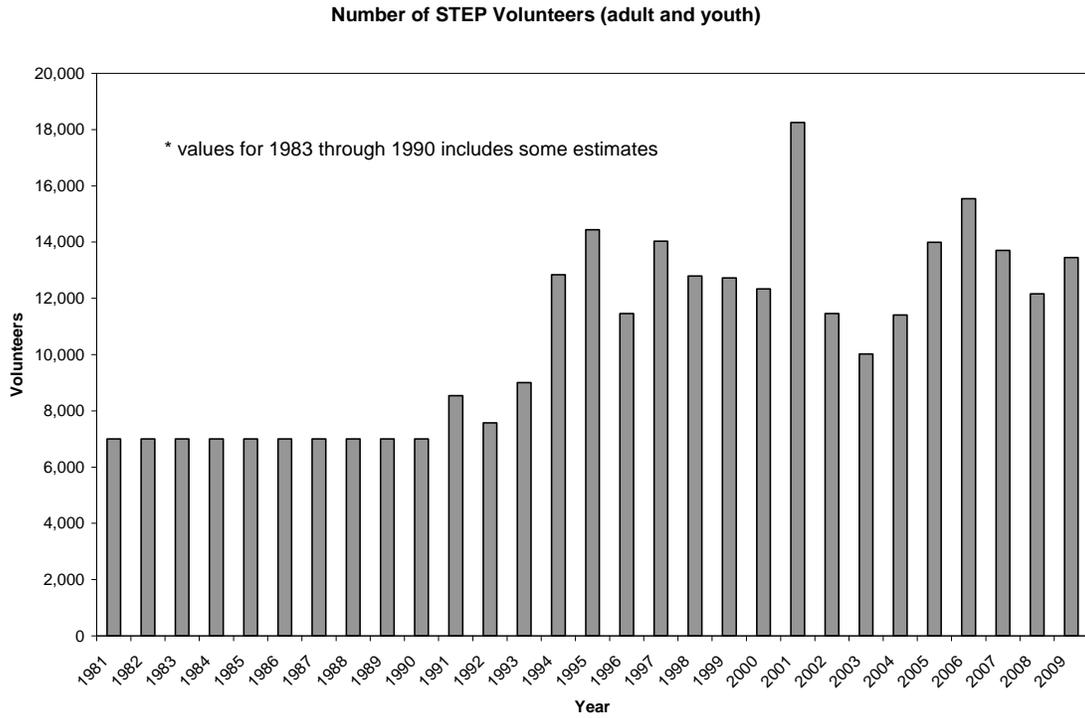
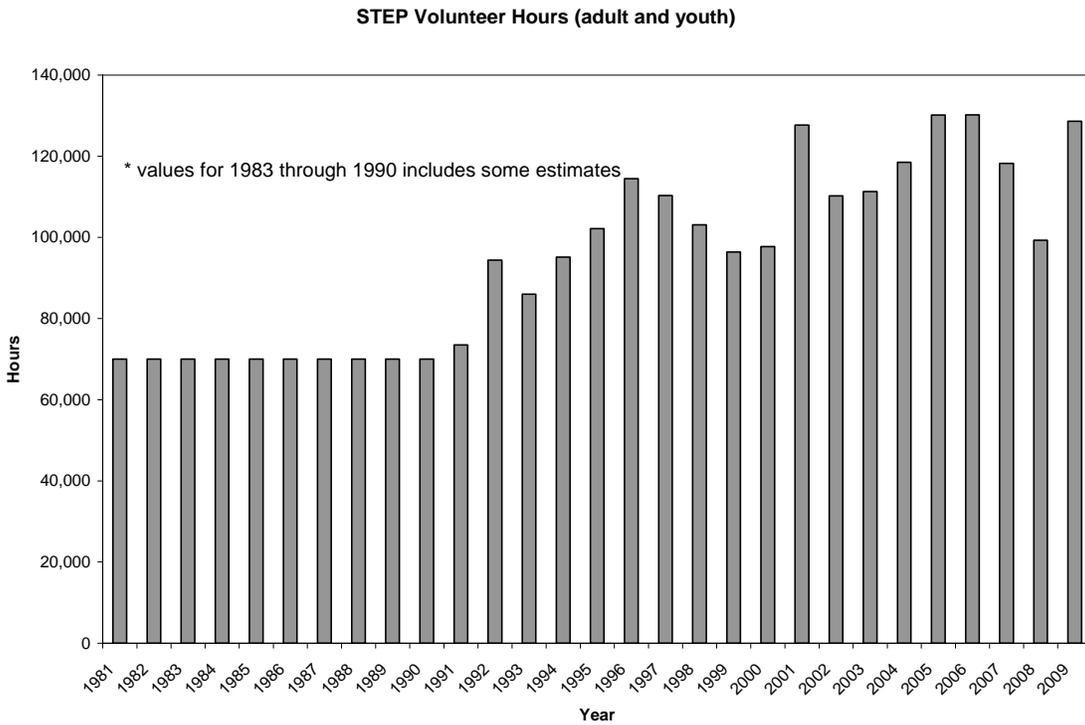


Figure 2. Hours contributed by volunteers towards STEP activities, 1981-2009. Values for 1981-1990 and 1993 are estimates.



# STEP DISTRICT DESCRIPTIONS

## *Northwest Region*

**Lower Willamette STEP** .....*Jeff Fulop, STEP Biologist*  
*Danette Faucera, Assistant District Fish Biologist*  
*Todd Alsbury, District Fish Biologist*  
*Tom Murtagh, District Fish Biologist*

Lower Willamette STEP covers ODFW’s North Willamette Watershed District (NWWD), and with the Portland metropolitan area inside its boundaries, has the largest population of any STEP district in Oregon. The large angling population presents the district with the challenge of meeting the varied needs of a broad and changing demographic. There are also numerous fish management constraints associated with conservation and recovery of native fish species and species listed under the Endangered Species Act (ESA).

The district covers waters from the eastern slopes of the Coast Range east to Mt. Hood, and from the city of Clatskanie south to Salem. The larger river basins include the Columbia, Willamette, Sandy, Clackamas, Tualatin, Molalla, Yamhill and Pudding and their many tributaries. The varied landscape includes farmland, urban areas, forest lands, mountains and wetlands. Fish species include salmon, steelhead, a variety of trout and sturgeon. There is also a wide diversity of warm water angling opportunities with several species of warm water game fish present in the district.

Population growth along with the associated development and urban sprawl, and the ever-changing constituency continue to place considerable strain on the natural resources. District staff strive to maintain a balance between fish and wildlife protections, continued opportunities in fishing, hunting or outdoor viewing enjoyment, while meeting the new demands on the resources associated with rapid population growth and development.

**Mid-Willamette STEP** ..... *Karen Hans, STEP Biologist*  
*Alex Farrand, Assistant District Fish Biologist*  
*Steve Mamoyac, District Fish Biologist*

The Mid-Willamette STEP district is a geographically diverse area in the South Willamette Watershed District (SWWD) reaching across the Willamette Valley from the crest of the Coast Range east to the crest of the Cascades. The Willamette River travels the length as it flows from McKenzie River confluence downstream to the agricultural lands north of Salem. Within this area, three major stream systems flow from the western slopes of the Cascades into the Willamette (North Santiam, South Santiam and Calapooia). Another four (Rickreall, Luckiamute, Marys and Long Tom) drain the eastern slopes of the Coast Range. The district is also one of the most populated regions of Oregon. Salem, Eugene, Corvallis and Albany are the larger urban areas but a number of smaller cities, towns and rural communities are scattered throughout. The natural resource concerns that have accompanied the area's historical land uses

of timber harvest and agriculture have been complicated by the challenges posed by urbanization.

In spite of the growing human population and resulting changes to the landscape, the Willamette River Basin continues to support a diversity of fish and angling opportunities. Native game fish species present in the district include spring Chinook salmon, winter steelhead, and rainbow and cutthroat trout. Several salmonid species have also been introduced including fall Chinook salmon, coho salmon and summer steelhead. Although the focus of STEP efforts in this area is upon the native salmonids, the program through its educational, monitoring and habitat efforts, also provides benefits to basins and their native fish populations.

A failure to recognize the importance of watershed rather than just stream health has led to the degradation and loss of aquatic habitats across Oregon. In this area, one of the results has been federal listings under the ESA of the Mid-Willamette's two native stocks of salmon and steelhead. In response, the State of Oregon and its citizens have initiated a comprehensive and cooperative community-based approach to watershed restoration under the Oregon Plan. Although all ODFW programs have an important role in this effort, STEP finds itself uniquely situated in that its responsibilities include many of the major components of the Oregon Plan. Most importantly, the foundation of STEP is community involvement with these activities. The focus of STEP in this district has been to involve area groups, schools and individuals in all aspects of ODFW's local fish management efforts.

As the population is large and still growing in this area, the STEP efforts continually emphasize outreach and education in the Mid-Willamette basin. This is achieved in-part through direct community involvement with many ODFW activities but particularly monitoring and inventory efforts and educational programs. Adult and youth participation with these projects not only demonstrates the ability that communities have to assist with the more technical needs of fish recovery but also provides the "hands on" experience that allows for increased awareness and fosters stewardship. Of special interest, have been new inventories on waters that are considered "at risk" and for which little or no fishery information exists. The data gathered has been essential to habitat protection and restoration efforts throughout the basin, especially those in the agricultural and urban areas.

**Upper Willamette STEP**..... *Erik Moberly, STEP Biologist*  
*Kelly Reis, Assistant District Fish Biologist*  
*Jeff Ziller, District Fish Biologist*

The Upper Willamette STEP district coordinates volunteer efforts to maintain, restore and monitor native populations and the habitats of salmon and trout within the headwaters of the Willamette River. The major river systems include the McKenzie, Middle Fork Willamette and the Coast Fork Willamette. Spring Chinook salmon is the only anadromous salmonid native to the area, however, resident and/or fluvial populations of rainbow, cutthroat and bull trout are also found within the district. Spring Chinook salmon and bull trout are federally listed as "Threatened" under the ESA.

Responsibility for implementing the STEP program in the Upper Willamette is shared between the STEP biologist and other district staff. Staff believe that assigning the STEP responsibilities broadly among all members allows greater flexibility and more effective integration of STEP throughout all fish management activities.

A variety of individuals and area organizations participate in the STEP program including the McKenzie Flyfishers, Cascade Family Flyfishers, Emerald Empire Chapter of the Association of Northwest Steelheaders (NWST), Trout Unlimited, Coastal Conservation Association, McKenzie River Guides Association, Backcountry Horsemen, Guistina Land and Timber and three watershed councils. ODFW staff regularly attend meetings of these groups to provide information about our agency, answer questions and to recruit new volunteers. Volunteers are also recruited from area schools, universities and a variety of youth groups.

The Upper Willamette STEP biologist would like to recognize the dedicated staff from Leaburg, McKenzie, Willamette and Dexter hatcheries for all their hard work in working with the STEP program. Hatchery staff assist STEP with many projects that could not be conducted without their help.

**North Coast STEP** .....*Vacant, STEP Biologist*  
*Robert Bradley, Assistant District Fish Biologist*  
*Chris Knutsen, District Fish Biologist*

The North Coast STEP area includes all of the coastal basins extending from Neskowin Creek north to the Columbia River, and from the Lower Columbia River tributaries to Plympton Creek. The North Coast STEP covers all of Tillamook and Clatsop Counties, and portions of Columbia, Washington, Yamhill and Polk Counties. This area holds fifteen major river systems and over 2,600 stream miles.

All district fish management staff work with STEP volunteers, but the STEP Biologist has primary responsibility for administering, coordinating and reporting program activities. Projects are identified and guided by local fish management and hatchery needs with a focus on outreach, habitat restoration and fish propagation efforts. The North Coast STEP position was vacant from September 2008 through September 2009 with district staff filling in as able to keep STEP related programs running. Due to these staffing limitations only essential programs such as hatchery, hatch box, classroom Egg-to-Fry programs, Youth Angling Enhancement Program YAEP events and stream enrichments received highest priority.

Volunteer groups in the area have a high interest in fish culture programs. STEP volunteers operate two fish rearing facilities and one acclimation pond, and they provide key support to several ODFW hatcheries. The area also has a small hatchbox program using spring and fall Chinook salmon and a growing classroom egg incubation program involving students from seven school districts. Staff works closely with a number of watershed councils, educators, angling groups and civic organizations throughout the district.

**Mid-Coast STEP** .....*James Ray, STEP Biologist*  
*George Westfall, Assistant Fish Biologist*  
*Derek Wilson, Assistant District Fish Biologist*  
*Bob Buckman, District Fish Biologist*

All of the central Oregon coast watersheds from Salmon River (Cascade Head) south to the Siuslaw River are included in the Mid-Coast STEP area. This area encompasses several large river drainages including the Salmon, Siletz, Yaquina, Alsea and Siuslaw rivers; a number of smaller direct ocean tributaries that support significant salmon and trout populations such as the Yachats River, Beaver, Big, Tenmile and Cummins Creeks; and Siltcoos and Tahkenitch Lakes, the two large coastal lakes of significant importance for Coho salmon. Mid-Coast waters are highly diverse in terms of salmonid habitat usage and extend from the headwater streams on the western slopes of the Coast Range downstream to the coastal estuaries.

James Ray has lead responsibility for the area program and George Westfall, ODFW Assistant District Fish Biologist based in Florence, performs STEP duties in the Siuslaw Basin and other waters south to the Umpqua Basin.

The Mid-Coast STEP works with area communities to undertake a diverse range of projects in fisheries management and conservation, and has shared successes with those communities. However, changing demographics and population increases will necessitate continued efforts. The Oregon Coast is continually attracting more people that tend to bring additional pressures on the district's natural resources. Education and outreach has always been a central part of the Mid-Coast program, but STEP will be emphasizing this further in coming years with a focus on youth education. Education, particularly in field settings where participants are immersed in the natural system, increases awareness of important ecological issues and fosters a sense of stewardship. In addition to education, Mid-Coast STEP will be further developing its participation in habitat restoration activities with communities and local landowners.

### ***Southwest Region***

**Umpqua STEP**.....*Greg Huchko, STEP Biologist*  
*Holly Truemper, Assistant District Fish Biologist*  
*Laura Jackson, District Fish Biologist*

The Umpqua Watershed and STEP area encompasses Douglas County and extends from Diamond Lake in the high Cascades to the Pacific Coast at Reedsport. Douglas County is the fifth largest county in the state, and the Umpqua watershed drains 3.2 million acres of land, and is the second largest coastal watershed in Oregon. About 90 percent of the land is forested and approximately 51 percent is publicly owned. The area is home to more than 100,000 people with Roseburg having the largest population of more than 20,000.

The Umpqua Basin supports runs of coho salmon, spring and fall Chinook salmon, and winter and summer steelhead. Other angling opportunities include rainbow trout at Diamond Lake,

brook trout at various Cascade lakes, and a number of reservoirs that are stocked with trout and support warm water fish. STEP volunteer efforts range from educational projects and assistance with high lakes stocking to enhancing winter steelhead and fall Chinook salmon fisheries.

**Tenmile, Coos, and Coquille STEP** .....*Gary Vonderohe, STEP Biologist*  
*Tom Rumreich, STEP Biologist*  
*Chris Claire, Assistant District Fish Biologist*  
*Mike Gray, District Fish Biologist*

The Tenmile, Coos and Coquille STEP area is located on the southern Oregon coast and is recognized as having been the birth place of STEP over 26 years ago. The area is bordered on the north and east by the Umpqua Basin and by the New, Sixes and Elk Basins to the south. The area holds three major watersheds, the Tenmile, Coos and Coquille, and several smaller streams that flow directly to the ocean. Both the Coos and the Coquille watersheds have long inter-tidal reaches and large estuaries, while the Tenmile is dominated by several large freshwater lakes.

The area program emphasizes citizen involvement with efforts to protect and enhance salmon, steelhead and trout.

Early in the development of STEP, education and outreach became a significant part of the local program, as it was recognized that educating the public and particularly area youth would be important toward achieving the long-term goals of STEP in general. Education through involvement increases awareness about the needs of native fish through habitat recovery and protection efforts. In addition to outreach activities, habitat restoration has been an important part of STEP with the initial habitat projects having taken place even before the program was formally established. Large numbers of volunteers also continue to be involved in the area's extensive fish culture program that includes broodstock development, spawning, egg incubation, rearing and acclimation projects.

**Lower Rogue STEP**.....*John Weber, STEP Biologist*  
*Steve Mazur, Assistant District Fish Biologist*  
*Todd Confer, District Fish Biologist*

The Lower Rogue Watershed District is part of the Rogue Watershed District. The Lower Rogue Watershed District includes coastal basins from Four Mile Creek south to the California border. New River, Elk and Sixes Rivers, Euchre Creek, Rogue River and other miscellaneous coastal tributaries are included in this district.

The Lower Rogue Watershed District Biologist is responsible for fish management within the district. Two Natural Resource Specialist II positions working under the District Biologist include a Habitat Protection Biologist funded by fish management funds and a (STEP) Biologist funded through SFR funds.

The focus of the STEP program within the district is to utilize volunteer resources to accomplish management objectives. The STEP Biologist works primarily with local clubs, landowners, timber companies, watershed councils, educators and school groups. The majority of volunteers

that engage in STEP program activities in this watershed district belong to one of two local STEP groups: OSCF or CAF. The STEP groups consist primarily of retired individuals interested in performing meaningful work that will help restore and maintain fish populations within local watersheds. Aquaculture is a primary focus for the Curry Anadromous Fishermen, with activities focused on population monitoring, broodstock collection and habitat restoration. All groups consider fishery education a high priority and often cooperate with other local entities to accomplish common objectives.

Throughout the past year the Rogue Watershed was in the process of developing a conservation plan for fall Chinook in the Rogue Species Management Unit. A public advisory committee is assembled to provide input through the process. The two district STEP groups have a member on the advisory committee.

Volunteers in the 2008-2009 STEP year participated in projects associated with fish culture, education of youth, habitat restoration and population monitoring. Fish culture and population monitoring comprise the majority of volunteer effort.

**Upper Rogue STEP**..... *Charles A. Fustish, STEP Biologist*  
*Brent Crowe, Assistant District Fish Biologist*  
*Dan VanDyke, District Fish Biologist*

The Upper Rogue STEP district extends from Mule Creek near river mile 48 of the Rogue River upstream for about 200 miles to where the river begins as a spring near Crater Lake. Cole Rivers, an early Rogue District Fish Biologist, estimated there were about 2,400 miles of stream in the basin. Approximately 400,000 people live in the district, providing a large number of schools, service clubs, sportsman's clubs and volunteers to assist in various STEP projects that educate citizens and improve fish habitat throughout the basin.

Basin fisheries include salmon, steelhead, trout and warm water fish. The Rogue River is reported to possess the strongest runs of salmon and steelhead of all the coastal streams in Oregon. The coho salmon is the only fish in the district listed (currently as "Threatened") under the Federal Endangered Species Act (ESA).

This year over 200 district STEP volunteers put in over 3,000 hours and drove 4,300 miles to complete the various projects described in this report. The past year's activities focused on outreach, recruiting youth to enjoy the diverse angling opportunities in the Rogue River basin and monitoring fish use in small, urban, and intermittent streams in the watershed. The small, urban and intermittent stream project has provided much needed outreach from streams that do not even look like they could harbor significant populations of salmonids. This year's projects included a pilot study to determine how many fish are available to fly anglers in the Holy Water. Our goal was to use angler caught fish to make a Peterson population estimate on a 0.75 mile stretch of the Rogue River. A student intern from Oregon State University was hired to do physical and biological surveys on the ponds within the Denman Wildlife Area and assist biologists as needed.

## **High Desert and Northeast Regions**

**Eastern Oregon STEP** .....*Jennifer Luke, STEP Biologist*  
*Shannon Hurn, Roger Smith, Brett Hodgson, Rod French, Jeff Yanke,*  
*Bill Duke, Jeff Neal, Tim Bailey, Eastern Oregon District Biologists*

The Eastern Oregon STEP program is administered by the ODFW High Desert and Northeast regions. These regions together cover the entire state east of the Cascades. This area includes the following major watersheds: Deschutes, Klamath, Malheur, Malheur Lake, John Day, Umatilla, Grande Ronde and Owyhee.

The STEP Biologist and local volunteers work with ODFW districts and hatcheries to identify specific projects requiring volunteer recruitment, supervision or training. Project definition and direction come from the individual fish management districts and are based on the annual needs. The STEP program focuses its efforts on monitoring trout populations, conducting aquatic education programs and restoring fish habitat. Volunteers assist with a variety of surveys including electro-fishing, trap netting, redd and snorkel surveys. ODFW fish biologists utilize information gathered from these surveys to evaluate, monitor fish species and meet fish management objectives.

Activities involving schools, teacher education and general public education about fish populations and their habitats are a high priority for the Eastern Oregon STEP district. STEP volunteers eagerly share their knowledge of both fishing and conservation and their involvement fosters the next generation of conscientious anglers and conservationists.

# EDUCATION AND PROGRAM DEVELOPMENT

## Introduction

STEP biologists and volunteers conduct a variety of activities that help develop the program and educate the public about Oregon's fish resources. These include:

- Presentations to groups, teaching classes, conducting tours, and holding workshops.
- Hosting displays or booths at fairs and festivals, and preparing written materials such as articles, news releases, websites, brochures, and STEP publications.
- Training STEP volunteers or project cooperators with the technical skills that allow them to conduct or assist with projects.
- Maintaining or constructing equipment or facilities.
- Assisting with program administration and other activities.

A publicist provides publicity for the statewide program and to produce issues of the joint STEP and ODFW Fish Restoration and Enhancement (R&E) Program publication *FishWorks*. *FishWorks* highlights STEP and R&E Program activities and provides information on upcoming events and the value of projects to fish management.

Following are summaries of development and education activities conducted in STEP districts during 2008-2009 (Table 1). This narrative is not intended to be comprehensive, but instead highlights a few of the major activities in each area.

## ***Lower Willamette STEP***

### Passport to Fishing – Free Fishing Weekend

The Passport to Fishing event was held for the 16th consecutive year at Bonneville Fish Hatchery. This annual event is conducted on the Saturday of Free Fishing Weekend and is the largest event of its kind in Oregon, with attendance in 2008 exceeding 1,800 youth and adults. At the event, participating youth are taught how to angle for, and take care of Oregon's fish resources. Passport to Fishing is sponsored by ODFW and jointly organized by the NWWD Volunteer Coordinator and STEP. The event is made possible with the help and support of more than 150 youth and adult volunteers.

### Youth Angling Enhancement Program

STEP coordinated and produced six Youth Angling Events in the NWWD, continuing the efforts of getting local youth actively involved and interested in fishing. With many of the youth in the district residing in urban areas, holding these close-in events provides opportunities for young participants to experience the outdoors while discovering that they can remain close to home.

For 2009, the events were held at Canby Pond in Canby, St. Louis Pond in Gervais, Trojan Pond in Rainier, West Salish Pond near Troutdale (spring and fall), and Commonwealth Pond in

Beaverton. The events attracted over 430 youth, many of them first-time anglers. Several hundred trophy trout in addition to legal-sized trout were stocked for the events.

Under the guidance of the STEP biologist, volunteer groups including the (ANWST), ODFW Angler Education Instructors and members of the angling community, provided assistance in teaching kids about fishing, handling their catch and selecting the right equipment, as well as how to interact with the environment. Volunteers also assisted in setting up equipment and provided help at the registration areas. Nearly two dozen volunteers donated over 160 hours of time helping to make these events successful.

### Fish Eggs-to-Fry Program

NWWD STEP has experienced tremendous growth in the classroom incubator program. An expanding enthusiasm and desire to implement the program into classroom curriculum brought several new schools to STEP, as the number of participants increased to over 210 classrooms. These incubation projects hatched eggs and released over 115,000 unfed salmon and trout fry into a dozen different STEP-approved lakes, ponds and streams within the NWWD. Several local chapters of the ANWST, the local OSU Extension Service (4-H), The Oregon Zoo, OMSI, and Reed College sponsored classroom incubation projects in schools around the Portland Metro Area. With the ongoing growth of the program, its implementation would not be possible without the dedication of the many volunteers.

### STEP Annual Conference

District STEP staff played an active role on the planning committee for the 2009 Annual STEP Conference. The conference was held over a three-day period in September at the Oregon 4-H Center near Salem, Oregon. A broad spectrum of STEP related topics were presented with over 150 people in attendance, ranging from educators, scientists, angling enthusiasts and students. More than 20 STEP volunteers were instrumental in the success of the event.

### Other Outreach

District STEP staff continued to write the angling recreation report for the NWWD, providing updated information to local anglers about all types of fishing opportunities in the area. This report is published weekly on the ODFW website and receives the most “hits” of any section on the site.

STEP and NWWD staff participated in the annual Oxbow Salmon Festival on the Sandy River. Working side by side with the ANWST, and other state and federal agencies, district staff was able to provide education and discuss salmon and steelhead issues with nearly 10,000 visitors of all ages.

STEP staff attended monthly meetings of several local angling groups, keeping this valuable volunteer base aware of upcoming opportunities and issues. Monthly meetings also provide a venue to show appreciation for volunteer efforts.

District STEP staff again participated in outreach activities by attending summer camps and performing “fish dissection talks” with actual carcasses. Classrooms were also visited to discuss STEP in the schools and career opportunities in the natural resource fields.

## ***Mid-Willamette STEP***

### Technical Assistance

During the 2008-2009 reporting period, the STEP Biologist gave ten presentations detailing fish resources, management issues and ODFW volunteer opportunities to a variety of interests including: students, teacher or other educational organizations, angler and conservation groups, Watershed Councils, and other federal, state and local agencies. The District works with eight watershed councils in a variety of roles including providing general information, technical expertise to habitat and inventory projects and assisting with volunteer training, and development of action plans and restoration priorities. The STEP Biologist provides technical assistance to many agencies and organizations on fish related matters including the Sodom Dam fish passage project, road related repair or culvert replacements in Linn, Lane, Polk and Benton Counties, Department of State Lands regulatory actions, and habitat restoration projects through out the district. The STEP Biologist is a member of the Oregon Watershed Enhancement Board Region 3 Technical Review Team, the Benton County Fish Passage Task Force, the Luckiamute River Fish Passage Task Force, the Newton Creek Management Area Technical Team, and the Long Tom, Calapooia, and Luckiamute Watershed Council’s Technical Teams. In total, the STEP Biologist attended 22 meetings, offering technical advice and fishery perspectives on a variety of district fish issues.

### Youth Education

Many school districts in the Mid Willamette district send students to Outdoor School and this has provided the STEP Biologist with additional educational opportunities for the program. The STEP Biologist, or STEP volunteers, participated in 14 Outdoor Schools, three summer camp fishing clinics, four youth angling events, Willamette Water Festival for Salem area youth, water safety at the Northwest Flyers Expo, three Salmon Watches, as well as Kid’s Day for Conservation.

The STEP Biologist, along with volunteers from the Albany Chapter of the ANWST, ODFW Angler Education Instructors and the Senior Fishing Buddies, hosted stations on fishing and fish biology at outdoor schools and summer camps organized by the Boy Scouts, Polk County Soil and Water Conservation District, OSU Extension Service (4-H), the Boys and Girls Club, Corvallis School District, US Forest Service, and Adair Village Summer Program. At the fishing stations, students catch stocked trout and sunfish, and learn about catch and release techniques. At outdoor schools with fish biology stations, students learn about fish anatomy, physiology, environment adaptations, habitat needs and challenges posed by humans. One of the most popular activities at outdoor school is fish dissection. The students share a juvenile steelhead or salmon to dissect and learn the internal and external anatomy and physiology of the fish.

One of the most popular activities is fish dissection at district area elementary, middle and high schools. Steelhead smolts from the South Santiam Hatchery are frozen individually each year

and are then used for the dissections. Volunteers from the ODFW's Angler Education Program, the Albany Chapter of the ANWST, and the Senior Fishing Buddies, as well as many parents and school volunteers assist with the dissection. For many students, this is their only opportunity to do a dissection on any type of actual animal as opposed to a plastic model or virtual computer program. During the reporting period 16 fish dissections were hosted at nine district area schools and outdoor schools reaching a total of 725 students.

In July 2009, the STEP Biologist participated as a Science Mentor at the Salmon Summit, a summer camp for high school students interested in salmon. Twelve students from all over Oregon, as well as twelve from Sakhalin Island, Russia, learned about salmon biology, habitat needs, riparian areas and aquatic macroinvertebrates. Students were divided into groups mixing Oregon and Russian students, and with the help of the Science Mentor, designed and carried out an in-stream research project on fish and aquatic macroinvertebrates. The students then presented their findings to an audience of parents volunteers, and camp staff.

## ***Upper Willamette STEP***

### Technical Assistance

The STEP Biologist served on the Coast Fork Willamette Watershed Council's Technical Committee tasked with providing technical expertise for projects sponsored by the council. STEP has assisted the council to obtain funding for and implement many projects in the watershed.

The STEP Biologist participated in the Cedar Creek Planning Group which was formed to bring resource agencies and landowners together to address water quality and habitat issues in the creek. The group applied for and received a STEP Water Right Exemption which will provide in-stream flow into Cedar Creek to meet minimum requirements for aquatic life. There is a 5-year evaluation period associated with this water right exemption in which STEP volunteers will assist district staff in conducting multiple monitoring and habitat restoration projects in the creek.

The STEP Biologist served on The Freshwater Trusts Steering Committee which provides direction for the annual Salmon Watch activities in the area. In 2009, 16 schools provided over 950 students with the opportunity to participate in the program.

### Youth Education

STEP staff and volunteers assisted with three YEAP events located in Cottage Grove, Creswell and Eugene. These events provided kids with the chance to check out a fishing rod, obtain instructions on casting and to catch one of the many trout that were stocked in each of the locations. These events continue to become more popular and repeat participants are seen each year.

STEP staff participated in a Career Fair for local high school students in Pleasant Hill. Staff presented information on college requirements, volunteering with natural resource agencies, how to find available jobs and work related job duties. Over 100 students were selected to participate

in the presentation. Students were also allowed to ask questions during the later part of the presentation.

STEP partnered with the McKenzie Family Fly Fishers organization to assist with the B.E.S.T. Program which is an after school curriculum geared towards teaching middle school kids the art of fly fishing, fish identification and fishing ethics. STEP staff gave a presentation and coordinated an additional trout stocking event at Alton Baker Park.

STEP staff participated in the annual Creeks & Kids Workshop put on by Lin Howell of Jackson Bottom Wetlands. This very popular event allows for around 30 teachers to obtain a week of hands-on experience learning about various fish, wildlife and habitat sampling methods. The teachers then bring the information back to their classrooms where they get their students involved in natural resource education and monitoring.



STEP staff, along with STEP volunteers, participated in an Outdoor School which provided over 75 kids with the opportunity to learn how to cast a fly rod. Despite the pouring rain and thunderstorms, the kids had a good time and were enthusiastic about the opportunity.

### Program Outreach

STEP Biologist gave numerous presentations to a variety of groups including Kiwanis Club, Damsel Flies and Obsidians Group. Although all three presentations were different, they all focused on issues regarding fish populations, habitat and the fishery in the Upper Willamette Basin. STEP also recruited volunteers from these presentations to participate in a variety of upcoming projects.

STEP staff participated in a Fly-Fishing Festival in Eugene. Educational materials and displays were presented during the event. Staff were also present to answer various questions and listen to concerns from the public attending the event.

## ***North Coast STEP***

### Education and Outreach

North Coast Staff continued to participate in the Freshwater Trust sponsored the Salmon Watch Program, conducting 11 fieldtrips, educating elementary through high school students on the biology and life history of salmon.

Other outreach and educational activities that occurred this year included exhibits at the Tillamook County Fair, the City of Vernonia's annual Salmon Fest and presentations to the North Coast Chapter of the ANWST. Participation in Career Day for local high schools also occurred.

### Fish Eggs-to-Fry Program

The North Coast STEP classroom incubator program this year involved delivering eggs and presentations to students in 12 schools, elementary through high school, who participated in the hatching and releasing spring Chinook, fall Chinook, winter Steelhead and summer Steelhead fry into approved streams. In addition, Warrenton and Astoria High Schools continued to operate full hatchery programs, rearing fall Chinook, coho, and winter Steelhead until the end of the school year when they were released as pre-smolts.

### Youth Angling

Almost 800 YEAP and their parents were exposed to the joy of fishing through North Coast events that were held at six sites. Youth fishing events occurred in conjunction with Camp UKANDU (a week long camp for kids with cancer) and Camp Rosenbaum (a week long leadership camp for at risk youth) with the help of STEP volunteers.

### Additional Activities

Volunteers from the Tualatin Chapter of ANWST helped clean up Hughey Creek Acclimation Pond on a couple of occasions, and also helped to rebuild the boat slide and improve the pull-out area at the Cedar Creek access site on the Trask River. Volunteers from the North Coast Chapter of ANWST helped clean up the Siskeyville Boat Slide on the Wilson River.

## ***Mid-Coast STEP***

### Fish Eggs-to-Fry Program

With the assistance of volunteers the Mid-Coast STEP biologist continued to implement the classroom incubator program by giving classroom and field presentations to students in 44 classes from 16 schools, elementary through high school. STEP biologists use the classroom incubator program as a vehicle to teach students about salmon and trout life cycles, habitat requirements and good natural resource stewardship.

### Education

In addition to the classroom incubation program STEP biologists provided educational opportunities on salmon and trout life-cycles and watershed health to over 400 children and adults through presentations and field trips at summer camps, family festivals and for various civic groups. Local STEP biologists participated in public meetings with approximately 138 people addressing topics on salmon ecology, population enhancement and fish management strategies.

## Youth Angling

Volunteers helped to implement successful Youth Angling events at three sites on the Mid-Coast: Big Creek Reservoir, Eckman Lake and Cleawox Lake. Over 750 youth and their parents participated in the events. STEP biologists also supported the great work done by volunteer instructors for the YEAP by assisting with classes such as fish ecology, angler ethics and habitat restoration.



Photo 2. Free fishing day at Cleawox Lake

## ***Umpqua STEP***

The Umpqua STEP biologist helped coordinate 23 different educational events that reached 2,378 youth and 2,376 adults. This included six Free Fishing Day events that occurred in Douglas County as well as salmonid life cycle classes and angler education programs.

## Eastwood Elementary Outdoor Days

The STEP biologist worked with partners in the Eastwood Regional Education Committee to further enhance the Eastwood Elementary Outdoor Days. This program focuses on water cycles, food webs, macro invertebrates, Indian culture and fish life cycles. The curriculum for each topic was also summarized in fourth grade level passport that had puzzles, word searches, fill in the blanks or drawings to further explain the topic. Each child attending the field event received a passport and a string for a necklace. At the conclusion of each 40-minute time frame, the child's passport was stamped and they received a bead for their necklace before moving to the next station.

## Angler Education

The STEP biologist worked with the US Forest Service and other state, federal and private organizations during the TSALILA Festival in Reedsport. This year's event featured the use of a new "fishing simulator" that utilizes four practice fly-rods with adhesive attached to "catch" the life size replicas of various fish.

Angler education programs took place at Bowman's pond and the Roseburg YMCA. These programs focused on knot tying, identifying various game and non-game fish, and how to use different types of fishing gear.

## Lookingglass Acclimation Site and Boat Ramp Project

Another major development for the year was the continued moving forward of the Lookingglass Acclimation Site and Boat Ramp. Project permits and designs were accepted in 2009 by the Department of State Lands (DSL). This project will add a new boat ramp on the South Umpqua River, increasing angler access to productive winter steelhead and smallmouth bass portions of the river. The acclimation site will provide another location to acclimate winter steelhead and should produce high numbers of anglers in the immediate area. Lastly, this site will provide an area to educate local high school students about fish hatchery management and biology.

### Additional developments

The development of several new STEP programs is taking place. These include the potential trout rearing facility at Glendale High School, the development of a warm water pond to be used for youth angling, and the development of a guide to fishing the Umpqua Basin for public use. These projects are expected to be completed by the end of 2010.

### ***Tenmile, Coos and Coquille STEP***

#### Millicoma Interpretive Center

The Millicoma Interpretive Center (the Center) continues to be a popular place for student groups and others to come and learn more about the life histories of salmon and steelhead. This past year the facility received its largest number of visitors since the facility opened. Over 3,900 visitors came to participate in the programs at the site. Visiting student groups and the general public get a unique “hands-on” learning experience. Groups are involved with the collection of broodstock, spawning, eggs and fry care, and fin-marking. Most of the student groups get an opportunity to incubate eggs in their classroom aquaria. This forges a great connection between their activities at Millicoma and the life cycle of salmon. Department staff and volunteers developed a new curriculum for fourth grade classes at the Center. Primarily this is an angler educational field trip where students learn basic angling techniques as well as fish biology. These were carefully planned so that they are not redundant with what the students will participate in as fifth or sixth graders.

Campers staying at the former Western Rivers Girl Scout Camp near the Center devoted an entire week to the construction of a forest interpretive trail for the second year. Trail construction was initiated as an “Eagle Scout Project” in the mid 1990’s. The trail was constructed by dozens of school age children. The expansion of the trail system has been a goal for over a decade. The trail has already been used extensively by visiting school groups. The trail features a good example of a riparian corridor and a diverse forest. The camping organizations involved in the construction of the trail have adopted the project and plan to work on extending the trail every summer for the next several years. The District Forester with the Oregon Department of Forestry devoted a day to the design and the development of the trail.

The Oregon Department of Forestry constructed an elaborate foot bridge over a small stream near the Center. The foot bridge has been needed for years to safely and easily allow campers at the former Girl Scout Camp to get to the interpretive center. The old bridge was dangerous to cross. This is a great addition to the facility.

#### Youth Angling

ODFW hatcheries provided 1,500 legal rainbow trout for stocking in the vacant steelhead acclimation pond at the Center. Three separate loads were transferred to the Center. Many of the hundreds of children who participated in catching these trout caught their very first fish at the Center. Volunteers and hosts at the Center passed out many first fish certificates again this past spring.

A separate event that was held at Empire Lake in the City of Coos Bay as part of the annual Child Advocacy Center's Family Fun Day. The total number of children that participated in this event was 450. This was the same number as last year. Department staff and volunteers were on hand to assist with fishing gear and angling instruction. A free lunch was provided to all of the participants by Northwest Natural Gas.

On Eel Lake, the STEP biologist and volunteers held a fishing clinic on Free Fishing Weekend for the tenth straight year. This event features a course that children can learn everything from knot tying to fish identification. Once the children complete the course they are allowed to fish in the net pen. The trout are fed by the volunteers for approximately three months prior to the event. STEP volunteers rear 1,000 trout from a local hatchery in a net pen in Eel Lake specifically for the clinic.

For the second year, legal rainbow trout were stocked into portable fire suppression ponds for children to catch as part of four events. The first event was part of the North Bend Jubilee, and a trout pond was placed in the Pony Village Mall. Adult volunteers and youths with the Upward Bound program helped children catch and take care of the trout. Similar trout ponds were set up at the Mill Casino in North Bend as part of a prostate cancer awareness event, at Mingus Park in Coos Bay as part of the city's annual Fourth of July Celebration and at the Charleston Seafood Festival. Fishing poles and gear were provided to the 1,100 children at these events. These ponds were a great opportunity for children to catch fish. Local fire departments from North Bend, Coos Bay, Charleston, and the Coos Forest Protection District were instrumental in the set up of these ponds.

A new trout fishing event was held at Empire Lake in July. The Principal of Madison Elementary School and a STEP Biologist co-authored a grant to promote positive after school activities. The funds for the grant provided food and fishing rods and reels to be given away to the participating children. The Coos Bay Fire Department volunteered to cook the lunch.

#### Coquille High School Educational Hatchery

Volunteers and students continued to work on the Coquille High School Educational Hatchery during the year. New informational and educational displays were installed at the site. During the winter, the high school students continue to be teachers themselves in what is now known to be "Tour Tuesday." Elementary school classes devote an afternoon learning salmon life histories and their struggle to survive. The high school students spawn and incubate salmon and steelhead eggs at the station which provides a wonderful "hands-on" experience for the younger students. This is a wonderful time to see the older students impart resource awareness and education to these younger students. For the adult volunteers and teachers, it is a time to sit back and enjoy.

At Coquille High School this past spring, for the third year in a row, hundreds of students were involved with the marking of the fall Chinook juveniles that are spawned and raised at the facility. This was a great "hands on" opportunity for students to take part in marking these fish so that they could be better monitored as they migrate to the ocean and back again to the facility. Many students said that marking the fish was the highlight of their entire school year.

#### Morgan Creek Hatchery

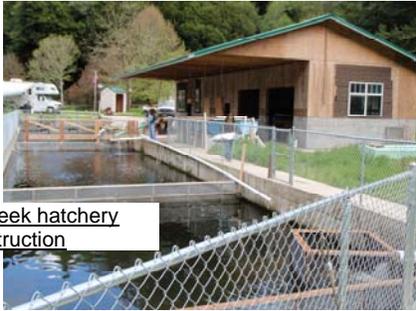


Photo 3: Morgan Creek hatchery building under construction

The reconstruction of the educational and fish cultural facilities continued at Morgan Creek during the report period. The main building at this new facility has two large bathrooms, a utility room, office and a large instruction room. This training facility, when completed, will be a valuable educational component. Volunteers, staff and youth workers began the construction of a second education building.

This past summer federal stimulus funds were used to hire six disadvantaged youth. The primary project for these youths was the construction of this second building. This new building

will provide 2,800 square feet of a covered work area. The main components of this new building are a large spawning/fin-clipping area and a wader room for the participating students. Youths in the Upward Bound Program continue to be important contributors to the construction of this building. Volunteers will devote over 25,000 hours to complete the Morgan Creek facilities over the course of the next four years. Volunteer time on this project alone is estimated to be valued at \$500,000. The total project cost is estimated to be in excess of \$1.2 million. Nearly all the structural lumber for this building has been donated by regional mills.

### Fish Eggs-to-Fry Program

The educational opportunity that the classroom aquaria provide to schools has been increasing in recent years. This past year over 2,000 students at five schools got to personally have their very own live salmon egg at their desk. This involves each student with the fish. The premise of giving each student their own egg is so they can name each fish. This connects the children to their eggs and to the resource as a whole. Once the eggs are named, the students carefully place the eggs in school aquaria where they hatch and develop. At the time the eggs are handed out, the students are presented with a lesson by the STEP biologist on the biology of salmon eggs and salmon in general. This lesson further imparts resource ownership to the children.

### Noble Creek Hatchery

Volunteers with Coos River STEP made numerous improvements to Noble Creek Hatchery this past year. Coos River STEP purchased four deep matrix hatchboxes that are used to incubate salmon at the hatchery until they are ready to be fed. These new deep matrix hatchboxes will replace most of the older style hatchboxes at Noble Creek Hatchery. Volunteers also installed multiple winches to assist with heavy lifting of the trap and blocking weirs. Students from the Harding Learning Center (Coos Bay School District) were the main workforce for fin-marking fall Chinook salmon juveniles at Noble Creek Hatchery this past spring.

## ***Lower Rogue STEP***

### Program Outreach

News releases were written for local newspapers, radio and TV stations. The objective was to recruit volunteer involvement, inform the public of project results and give volunteers recognition for their accomplishments.

25 presentations were made at organized fisherman group meetings. Primary topics discussed were fish management policy, habitat problems and solutions, angling regulations, STEP guidelines, district management objectives and volunteer recruitment.

42 presentations were made to local students from local schools. Topics included: Salmonid life history, fish anatomy, fish culture, angling, habitat protection and restoration. Some of the presentations involved a field trip relative to the topics discussed.

Miscellaneous presentations, classes and news releases were produced by the local STEP groups. These outlets were used to recruit volunteers, fundraise, educate and inform the public of STEP activities.

### Azalea Festival

The OSCF conducted the annual portable fishing ponds at the Brookings Azalea Festival. OSCF has hosted the event since 1989. The event is held for children ages 13 and under. Approximately 200 kids turned up for the event this year. Annually OSCF give away fishing poles to early anglers that attend the event. This year 75 rod and reel combos were handed out to the young anglers. The event also includes displays of ongoing STEP projects. This project creates a great atmosphere to recruit young anglers and volunteers.

### Free Fishing Day

June 13<sup>th</sup> marked the annual free fishing day event at Libby Pond. Over 65 kids registered for the event organized by ODFW and United States Forest Service. CAF and Oregon South Coast Fishermen (OSCF) volunteers sponsor the derby annually and were on hand to sign up children two to 13 years of age.

The volunteers assisted kids with fishing tips, instruction, registration and measurement of trout. CAF provided free hot dogs and drinks for the event. 65 participants caught over 200 rainbow trout during the derby. In addition, OSCF, CAF and local businesses donated money to purchase fishing rods and equipment to be given away in a raffle. Most of the young anglers that stayed around received a fishing pole or tackle to ensure their fishing future.

### Salmonid/Bait Fish Poster

The OSCF upgraded the bait fish identification signs in the Port of Brookings to a more durable metal sign. The group's effort to educate the public in fish identification has been well received by the local anglers. The OSCF developed the posters to place in the Port of Brookings to help

fishermen differentiate salmonids from bait fish. In past years, volunteers with OSCF observed Chinook salmon juveniles being harvested as baitfish. Volunteers monitored the fishery and have determined that anglers are using the posters for fish identification. The STEP group plans to annually maintain the posters for display.

### Ice Box Access

The OSCF maintained a lease agreement with a Chetco River front landowner. The area has been a popular access for local area anglers for many years. Recently the increase of litter and illegal camping has prompted the landowner to gate off the area. Over the past ten years, OSCF has been involved with cleaning and maintenance of this area. This agreement may not have occurred without the OSCF positive history working with the landowner. The gate will be opened during fishing season for access.

### Slam'n Salmon Derby

In an effort to develop the STEP program and encourage volunteer involvement, the OSCF and ODFW operated a booth during the annual Labor Day Slam'n Salmon derby at the Port of Brookings.

Volunteers maintained a tent that housed a mobile aquarium with live adult salmon and STEP displays demonstrating STEP activities on the south coast. ODFW used this venue to hold an open house on fish related projects and issues on the south coast. An estimated 400 people visited the booth throughout the weekend and a number of people joined the STEP groups.

The event raised \$4,000 for southern Oregon fish enhancement.

### Reel Fish Day

ODFW STEP, OPRD and the South Coast Watershed Council (SCWC) office sponsored Reel Fish Day, an angler education day for Brookings and Gold Beach third grade classes. This event was held at Arizona Beach State Park. The event was planned to compliment the current Fish Eggs-to-Fry program that has been offered for the past 20 years.

The OSCF and CAF STEP groups teamed up to staff stations that taught casting, line tying and hook baiting. Concurrently, ODFW, ORPD and SCWC presented an aquatic education curriculum. Once the core skills of fishing were taught, youth fished in the pond with Angler Education instructors. ODFW stocked the pond prior to the event. Youth that harvested fish had the option to keep or release their catch. The kids that chose to retain their catch were escorted to a fish cleaning area where they were taught the responsibility of packaging and cleaning their fish for a meal. With the success of Reel Fish Day, the schools and all groups involved felt the project was a great success and is currently scheduled for this school year.

## ***Upper Rogue STEP***

### Public Outreach

Outreach and education are primary functions of the Upper Rogue STEP position. Stories in newspapers, in news releases, and presentations at a conference and various meetings provided information to the public on upcoming events and progress on existing studies. Presentations on the small, urban and intermittent stream project were given at the STEP Conference in Salem, to the Medford Scottish Rites Masons, a monthly meeting of the Middle Rogue Steelhead Chapter of Trout Unlimited, the Seven Basins Watershed Council, and the Coastal Conservation Association. Display posters and handouts were developed on riparian habitat, summer steelhead and the small, urban and intermittent stream project for a mixer held by the Grants Pass Chamber of Commerce and the Middle Rogue Steelhead Chapter of Trout Unlimited.

Three members of the Upper Rogue staff participated in three Salmon Watch field trips providing information on salmon and steelhead life histories to students of various ages during the fall of 2008. In addition, the STEP Biologist talked about salmon and steelhead spawning and life histories to students at Wilson Elementary School and with classes from Williams Elementary on the shore of Williams Creek.

A display on fish habitat, summer steelhead and small, urban and intermittent streams was prepared for the 2009 Sports Show. District and STEP biologists attended the Bear Creek Salmon Festival and talked to visitors about salmon life histories and a variety of topics for 18 hours to over 250 attendees. There were two live adult salmon on display.

Newspaper articles were written by the local sports writer on the small, urban and intermittent stream project, opportunities for viewing spawning salmon in Bear Creek and Free Fishing Weekend.

Signs were deployed and recovered by ODFW staff and a student volunteer at all public access points between Grave Creek and Cole Rivers Hatchery regarding an early spring Chinook salmon season closure and reduced bag limits for fall Chinook salmon because of low run size.

### Fish Eggs-to-Fry Program

The classroom incubator program remained popular this year. A total of 6,150 eyed spring Chinook salmon eggs were delivered by volunteers to 22 schools in the Rogue Valley. A flyer, advertising learning opportunities afforded by the classroom incubator program, was developed and sent out to 86 college, university, middle school and high school classrooms in Jackson and Josephine Counties.

### Free Fishing Weekend

Nine volunteers from Joe's Sporting Goods, the First Church of the Nazarene, the public and ODFW assisted anglers at the annual Free Fishing Day Event held at Expo Pond in June 2009. Other groups of volunteers in the district sponsored Free Fishing Weekend Events at Hyatt Lake, Lost Creek Lake, Medco Pond and Butte Falls Hatchery in Jackson County and Lake Selmac in

Josephine County. Volunteers prepared and purchased fishing gear that was loaned out to 22 youth and 12 adults for the event at Expo Pond. Many more anglers turned out for the event with their own rods and reels, possibly indicating movement towards the goals of Free Fishing Weekend.

An ODFW biologist and 13 volunteers spent 26 hours preparing rods for the YAEP event held at Reinhart Park Pond on Saturday, May 2, 2009. The same 13 volunteers and ODFW spent 104 hours assisting anglers at the event. ODFW staff estimated that the YAEP event in 2009 was attended by approximately 100 youth and 100 adult anglers.

## ***Eastern Oregon STEP***

### Kokanee Karnival

Kokanee Karnival continues to be a popular education program for Deschutes, Jefferson and Crook County elementary students. In 2008-2009, 400 students participated in the Kokanee Karnival Comprehensive Education Program. This program includes classroom activities as well as field trips to learn about salmon and their habitat. The students also tour a hatchery and attend a spring fishing clinic. Currently, the program is developing more hands-on activities and is increasing its capacity to accommodate more Comprehensive Education Program classes each year.



Photo 4: Kokanee Karnival Fall 2009

Approximately 1,500 students participated in the Kokanee Karnival Electives Program in which teachers sign up for classroom activities such as raising trout, basic trout biology class and (or) angler education. Kokanee Karnival receives exceptional support from both the volunteer community and our financial sponsors. Partners for the Kokanee Karnival include STEP, Central Oregon Flyfishers, Sunriver Anglers, Wolfree Inc. and the Deschutes National Forest. The Eastern Oregon STEP biologist serves on the Kokanee Karnival steering committee, coordinates portions of the program and provides training, technical assistance and volunteer recruitment. In 2009, the STEP biologist recruited and scheduled 25 volunteers to serve as instructors at Kokanee Karnival's five-day angling clinic. The STEP biologist prepared activities and materials for the Angling Clinic, Fall Streamside field trip, Fish Eggs-to-Fry and Kokanee Karnival classroom presentations.

### Outreach Events

The STEP biologist participated in salmon and trout related outreach activities for students of all ages. The STEP biologist presented information or provided materials for events sponsored by the following events: Freshwater Institute's "Salmon Watch", High Desert Museum's "Make a Splash" Festival, Prineville's "Fish Festival," High Desert Museum's "Teacher's Night Out" and "RAP" (Resources and People) Camp. Over 1,500 students participated in these events.

The STEP biologist attended several Central Oregon Flyfisher and Sunriver Angler group meetings for volunteer recognition and outreach purposes.

### Fish Eggs-to-Fry Program

30 classrooms from all over Eastern Oregon, including Klamath Falls, Milton-Freewater, Elgin, Drewsey and Vale, raised trout in classroom incubators and used STEP publications, *Fish Eggs-To-Fry* and *The Educator's Resource Guide for Hatching Salmon in the Classroom*. The STEP biologist coordinated these classroom trout incubator projects and trained volunteers to assist teachers and give presentations. Volunteers delivered trout eggs, presented related materials and assisted teachers with setup and trout release.

### Fish Ecology Workshop

STEP partnered with Klamath County's OSU Extension Service and the U.S. Fish and Wildlife Service to provide a Fish Ecology Workshop for Klamath County teachers. Klamath County elementary, middle and high school classes participated. The STEP biologist trained teachers on trout incubation using the STEP curriculum's *Fish Eggs to Fry* and the *Educator's Resource Guide to Hatching Trout and Salmon in the Classroom*. Each teacher received an aquarium and chiller to bring back to their classroom. The Fish Ecology workshop included several biology presentations on trout, salmon and suckers. Teachers were trained to instruct classroom and outdoor activities about salmonids and their habitat. Teachers received college credit for attending this workshop.

As a follow up training to the Fish Ecology Workshop, the STEP biologist offered a Salmonid Dissection Workshop in Klamath Falls. Eighteen teachers participated in this teacher training. Teachers learned how to lead a dissection class and teach basic salmon anatomy and physiology. Teachers were provided lesson plans and 18 for related activities. Steelhead trout from Cole River Hatchery were delivered to teachers that participated in the training.

### Fin and Feathers Day

The STEP biologist, along with staff from OSU Extension and the U.S. Fish and Wildlife Service, coordinated *Klamath Fin & Feather Field Days* at the Klamath Hatchery. 150 middle school students attended this two-day field trip. Students rotated through five learning stations: 1) Fly-fishing/Recreation 2) Fish Biology 3) Macroinvertebrates and Water Quality 4) Birds and Riparian and 5) Tribal Culture and Fish. Volunteers from the Klamath County Flycasters instructed at the fishing station. The STEP biologist was responsible for funding, recruiting volunteers, contacting teachers, providing equipment and evaluations.

# INVENTORY AND MONITORING

## Introduction

Volunteers assist ODFW in conducting a variety of inventory, monitoring and evaluation projects to provide information on Oregon's salmon, steelhead and trout; their habitats, and associated fisheries. The major types of activities conducted through STEP are:

- Angler or creel surveys
- Fish passage or culvert inspections
- Fish population or distribution survey or monitoring
- Fish life history or other investigations
- Stream and other aquatic habitat surveys
- Miscellaneous monitoring activities (e.g., water quality monitoring)

To conduct these surveys, volunteers become skilled in sampling methods and learn a wide variety of fish or fishery sampling techniques, including adult and juvenile fish traps, electro-fishing gear, seines, gill nets, trap nets, snorkeling, hook and line, radio telemetry and creel surveys.

The following is an overview of STEP fish population and stream habitat characterization activities conducted during 2008-2009 (Table 2). This narrative is not intended to be comprehensive, but instead reflects the range of STEP activities for each area.

## ***Mid-Willamette STEP***

### Fish Populations and Their Habitat in Streams

During the 2008-2009 reporting period, STEP again led the district's small stream sampling effort with fish surveys and hoop traps. These efforts involved students from local schools and district area landowners. The primary intent of this program has been to document the presence of cutthroat trout in waters where little or no fish information exists and to get a sense of relative abundance. However, additional benefits from the program come from raised awareness for the "little brown fishes" in the area and educational opportunities for students. Information on fish presence has in-turn been used by cities, counties, watershed councils, and State and Federal agencies to develop habitat restoration and protection plans as well as to identify individual project opportunities. The data gathered from traps and surveys will be used in the future to plan habitat restoration projects on the creek.

Landowners operated traps in the Tum Tum River in the headwaters of the Marys River. At one location, the trap captured sandrollers (*Percopsis transmontana*) a native fish for which little is known including distribution. The trap also captured a 22-inch Pacific lamprey (*Lampertra tridentate*) establishing these fish likely use the Tum Tum River for spawning.

## Jane Goodall Environmental Middle School

In Salem, students from Jane Goodall Environmental Middle School and local high schools assisted the STEP Biologist to sample local streams with seine nets and electroshocking. Data from the sampling efforts will be used to produce a fish presence report on Salem area streams. The report will be made available to city, county and state agencies, as well as citizen groups and watershed councils.

## ***Upper Willamette STEP***

### Fish Surveys

STEP conducted a variety of Fish Presence Surveys in the district. These surveys document fish presence for timber harvest operations, culvert replacements and long-term monitoring.

STEP conducted summer steelhead spawning ground surveys in Little Fall Creek. Steelhead populations are naturally producing in the system and contribute to the overall fishery in the Upper Willamette Basin. Restoration efforts are under way to increase the rearing and spawning habitat in the system for salmon and trout.

STEP staff and volunteers operated five Upstream Migrant Hoop Traps to monitor migrating cutthroat trout. The projects collected valuable information on the life history and relative abundance of local cutthroat and other fish populations. This ongoing project is an important outreach and education tool as it provides volunteers with a good “hands-on” experience working with fish in local streams.

STEP staff conducted *Snorkel Surveys* in Mosby Creek to obtain summer rearing information on salmon and trout. Due to warm summer temperatures, salmon and trout are greatly reduced in the mainstem. Further investigations, along with habitat restoration efforts, are scheduled for the near future.

STEP volunteers participated in Trout Angling Surveys on the McKenzie River. Volunteers were asked to record their catch data, along with other information, and return the data to ODFW. From the data collected, the district can determine the number of fish landed, the number of fish landed per unit of angling effort, the species composition of landed fish, and the size of fish landed. This information will be used for management decisions and prioritizing potential enhancement projects.

### High Cascade Lakes Sampling

STEP volunteers assisted staff with collecting information on fish survival in the High Cascade Lakes. Volunteers hiked into designated lakes, sampled for fish presence with hook and line and recorded various physical and biological data. This project is very popular with the public and will continue to be conducted to provide needed information on fish survival in the High Cascade Lakes.

## Gold Lake Trapping

Volunteers from the McKenzie Flyfishers assisted with an on-going project to trap and remove brook trout from Gold Lake in an effort to enhance the lake's rainbow trout fishery. Brook trout are numerous in Gold Lake, tend to become stunted and are also responsible for decreasing the size and number of rainbow trout in Gold Lake. This year approximately 2,066 brook trout were relocated to Charlton Lake in the Deschutes Basin which should allow for additional growth on the fish remaining in Gold Lake and provide a brook trout fishery in Charlton Lake.

## ***North Coast STEP***

### Temperature Monitoring

Volunteers from Freshwater Trust and the ANWST deployed water temperature data loggers in the Salmonberry River system to help characterize and monitor water temperature in summer months. These volunteers and Rainland Flycaster volunteers also conducted steelhead surveys in the river and associated streams. Volunteers also conducted surveys in other North Coast streams which will be used in monitoring habitat restoration projects.

## ***Mid-Coast STEP***

### Population Monitoring



Photo 5. Tramway to Siletz Trap

Volunteers were extensively involved in fish population monitoring at fish traps at Schooner Creek and Siletz Falls in the Siletz Basin, as well as at Bohannon fish trap on Drift Creek in the Alsea Basin. The volunteers were also instrumental in conducting trap maintenance projects throughout the season. These trap operations are essential to district fisheries management and almost 1,500 hours were donated by over 20 volunteers in assisting with these fish monitoring activities.

Oregon State University students taking the Coastal Ecology and Resource Management class at the Hatfield Marine Science Center were supervised and trained by the STEP biologist to conduct freshwater mussel distribution surveys. Freshwater mussels can be an important bio-indicator of freshwater ecosystem health and habitat quality and their life cycles are closely associated with salmon and trout populations.

## ***Umpqua STEP***

The STEP biologist coordinated volunteers and ODFW staff at the Calapooya Creek fish trap in an effort to capture approximately 2,015 coho. Volunteers also monitored steelhead, coho salmon and fall Chinook salmon at various trapping locations throughout the district.

## Temperature and Dissolved Oxygen Monitoring

Gardiner-Reedsport-Winchester Bay (GRWB) STEP volunteers assisted ODFW staff in completing multiple habitat surveys of Camp Creek.

## Big Tom Folley Creek Field Trip

Again, approximately 40 students from the Phoenix School District participated in a week long field trip to Big Tom Folley Creek. During this experience they participated in various stream habitat monitoring practices in order to track changes in stream attributes over time. Not only did the students gain great experience working in the field but this data will be insightful for future habitat restoration projects.

## Creel Cards and Snout Collection

Voluntary creel cards and snout collection barrels were placed along the Umpqua River and Winchester Bay in seven different locations. The information and biological data collected at these sites will provide insight for future fall Chinook salmon management decisions in the Umpqua.

## ***Tenmile, Coos and Coquille STEP***

### Habitat Surveys

Throughout the district, habitat for salmonids has been compromised by culverts that block passage for adult and juvenile fish. Volunteers have expended a considerable amount of time and effort to correct these passage problems. More work is needed in the form of habitat surveys that identify problem culverts and subsequent follow-up corrections.

### Monitoring

The most important monitoring operation that volunteers are involved with each year is the fall Chinook salmon recruitment surveys that are conducted in the Coos and Coquille estuaries. In the Coos River Basin volunteers release in excess of two million Chinook salmon juveniles annually. With the large numbers of fish released, an evaluation of the impacts on wild Chinook salmon is needed. One way to measure the impacts is to monitor the growth and abundance of Chinook salmon in the estuary. Research results have indicated that if the mean fork length of juvenile Chinook salmon at ocean entrance in the fall of the year is below 12 cm then the carrying capacity for the basin may be exceeded. This monitoring begins in the spring and continues through the fall of the year. Volunteers in the STEP program play a key role with assistance conducting surveys for this long-term monitoring project.

This past summer the District STEP Biologist started a new monitoring program of the hatchery winter steelhead program in the Coos and Coquille basins with the help of volunteers. They sampled near a couple of the winter steelhead acclimation sites during the first week of July looking for hatchery steelhead that were residualizing and not migrating to the ocean this year. This monitoring will help district staff manage the hatchery steelhead program in both basins by

documenting the number of hatchery steelhead found during surveys each year. This information may be used to help decide if changes are necessary to the hatchery steelhead program to reduce impacts to native fish.

## ***Lower Rogue STEP***

### Chetco Scale Sampling

The OSCF provided volunteers to assist in an intensified fall Chinook salmon scale sampling effort conducted on the Chetco River. The sampling effort is planned to improve data on age and hatchery/wild composition estimates for the Chetco River. The volunteers used drift boats and covered the mainstem reaches while ODFW sampled in the tributaries. The OSCF effort increased the sample size by 100 samples.

### Estuary Seining

OSCF volunteers completed their 19<sup>th</sup> year seining Chinook salmon smolt in the Chetco River estuary. The project consists of volunteers setting a juvenile beach seine at select stations bi-weekly from June to September. These index surveys characterize abundance and development of native fall Chinook salmon smolt. Annually, the data is used to indicate the time frame hatchery Chinook smolt are released and have the least impact on native fish utilizing the estuary.

### Winchuck River Screw Trap

OSCF operated a downstream migrant trap just upstream of the Winchuck River estuary. Operation of the trap represents the continuation of a 20-year database. OSCF have operated the trap for the past twelve years, doing work that would otherwise be unaccomplished under current district staffing levels. The Lower Rogue District has utilized data obtained from the trap to help manage fall Chinook salmon.

The 2009 Winchuck trapping season concluded with 74 days of trap operation and 9,336 fall Chinook salmon smolt sampled.

### Huntley Park Seining

The Huntley Park Seining Project represents a continuation of a 34-year adult salmonid monitoring database. This project is conducted annually from July 15 throughout October 31 at Huntley Park on the lower Rogue River. The Huntley project is a high priority to the district and harvest managers.

A four person ODFW seasonal crew conducts the sampling annually. The Huntley Park data is used to monitor stock abundance, age composition and hatchery/wild ratio of summer Steelhead, coho salmon, and fall Chinook salmon. Later in the season, wild fall Chinook salmon broodstock are collected for the Indian Creek Hatchery (STEP) facility.

A number of STEP and local volunteers show up every year, rain or shine. The 2009 sixteen-week study included 48-days of data collection with approximately 413 hours of volunteer service.

## ***Upper Rogue STEP***

### Surveys

In 2005, ODFW implemented a program of increased monitoring and outreach on small streams, urban streams and intermittent streams of the Rogue Watershed. A key component is surveying for the relative abundance of salmon and trout using these streams during winter high flow periods. The information is collected to inform the public about the importance of these small streams as refugia for salmonids during winter storms. Volunteers were recruited through ODFW's Salmon Trout Enhancement Program (STEP) and trained to monitor and identify fish species captured in the traps throughout the winter. Through the 2008-2009 report period 15 streams have been sampled. In the years since its inception, the project has been a useful tool in finding out where fish go during high flow periods and has increased our knowledge of the distribution of threatened coho salmon.

In 2008-2009, 32 volunteers spent 718 hours and drove 1,610 miles to sample hoop traps placed in Dog, May, Mystery, Mingus, Hamilton, and Vannoy Creeks in the Rogue River Basin. Because of low adult returns and low spawning flows, fewer fish were captured in the traps furthest away from the Rogue River. Chinook salmon fry were captured in traps in tributaries closer to the Rogue River, indicating that the river dwelling Chinook salmon seek out small streams as fry. Juvenile coho salmon were captured 3 miles up a stream that dries up each summer.



Photo 6: Example of trap used for sampling

Over 48,000 salmonids were captured in a volunteer run smolt trap placed in Williams Creek, a tributary of the Applegate River in 2009.

A total of three students from various colleges and universities in Oregon did a biological and physical survey of the ponds on the Denman Wildlife area, helped run fish traps, summarize data, and assisted area biologists doing various types of sampling in order to gain on the job experience during the report period.

A total of seven fish identification workshops gave 15 adult and 70 student volunteers information with which to identify fish captured in traps and while salvaging fish from isolated pools in drying streams.

## ***Eastern Oregon STEP***

### Trout Distribution – Ochoco National Forest

ODFW organized an effort to document trout distribution and densities in several Ochoco National Forest Tributaries. Volunteers from Central Oregon Flyfishers and Trout Unlimited assisted with this fish sampling effort. ODFW's Prineville Assistant District Fish Biologist coordinated most aspects of the project. Although the STEP biologist was not present, STEP provided sampling equipment and meals for this campout project.

### Spawning Surveys

The STEP biologist and other ODFW biologists trained and supervised volunteers for ongoing, annual bull charr, brown trout and redband trout spawning surveys in various watersheds. Rivers surveyed were Upper Malheur and North Fork Malheur, Upper Deschutes, Metolius and Fall River. Volunteers were paired with local biologists and trained to identify and count redds. 28 volunteers donated over 300 hours to these surveys. Survey results are used by ODFW district staff and distributed to volunteers and angling clubs.

### Redband and Whitefish Study – Crooked River

A partnership between OSU, ODFW and STEP has led to a study to learn more about redband and whitefish populations in Crooked River tailwater. STEP volunteers assisted an OSU graduate student monitor migrating behavior of redband trout and whitefish in the Crooked



Photo 7. Tagging fish on the Crooked River

River. The STEP biologist trained volunteers to use radio tracking equipment, GPS and collect data. Furthermore, high nitrogen saturation may be contributing to redband mortality and volunteers monitored water quality to test this hypothesis. Volunteers also assisted with catching fish for radio tag implant. Approximately 40 volunteers contributed time, labor and mileage to this project. As part of ongoing training for volunteers, the STEP biologist tracked fish with volunteers at least once a month. The STEP program also provided use of a GPS and vehicle for volunteer use.

## **HABITAT IMPROVEMENT**

### **Introduction**

Each year, volunteers conduct or assist with numerous habitat improvement projects on private and public lands throughout Oregon. These include efforts to improve or restore:

- Fish passage
- In-stream habitat
- Riparian, off-channel, wetland, or floodplain habitat
- Stream nutrients through fish carcass placement
- Aesthetic qualities through the Keep Oregon's Rivers Clean program

Although the stream nutrient enrichment program is not strictly a STEP activity, many carcass placement projects rely heavily on the manual labor of STEP volunteers, as access to sites can be poor and carcasses must be placed in a manner that simulates natural distribution and conditions. Carcass placement occurs in streams where populations of spawning anadromous salmonids are well below historic levels.

STEP is in a unique position in that it can bring all aspects of restoration under one program. These include pre- and post project monitoring, technical guidance, equipment, labor, access to funding and outreach.

KORC program was created to collect and recycle discarded angling line and tackle continued in 2008-2009. Currently, approximately 100 stations have been installed and are being maintained by volunteers within the fish districts.

The following is a summary of habitat improvement projects conducted during 2008-2009 (Table 3). This narrative is not intended to be comprehensive, but instead highlights a few of the major activities in each area.

## ***Lower Willamette STEP***

### Stream Nutrient Enrichment Program

The 14<sup>th</sup> year of the district's stream nutrient enrichment program was completed with cooperation from the ODFW Western Oregon Stream Restoration Biologist, the Clackamas Hatchery, Sandy River Hatchery, the United States Forest Service, and the USFWS Eagle Creek Hatchery. The carcasses are intended to mimic historic run densities of spawning coho salmon in area streams and increase stream nutrient levels for aquatic organisms.

Over 200 volunteers contributed to the project, placing nearly 100,000 pounds of coho and Chinook salmon carcasses in the Sandy River Basin, the Clackamas River Basin, the Molalla River Basin, and the Yamhill Basin. Volunteers from the ANWST, students from various local schools, SOLV, Project YESS, members of the Sandy River Watershed Council and Clackamas River Watershed Council, the Molalla Native Fish Society, and the Confederated Tribes of the Grande Ronde, assisted with the carcass distribution effort.

## ***Mid-Willamette STEP***

### Partnerships and Technical Assistance

Because much of the land in the mid-Willamette basin is privately owned, restoration efforts rely heavily on the cooperative participation of private landowners. In addition to efforts with other State, local and Federal agencies, STEP works closely with watershed councils, industry, individuals and the more traditional landowner assistance agencies (Soil and Water Conservation Districts, Natural Resources Conservation Service, U.S. Fish and Wildlife Service) to conduct stream nutrient enrichment, in-stream and riparian habitat, and fish passage restoration projects.

The STEP Biologist made 23 site visits to offer technical and grant seeking advice to landowners throughout the district. The STEP Biologist provided technical advice to the Calapooia, Luckiamute, North Santiam, South Santiam, Long Tom, and Marys River Watershed Councils on the fish passage and habitat restoration projects.

During this period, the STEP Biologist worked with staff from the Calapooia Watershed Council and various local state and federal agencies to provide technical and professional advice on engineered design solutions for the Sodom Ditch/Calapooia River bifurcation system. This is a confounding and complicated problem for fish passage that has already involved over five years of work by numerous parties to find solutions to the water flow and fish passage issues. The STEP Biologist attended numerous technical team meetings and informational tours, and offered fish perspectives at public outreach meetings.

### Carcass Placement

The placement of salmon and steelhead carcasses into area streams for nutrient enrichment is accomplished only through the efforts of volunteers and has surprisingly become one of the more popular STEP activities. This past year, salmon and steelhead carcasses that were used as brood for programs at Marion Forks and South Santiam Fish Hatchery were again placed in the Santiam and Calapooia basins. To replicate historic abundance and distribution, fish are placed in five different rivers and creeks streams in the district. Volunteers from the Albany Chapter of the Northwest Steelheaders and the Santiam Flycasters contributed many hours toward carcass enrichment efforts in the Mid-Willamette district.

## ***Upper Willamette STEP***

### Carcass Placement

STEP staff worked with volunteers from the CCA and the ANWST distribute spring chinook salmon carcasses in the McKenzie, Middle Fork Willamette and Coast Fork Willamette basins. Over 4,200 adult carcasses totaling over 51,000 pounds were distributed into streams in the Upper Willamette Basin.

## Riparian Restoration

STEP, in partnership with the Oregon Department of Forestry, worked with Guistina Land and Timber (GLT) to conduct a Large Woody Debris Project on Anthony Creek; a tributary to the Middle Fork Willamette River. Over 20 pieces of wood were placed into a quarter mile section of the creek where bedrock dominated the substrate. GLT conducted all the work with no financial assistance from outside sources.

STEP, in partnership with the Middle Fork Watershed Council, also worked with GLT to conduct a Culvert Replacement on Wagner Creek; a tributary to the Middle Fork Willamette River. The culvert was a complete barrier to fish passage due to a jump of over five feet and strong velocities inside the culvert. GLT conducted all the work with no financial assistance from outside sources.

## ***North Coast STEP***

### Stream Nutrient Enrichment

Dozens of volunteers and students participated in North Coast Stream Enrichment activities, placing over 70,000 pounds of salmon and steelhead carcasses in streams and rivers from the Little Nestucca to the lower Columbia River tributaries, to benefit Salmonids and other species.

## ***Mid-Coast STEP***

### Habitat Restoration

Volunteers from two local fishing clubs implemented a riparian restoration project in a mid-coast fish stream. The project included the removal of invasive plant species and re-planting and protecting native trees and shrubs in the riparian area along one mile of the stream.

As part of the ODFW stream nutrient enrichment program the STEP biologists and other mid-coast staff directed and assisted volunteers in the distribution of over 2,944 lbs of fish carcasses into mid-coast streams.

## ***Umpqua STEP***

### Carcass Placement

GRWB STEP continued its participation in the nutrient enrichment program by placing Chinook salmon spawned at the hatchery in the North Fork of the Smith River.

## Habitat Restoration

Several plans have been discussed for more restoration projects to take place in the lower Umpqua with the assistance of GRWB volunteers and Partnerships for Umpqua Rivers (PUR) working together into the future.

### ***Tenmile, Coos, and Coquille STEP***

## Habitat Restoration

Habitat restoration projects are an important component of the volunteer projects in the district. The largest habitat improvement project conducted by volunteers was the continued restoration of the project site around the new fish facilities at Morgan Creek. Thirty students from Millicoma Intermediate School devoted an entire day to planting hundreds of willows and trees along Morgan Creek and in a newly restored wetland. About 50 students from North Bend High School and volunteers planted the willows along Morgan Creek to restore the riparian habitat that had been compromised through decades of unrestricted grazing by livestock. The volunteers also planted grass and placed straw for mulch over ground that was disturbed by the blackberry removal project. The students from North Bend participated in the project as part of their annual community service project.

Restoration of the wetland at Morgan Creek continued. Volunteers constructed an extensive water augmentation pipeline into the wetland to maintain its values throughout the year. This pipeline was the suggestion of a Wetland Restoration Specialist with the Department of State Lands. The pond was designed to increase the wetland values of this area by increasing the diversity of plants and animals that use this area.

## Carcass Placement

Salmon carcasses were again placed in numerous district streams during the report period. Researchers have determined that the Marine Derived Nutrients (MDN) that salmon carcasses contain are extremely valuable to stream ecosystems. Agency staff and volunteers processed and placed 3,778 salmonid carcasses into 11 different streams. Most of these carcasses were fish returning to Coos Basin STEP facilities. Many of these carcasses were placed into streams as part of an ongoing experiment to assess the long-term impacts of these nutrients on salmon and steelhead populations. The benefits of these MDN are not limited to the stream ecosystem.

### ***Lower Rogue STEP***

## Stream Enrichment

Volunteers with the Curry Anadromous Fishermen and OSCF assisted ODFW staff with placement of fall Chinook salmon carcasses. A total of 2,192 fall Chinook salmon carcasses from Elk River Hatchery and Indian Creek STEP Hatchery were distributed in the Chetco River, Euchre and Brush Creeks and lower Rogue River tributaries.

## Port of Brookings Aerators

Historically, summer water samples taken in the Chetco boat basin identified areas of low dissolved oxygen. In an effort to improve the habitat in the Chetco River estuary the OSCF obtained funding from multiple sources to purchase and maintain aerators in the impacted locations. Annually, the purchased equipment requires maintenance. OSCF obtained a STAC Mini-Grant to fund the rebuilding of some of the equipment. With the funding, the group assisted the Port of Brookings in getting the equipment back on line.

## ***Upper Rogue STEP***

### Habitat Restoration

Information from a small, urban and intermittent stream project has brought to light many projects that could improve and increase salmonid habitat in the Rogue River basin. A culvert with a 3-foot jump was found 0.1 miles upstream from a dam that was removed from Lazy Creek during the summer of 2007. An ODFW biologist fitted the culvert with a wooden fish ladder that expanded juvenile salmonid rearing habitat to an extra 0.8 mile of Lazy Creek.

There are many culverts, particularly on the urban streams, and passage in and out of them is not always easy for salmonids. Irrigation ditch crossings can block the movements of adult salmonids on their way upstream to spawn. When the same irrigation ditches are installed in the spring, they can capture the streams and downstream migrant salmonids and keep them from making it to the ocean. Existing irrigation ditch structures on small, urban and intermittent streams are also blocking salmonids from using 2.5 miles of Sand Creek near Grants Pass. The Middle Rogue Watershed has planted miles of riparian habitat upstream from the blockage points on these creeks. The small, urban and intermittent stream project has located the structures that are blocking fish movements. ODFW personnel and volunteers are already working with irrigation districts and other water users to fix these problems.

### Stream Nutrient Enrichment

Volunteers from the Middle Rogue Steelhead Chapter of Trout Unlimited, Southern Oregon Fly Fishers, and the Middle Rogue Watershed Council deployed 178 coho salmon carcasses from Cole Rivers Hatchery on a 3 mile stretch of Taylor Creek to provide nutrients for the rearing of juvenile coho salmon, steelhead and trout in the spring of 2009.

### Keep Oregon's Rivers Clean Program

Volunteers collected over 147 pounds of monofilament in the five years since the Monofilament Recycling Program started in 2004. Not only does the project improve the looks of the riparian habitat, it saves birds and small wildlife from becoming entangled. This year's total, 19 pounds is similar to the last three years. Previous year's weights of



Photo 8, Line collected for recycling

monofilament recycled ranged from 13 to 46 pounds. The amount of monofilament collected from the recycling bins has been smaller during recent years with low salmon runs, indicating fishing pressure is lower during low run years.

### Fish Passage

Fish passage checks were performed in the early fall and after each major freshet by ODFW personnel and volunteers at about 30 culverts and fish passage structures in Josephine and Jackson Counties. Two structures, the fish ladder where Central crosses Gilbert Creek in Grants Pass and the fish ladder at Murphy Dam on the Applegate River become plugged at least twice a year. Some of the rest become plugged occasionally.

## ***Eastern Oregon STEP***

### Tree Planting on Upper Deschutes

As part of a Mitigation and Enhancement project, ODFW's Bend habitat biologist coordinated several habitat projects where volunteers planted trees on the Upper Deschutes River. The STEP program provided equipment such as tree augers, water jet stingers and provided lunches to volunteers.

# FISH CULTURE

## Introduction

STEP volunteers conduct or assist with all stages of fish propagation, including collecting and spawning adult fish, incubating eggs, and rearing, acclimating, and releasing juvenile fish. STEP volunteers often work in conjunction with ODFW fish hatcheries at one or more of the stages in the fish production cycle. In a few locations where there are no ODFW hatchery programs due to lack of facilities or hatchery capacity, STEP volunteers operate facilities that perform the entire rearing cycle from broodstock collection to release. In both cases, STEP propagation efforts are guided by ODFW management objectives, and are consistent with the guidelines, practices, and protocols outlined by hatchery management policy.

Because STEP fish culture projects are an integral part of ODFW fish management programs, oversight of STEP propagation activities occurs in a variety of ways. Initially, STEP propagation proposals go through an approval process at the local, regional, and Fish Division levels within ODFW to ensure the projects will meet fish management objectives and are consistent with policies regarding potential impact to native fish populations. Specific legal limitations regarding STEP also exist that, in addition to ensuring the projects are in compliance with other applicable goals, policies, rules, and plans, limit the duration and size of projects. STEP propagation projects operate on three to five year cycles depending on the type of project and fish species involved. Once the cycle is complete, the project must be reviewed through a formal renewal process. In addition, STEP propagation projects that rear and release more than 100,000 fish must receive authorization from the Oregon Fish and Wildlife Commission. Presentation of the project at a Commission meeting also serves as an opportunity for public comment. Public comment during the propagation project review process can also be submitted directly to staff or can be provided when the project is presented for review by STAC at a regularly scheduled STAC meeting. If public interest warrants, ODFW may choose to hold additional public meetings to present and discuss projects under review.

The importance of STEP fish culture efforts to Oregon's fish resources do grant program activities some legal protections such as not having to obtain water rights to operate a facility as a STEP project is defined as "beneficial use" of the state's waters. The STEP biologists work closely with volunteers to ensure a facility complies with the applicable operating and reporting requirements for ODFW fish hatchery facilities and those of STEP. The program biologists also help carry out the project logistically, work with other ODFW staff to coordinate cooperative propagation efforts, and provide technical assistance. STEP fish propagation facilities are funded, built, operated and maintained by the volunteers with ODFW assistance and oversight.

The purpose of STEP fish propagation programs is to rehabilitate or supplement populations of naturally-produced salmon and trout or augment fisheries with hatchery fish. Thousands of volunteers have assisted Oregon's fisheries through their involvement in STEP and their donation of money, materials, equipment and countless hours of time and labor. Without these efforts, ODFW's propagation ability would be greatly diminished in many areas.

Many projects have more than a single purpose and often serve as educational opportunities to increase public understanding and stewardship of Oregon's fish resources and the aquatic environment.

STEP fish culture projects are generally grouped into the following types:

- Classroom egg incubation program projects that release unfed fry, also known as the “Fish Eggs-to-Fry” program.
- Stream hatchbox projects that release unfed fry.
- Fish rearing projects. All activities included here involve feeding and caring for fish.
- Projects that acclimate fish before release.
- Projects that collect adult broodstock.
- Miscellaneous activities including volunteer help at ODFW hatcheries for maintenance, broodstock collection, spawning, marking, stocking, and other duties, and salvage of wild fish.

The following is a summary of STEP fish culture projects from the STEP areas (Table 4). This narrative is not intended to be comprehensive, but instead highlights a few of the major activities in each area.

## ***Lower Willamette STEP***

### Fish Acclimation Projects

The operation of acclimation facilities has been an important function of STEP in the NWWD for several years. Releases from acclimation sites are intended to supplement hatchery production and provide increased angling opportunities on the Willamette and Clackamas rivers. STEP continued the growth of acclimation sites in February of 2009 by bringing a new acclimation project into full operation in the NWWD. A new, larger project is in the construction phase with completion expected in March of 2010.

The Foster Creek facility continued to be a productive site for STEP. From that site 50,000 spring Chinook salmon smolts and 40,000 winter steelhead smolts were acclimated and released into the Clackamas River in the early spring of 2009. This pond is located on Ris and Janet Bradshaw’s property. Under the guidance of STEP, the Bradshaw’s and additional volunteers maintained the facility, performed all fish culture activities and assisted with release.

Acclimation at Cassidy Pond continued in 2009 thanks to the donation from Larry and Naomi Cassidy of their property, pond, time and effort. The Cassidy’s were instrumental in the acclimation of 50,000 spring Chinook salmon smolts, which were acclimated and released into the Clackamas River in the spring of 2009. Larry and Naomi monitor, maintain and feed these smolts up to release time. They also assist with “planting” of the smolts into the pond, and liberation of the smolts. This STEP-guided project has been in place for nearly 20 years.

The Clackamette Cove pens, a mainstay in NWWD STEP were discontinued for 2009. The pen structures were falling into a state of disrepair after years of use, with the assembly and maintenance requiring an excessive amount of time.

STEP coordinated and provided oversight of direct releases into Eagle Creek of over 100,000 spring Chinook salmon smolts. These releases took place in spring of 2009 with the assistance of local landowners and volunteer efforts, providing access and volunteer time.

#### Clear Creek Acclimation Facility Construction

A new STEP acclimation facility was completed and put into production in early 2009. With funding from a Restoration and Enhancement Program grant provided by the Oregon Wildlife Heritage Foundation, this facility was built from the ground up on Clear Creek, near the confluence with the Clackamas River. Under the direction of STEP, the NWWD staff, Clackamas County Parks, fishing guides, volunteers, and contractors all assisted in the construction. Feeding and daily maintenance was provided by volunteers who donated over 200 hours to this project. Smolts previously released from the Clackamette Cove net pens were placed at this Clear Creek site. During the months of March and April nearly 150,000 spring Chinook salmon smolts were acclimated and released. The same volunteers who operated the net pens contributed to the operations. It is the intention of this project to provide additional returns of adult spring Chinook salmon to the extremely popular Willamette River and Clackamas River sport fisheries.

### ***Mid-Willamette STEP***

ODFW fish propagation programs in the Mid-Willamette basin have evolved greatly over the last decade. With greater emphasis now placed upon the restoration and conservation of the basin's wild fish resources and the current federal listings of upper Willamette spring Chinook salmon and winter steelhead under the Endangered Species Act, the STEP District's fish culture program looks much different from that of the 1980's. Concern surrounding the potential impacts of introduced fry upon native populations, and the primary need for habitat enhancement in those streams identified as deficient in natural production, have changed the focus of the program's efforts.

#### Fish Eggs-to-Fry Program

The Egg to Fry Program within the District is for educational purposes only and is not intended to contribute to fish production goals. As an educational program, it is one of the most successful and cost effective ways to teach a large number of students about salmon and trout biology. In addition, students and adults participating in the program come away from the experience with a respect and appreciation for salmon and trout, and for their habitat. In the Mid-Willamette STEP District, schools with students from kindergarten to high school and from urban and rural areas participate in the program.

Eggs are delivered to each classroom by ODFW staff or STEP volunteers. A brief presentation or question and answer period helps to prepare the students for the project and convey the

importance of their effort. Individual volunteers, members of the Senior Fishing Buddies, and members of the Albany Chapter Northwest Steelheaders provide invaluable assistance with the classroom egg incubation program. These volunteers have recruited and “adopted” a number of schools in their local areas for which they provide information and incubation equipment, lend technical expertise and assist during field trips to the release sites. The Senior Fishing Buddies have been particularly active in the Salem area where, with financial assistance from a STAC Mini-Grant, they have placed incubators in area schools.

Spring Chinook salmon fry were released into the North Santiam, South Santiam and Calapooia River Basins. Rainbow trout are released at a number of selected locations scattered throughout the valley including reservoirs and many local, isolated ponds. The fry stocking program in the ponds has had surprising success. One location is Pagoda Pond at the Oregon 4-H Center near Salem where hundreds of children every year participate in outdoor school and summer camp fishing programs.

## ***Upper Willamette STEP***

### Fish Eggs-to-Fry Program

More than 9,000 spring Chinook salmon eggs were incubated by 80 teachers in 51 different schools as part of the Fish Eggs-to-Fry Program. The unfed fry were released by individual teachers during December at Alton Baker Canoe Canal in Eugene.

### McKenzie River Trout Stocking

STEP worked with the McKenzie River Guides Association and local hatcheries to stock over 35 continuous river miles of the McKenzie River with legal-sized rainbow trout. The guides navigate an ODFW stocking boat downriver while the STEP volunteers net fish into the river.

## ***North Coast STEP***

### Volunteer Hatchery Programs



Photo 9: Whiskey Creek STEP Hatchery

The Tillamook Anglers continue to operate Whiskey Creek Volunteer Hatchery, releasing almost 100,000 Spring Chinook salmon smolts and an additional 100,000 Fall Chinook salmon fry into the Wilson and Trask Rivers. The Nestucca Anglers also continue to operate Rhoades Pond, rearing 25,000 Fall Chinook salmon smolts for release into Three Rivers and the Nestucca River.

## Broodstock Collection

This year, the wild winter steelhead broodstock collection programs continued on the Nestucca and Wilson Rivers. Over 50 volunteer anglers participated in these programs, collecting over 160 wild winter steelhead to be used as broodstock by ODFW hatcheries.

## **Mid-Coast STEP**

### Broodstock Collection

Wild winter steelhead broodstock collection programs on the Alsea River was supported by over 34 volunteer anglers, collecting wild winter steelhead to support the popular winter steelhead fisheries on that river.

### Fish Acclimation Projects

The local STEP biologist provided coordination, technical support and assistance to over 100 volunteers from the Florence STEP Group and the Emerald Empire Chapter of the Association of the NW Steelheaders in the operation of the Siuslaw River winter steelhead hatchery program. The volunteers operate adult capture facilities, spawn fish and rear eggs to the eyed stage. They are also involved in the acclimation of steelhead smolts before release. Trapping, early rearing and acclimation sites are located at Whittaker Creek, Green Creek, Munsel Creek and Letz Creek. In addition, the volunteers also operate a small educational propagation program in which they capture, spawn and rear Coho salmon to the unfed fry stage.



Photo 10. working up eggs  
in the Munsel Ck. hatchery

Volunteers operated acclimation sites in Yaquina Bay for approximately 32,000 fall Chinook salmon smolts and at Palmer Creek in the Siletz Basin for approximately 50,000 winter steelhead smolts.

### North Depoe Bay Creek

The Depoe Bay Salmon Enhancement Commission (SEC) operates a small Coho salmon hatchbox project on North Depoe Bay Creek, releasing 2,000 to 5,000 smolts from 20,000 eggs. This program has significant community educational value, which is promoted through informational signage, public tours and the volunteer fin-clipping day.

## ***Umpqua STEP***

### Broodstock Collection

Goals for broodstock collection were met in the Lower Umpqua for the Gardiner-Reedsport GRWB STEP program. Pre-smolt releases are expected to be 100,000 and smolt releases are expected to be 70,000. Umpqua Fishermen's Association (UFA) volunteers will be releasing nearly 215,000 pre-smolts into Calapooya Creek in the spring.

### Marking

The UFA conducted its own marking, with the use of volunteers and school students, and was able to adipose fin clip over 170,000 Chinook salmon using their volunteer labor.

### Acclimation and Release

Four separate "sets" of winter steelhead acclimations and releases took place this past year at Eastwood Elementary School, Canyon Creek acclimation site, and the Seven Feathers acclimation site. These events not only contribute additional winter steelhead and therefore angling opportunities in the basin, but also provide a great educational experience for local students and adults. Over 90,000 winter steelhead were released.

## ***Tenmile, Coos and Coquille STEP***

Large numbers of volunteers continue to be involved in the extensive fish cultural programs in the District. There are eight broodstock development, eight spawning, 16 egg incubation, six rearing and 21 acclimation projects in the District. The fish cultural operations in the District involve the largest number of volunteers in recent years.

### Broodstock Collection

Broodstock collection and development programs in the District continue to be a success overall. Volunteers involved in the collection of naturally produced salmon and steelhead for incorporation into hatchery programs donated a significant amount of time. The collection of naturally produced salmonids is always very labor intensive. For the past 20 years, a significant proportion of the steelhead has been acquired through angler donations. In the Coos River basin, about 60 percent of the steelhead broodstock were again donated by anglers. Angler donations are a slow, time-consuming process that involves many volunteers.

The steelhead collections in the Coos and Tenmile were very challenging during the report period. Hatchery two-salt steelhead were not present in these systems because of problems at the station where these fish were reared. Subsequently, the collection of steelhead for broodstock was extremely time consuming and involved many more volunteers than normal. Volunteers and staff devoted many days to the collection of broodstock with the use of nets at many locations

throughout these watersheds. Many long days of netting yielded no steelhead at all. Through weeks of dedicated efforts the collection goals were achieved in both basins.

### Fry Releases

The District STEP biologist coordinated the collection and distribution of salmon and steelhead eggs from ODFW hatcheries or STEP incubation facilities to volunteers. As a result, 386,159 fry were released from a variety of hatchboxes in the Coos and Coquille basins. Most of the unfed fry releases are conducted as a rehabilitation project. The fry are released above human-made barriers to upstream migration of salmonids. The barrier, such as a culvert, has been or is scheduled to be corrected. Coho salmon and steelhead fry are released for one life-cycle of three and four years, respectively. The Chinook fry releases in the Coquille River basin are conducted for the purpose of a payback program. These fry are a replacement for the loss of production of wild Chinook salmon that are taken and used in the lower river smolt program.

Large numbers of Chinook salmon pre-smolts are released in the Coos River Basin. The premise behind the releases is the recognized limitation of spawning habitat in the Coos watershed that is available for Chinook salmon. Spawning habitat in the Coos began to be compromised in 1887 when the practice of splash-damming rivers started. Splash-damming was a process by which logging companies ran logs down the rivers during freshet events with the use of a large dam that was removed at a designated time. Prior to running logs down the river, logs and rocks that provided critical stream habitat were removed. This activity removed the river gravel that Chinook salmon needed for spawning. The Chinook salmon pre-smolts program in the Coos addresses the limited spawning habitat by producing large numbers of juveniles to utilize the Coos estuary. Coastal fall Chinook salmon rear almost extensively in coastal estuaries and the Coos estuary is the largest in Oregon. The total of 1,532,576 Chinook salmon pre-smolts released into the Coos Basin was in the spring of 2009.

For the second year in a row, Chinook salmon were released into the Fourth Creek reservoir as part of a cooperative partnership with the Coquille Indian Tribe. This year the fish were reared at Bandon Hatchery and acclimated in an alcove of the reservoir. A blocking weir was constructed to prevent the juvenile Chinook salmon from entering the reservoir proper. The acclimation this year was a success. A total of 51,480 were acclimated and released. The fish held and fed well in this new rearing area then left the reservoir in a timely manner.

Fewer numbers of fall Chinook salmon pre-smolts are released into the Coquille River basin than the Coos River Basin. In 2009, Chinook salmon pre-smolts were only reared and released from the campus of Coquille High School. About 13,892 Chinook salmon pre-smolts were released from the school. This year 133,787 fall Chinook salmon smolts were released from three locations in the Coquille River basin. Two of the groups were placed into acclimation sites in the lower river.

### Fish Eggs-to-Fry Program

The STEP biologist provided fish culture assistance to volunteers at 16 incubation sites. This fish culture assistance is demanding because of the complexity and magnitude of the incubation programs in the District. Many of the cooperators incubating eggs are new each year and need

special attention. Egg incubation is a complicated process. During the report period, one incubation site incubated over one million fall Chinook salmon eggs at a time for the second year in a row.

Again this year, the number of classroom egg incubation projects also increased in the district. A total of 12 classroom incubators were operated at 12 different schools. The schools that are involved in the classroom aquaria project are: Blossom Gulch Elementary, Millicoma Intermediate, Sunset Middle, Lighthouse, Hillcrest Elementary, Madison Elementary, North Bend Middle, North Bay, Bandon High, Marshfield High, Destinations, Bunker Hill and Coquille High. Many of the students at each school participated in spawning the eggs that go into the classroom aquaria. These classroom aquaria are invaluable teaching tools that truly impart resource awareness to thousands of children each year. More classroom aquaria are planned in the near future.

Volunteers and agency staff spent considerable time tracking the distribution of eggs and entering the necessary egg disposition records into the ODFW hatchery record system.

#### Coos Fall Chinook Salmon Monitoring and Evaluation Plan

The STEP biologists directed about 7,000 volunteers that were involved in the fish culture programs in the District. Fin-marking of the reared fish, which is part of the Coos Fall Chinook Salmon Monitoring and Evaluation Plan, demands a larger number of participants than any other volunteer project. A main objective of the Monitoring and Evaluation Plan is to increase the number of fin-marked fall Chinook salmon released in the Coos River Basin. This increased fin-marking started in the spring of 2007. A total of 654,638 Chinook salmon were marked in the basin in 2009. An additional 132,000 Chinook salmon were marked with coded wire tags at three different facilities. The marked Chinook salmon will facilitate improved monitoring and evaluation of the interactions of juvenile hatchery Chinook salmon with their naturally produced counterparts in the Coos Bay estuary. Juvenile interactions are an important component of the new monitoring and evaluation plan. Intensive seining in the estuary has been an ongoing process while intensive spawning ground surveys and angler creel surveys began in the fall of 2009.

Over 1,100 students and volunteers were involved in the fin-marking portion of the monitor and evaluation plan. 48 school groups devoted an entire day to the fin-marking at five facilities. The school groups provided invaluable support to the required marking project. Most of the students were involved in spawning the Chinook salmon earlier in the season.

#### Rearing and Acclimation

Volunteers operated a total of 31 rearing or acclimation projects during the report period. Acclimation sites continue to be improved with each passing year. These projects take a considerable amount of volunteer and staff time along with financial resources to operate.

During the report period, volunteers and students began working on the South Coos River Trap as part of the monitoring and evaluation project. Nearly 40 students and volunteers devoted a day

to getting the trap ready for fish collection. The trap will be used to conduct a Peterson Mark Recapture Population Estimate of Chinook salmon in the South Coos River. The trap will be used to observe the number of marked hatchery Chinook salmon that pass the trap. Timber companies donated lumber to the trapping project.

## ***Lower Rogue STEP***

### Chetco River Broodstock Collection

Oregon South Coast Fishermen (OSCF) donated money and labor to build five portable drift boat transport tanks. These tanks were supplied to local fishing guides to be used for angler caught winter steelhead broodstock collection. The fishing guides are excited to work with OSCF in this cooperative project.

OSCF volunteers assisted ODFW staff in collecting broodstock for the Chetco River hatchery programs. A total of 116 fall Chinook salmon and 104 winter steelhead were collected and transported to Elk River Hatchery.

### Ferry Creek Acclimation

ODFW and OSCF constructed a net pen to be used in Ferry Creek Reservoir. The reservoir is an unused water source for the City of Brookings that flows into Ferry Creek, a tributary of the Chetco River estuary. In an effort to improve performance of the Chetco fall Chinook salmon smolt program, the OSCF obtained funds and purchased a 20'x 30' net pen. During the 2008 brood year, 20,000 fall Chinook salmon were acclimated at the site.

The goals of the acclimation project: 1) Increase harvest opportunity by increasing the length of time the returning adults hold in the Chetco estuary, and 2) Have hatchery fish return to Ferry Creek and reduce the proportion of hatchery fall Chinook salmon straying to native Chinook salmon spawning habitats.

### Indian Creek STEP Hatchery (Lower Rogue)

Wild Lower Rogue fall Chinook salmon broodstock are collected, transported and spawned at the Indian Creek Hatchery STEP facility. The resulting offspring are incorporated into a smolt program for supplementation of Lower Rogue Chinook salmon stock. A total of 77,028 fall Chinook salmon were fin-clipped and reared to smolts by volunteers. The smolts were released into the Rogue River estuary in the summer of 2009.

The high point for the 2008 brood year at the Indian Creek facility was that a record high of 468 Chinook salmon jacks returned.

## ***Upper Rogue STEP***

### Fish Salvage

57 bass anglers from four bass clubs caught 2,700 largemouth bass from Hyatt Reservoir in five hours. A total of 2,500 were transported to Lost Creek Reservoir to improve bass fishing. Another 200 were placed in a pond within the Denman Wildlife Area.

Volunteers salvaged over 1,600 juvenile salmonids from isolated pools from streams in the Rogue River basin that dried up during the spring and summer of 2009. Coho salmon numbers in the catch were down from previous years because of low abundance and low flows during their spawning run of 2008.

No fish were captured in the upper reaches of Jones Creek, where the stream flow is captured by an irrigation canal that crosses the stream during the irrigation season each year from late May through October. Each year when the canal is watered up, the flow of Jones Creek is captured in the canal along with any fish that did not migrate out early.

An irrigation diversion dam about 1.5 miles up Murphy Creek dries the stream during the summer months from the dam to the mouth. Downstream migrating juvenile fish have been captured at the dam site and hauled downstream to the Applegate River since 1980. Annual catches have varied from as few as 25 fish to as many as 7,800. In 2009, 45 juvenile Coho salmon were captured in the trap and were released live into the Applegate River. Five juvenile steelhead, two sculpins, eight Pacific Giant salamanders, and 34 crayfish rounded out the catch. Four volunteers donated 74 hours and drove 96 miles to move the fish to the flowing waters of the Applegate River.

A total of 6,150 eyed spring Chinook salmon eggs from Cole Rivers Hatchery were delivered by volunteers to 22 classrooms in the Rogue River Basin. Fry survival was poor in the fall of 2008 because several snow days kept teachers and students from changing frozen coke bottles that kept the incubators cool in the heated environment of the classroom.

## ***Eastern Oregon STEP***

### Fish Eggs to Fry: Program

30 classrooms from all over Eastern Oregon, including Klamath Falls, Milton-Freewater, Elgin, Drewsey and Vale, raised trout in classroom incubators and used STEP publications, *Fish Eggs To Fry* and *The Educator's Resource Guide for Hatching Salmon in the Classroom*. The STEP biologist coordinated the classroom trout incubator projects and trained volunteers to assist teachers and give presentations. 15 volunteers spent over 80 hours delivering trout eggs, presenting related materials and assisting teachers with setup and trout release. All trout were released in ponds or reservoirs.

## **APPENDICES**





## Appendix 1: Salmon and Trout Enhancement Program Advisory Committee (STAC)

<b>STAC Position</b>	<b>Member</b>	<b>Term<sup>1</sup></b>	<b>Expires</b>
Lower Willamette	Norman Ritchie	2 <sup>nd</sup>	September 2011
Lower Willamette	Rosemary Furfey	1 <sup>st</sup>	June 2010
Mid-Willamette	Bill Hastie	1 <sup>st</sup>	March 2012
Upper Willamette	Leslie Wade	1 <sup>st</sup>	October 2013
North Coast (Seaside-Astoria)	Tod Jones	2 <sup>nd</sup>	September 2013
North Coast (Tillamook-Pacific City)	Patrick Gefre	1 <sup>st</sup>	October 2013
Mid-Coast	Tom Petersen	2 <sup>nd</sup>	July 2011
Umpqua	Mike Brochu	2 <sup>nd</sup>	June 2013
Tenmile, Coos and Coquille	Armand Peña	2 <sup>nd</sup>	July 2011
Lower Rogue	Richard Heap	2 <sup>nd</sup>	March 2013
Upper Rogue	Gary Enoch	2 <sup>nd</sup>	August 2013
Eastern Oregon (Central-Southeast)	Dave Dunahay	1 <sup>st</sup>	September 2010
Eastern Oregon (Northeast)	Sammie Mosley	1 <sup>st</sup>	October 2011

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<sup>1</sup> A maximum length-of-service policy of two 4-year terms was implemented in 1996.



## Appendix 2: Oregon Department of Fish and Wildlife Salmon and Trout Enhancement Program (STEP) Staff

(6/1/2010)

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## Appendix 2 (continued)

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## Appendix 3: Schools that work with STEP

The following is a list of schools and school districts that work with STEP. This includes schools conducting volunteer projects and those participating in the Classroom Incubator Program. Also included are the universities and community colleges whose student interns with or volunteer for the program. Please contact the STEP Program Assistant at (503)-947-6211 if your school has been left off this list.

### Elementary, Middle, and High Schools

Albany Christian School	Elk Meadow Elementary School
Albany High School	Elton Gregory Middle School
Alsea School	Englewood Elementary School
Altamont Elementary School	Estacada High School
Ash Creek School	Evergreen Elementary School
Ashland Middle School	Ferguson Elementary School
Astoria High School	Forest Glen Elementary
Bandon High School	Frost Elementary School
Bear Creek Elementary School	Gervais Middle School
Blossom Gulch Elementary School	Gilchrist Middle School
Bonanza Elementary School	Gladstone High School
Bright Beginnings	Hallman Elementary School
Brighton Academy	Hamilton Creek School
Broadway Middle School	Harding Learning Center
Brush College Elementary School	Harriette Elementary School
Buckingham Elementary School	Hartman School
Bunker Hill Elementary	Hathorne Elementary School
Camas Valley School District	Heppner High School
Camp Sherman Elementary School	Hidden Valley High School
Cascade Middle School	High Lakes Elementary School
Central Christian School	Hillcrest School
Central Elementary School	Hines School
Chapman Hill Elementary School	Holley Elementary
Cheldalin Middle School	Hoover Elementary School
Chiloquin Elementary School	Independence & Monmouth School District
Clackamas High School	Jacksonville Elementary School
Clara Brownell Middle School	Jane Goodall Environmental Middle School
Condon Grade School	Jefferson High School
Conger Elementary School	Jewell Elementary School
Coquille High School	John Tuck Elementary School
Corvallis High School	Juniper Elementary School
Corvallis Middle School	Kalmiopsis Elementary School
Crater High School	Kings Valley Charter
Crestview Heights School	Knappa High School
Crook County Middle School	LaPine Elementary School
Culver High School	LaPine Middle School
Dalles Middle School	Lava Ridge Elementary School
East Elementary School	Liberty Elementary School
East Linn Charter	Lighthouse School
East Linn Co Middle Schools	Lincoln Elementary School
Eastwood Elementary School	
Eddyville Charter School	

**Appendix 3 (continued)**

Luckiamute Charter School  
M.A. Lynch Elementary  
Madison School  
Madras Elementary School  
Mapleton School  
Marion Elementary School  
Mark Twain Middle School  
Marshfield High School  
Memorial Middle School  
Miller Elementary School  
Millicoma Intermediate School  
Mountain View Elementary School  
Myrtle Crest School  
Myrtle Point High School  
Newby Elementary School  
Newport Middle School  
North Bay School  
North Bend High School  
North Bend Junior High School  
North Salem High School  
North Sherman Elementary School  
Nye Beach Montessori School  
Oakdale Heights Elementary School  
Oakland School District  
Oregon School for the Deaf  
Parkdale Elementary School  
Pendleton High School  
Peterson Elementary School  
Philomath Elementary School  
Philomath High School  
Philomath Middle School  
Phoenix School District  
Pilot Butte Middle School  
Pine Eagle High School  
Pine Ridge Elementary School  
Pioneer Elementary School  
Ponderosa Elementary School  
Reedsport School District  
Richmond Elementary School  
Riley Creek Elementary School  
Riverview Elementary School  
Roseburg School District  
Sam Case Elementary  
Santiam Christian School  
Santiam High School  
Schirle Elementary School  
Scholastic School  
Sherman High School  
Sisters Middle School  
Siuslaw Elementary School  
Siuslaw Middle School  
South Sherman Elementary School  
St Francis School  
St. Andrews Montessori School

Stanfield High School  
Sutherlin School District  
Sweet Home Charter School  
Taft Elementary School  
Terrebonne Community School  
Three Rivers School  
Toledo Elementary School  
Toledo Middle School  
Tom McCall Elementary School  
Tumalo Elementary School  
Turner Elementary School  
Upper Chetco Elementary School  
Vale Elementary School  
Warrenton High School  
Westside Magnet School  
Whitworth Elementary School  
Willow Creek Elementary School  
Winston School District  
Yaquina View Elementary School  
Yoncalla School District

### **Colleges and Universities**

Oregon Institute of Marine Biology  
Oregon State University  
Southern Oregon University  
Umpqua Community College

## Appendix 4: Groups that work with STEP

The following is a list of volunteer organizations, agencies, and other groups that work with STEP. Due to the large number of participants, it is possible that some groups were inadvertently left off this list. Please contact the STEP Program Assistant at 503-947-6211 if your group has been overlooked. We also appreciate the efforts of the thousands of affiliated and unaffiliated individuals that volunteer with STEP.

### Organizations

4-H

Alsea Guides

ANWST – Albany Chapter

ANWST – Assoc. of Northwest Steelheaders

ANWST – Brookings Chapter

ANWST – Emerald Empire Chapter

ANWST – Mid-Coast Chapter

ANWST – Salem Chapter

ANWST – Sandy Chapter

ANWST – South Coast Chapter

ANWST – Tualatin Valley Chapter

BassMasters

Bay Area Sportsman Association

Bay Area Chamber of Commerce

Boy Scouts

Boys and Girls Club

Brookings Senior Center

Camp Angelos

Camp Florence

Central Coast Flyfishers

Central Oregon Flyfishers

Child Advocacy Center

Confederated Tribes of the Coos, Lower  
Umpqua and Siuslaw Indians

Confederated Tribes of the Grande Ronde

Coos Forest Protection Association

Coos Leadership

Coos Mental Health Department

Coos River STEP

Coquille River STEP

Cow Creek Band of Umpqua Indians

Crater Bass Club

Creeks & Kids

Curry Anadromous Fishermen

Depoe Bay Salmon Enhancement Commission

Douglas Timber Operators

Florence STEP Group

Freshwater Trust

Gardiner-Reedsport-Winchester Bay STEP

Hatfield Marine Science Center

Hyatt Lake Resort

Joe's Sporting Goods

Kiwanis Club

Klamath Flycasters

Long View Hills Fishing Club

Lower Umpqua Fly Casters

McKenzie River Guides Association

Medford Area Guides

Middle Rogue Steelhead Chapter of Trout

Unlimited

Millicoma STEP

Native Fish Society

Nestucca Anglers

Oregon Black Bass Action Committee

Oregon Equestrian Trails Volunteers

Oregon South Coast Fisherman

OSU Extension

Partnerships for Umpqua Rivers

Rainland Flycasters

REALMS

Rogue Flyfishers

Safeway Cancer Awareness

Senior Fishing Buddies

Society American Foresters

SOLV

Southern Oregon Bass Club

Southern Oregon Flyfishers

Sunriver Anglers

Tenmile STEP

Tillamook Anglers

Tillamook Bay Boating Club

Trout Unlimited

U'-da man Chinook advocates

Umpqua Fishermens Association

Umpqua Flycasters

Upward Bound

Wild Salmon Center

## **Government**

Benton County SWCD  
Bureau of Land Management  
City of Camas Valley  
City of Corvallis  
City of Fairview  
Coos Bay Fire Department  
Coos Forest Protection Association  
Deschutes Community Justice  
Douglas County Parks and Recreation  
Metro  
NOAA - National Marine Fisheries Services  
North Bend Fire Department  
Oregon Department of Corrections  
Oregon Department of Forestry  
Oregon Hatchery Research Center  
Oregon National Guard  
Oregon State Parks  
Polk County. Soil and Water  
Rogue Valley Council of Governments  
South Slough National Estuary Reserve  
United States Forest Service

## **Watershed Councils**

Applegate Watershed Council  
Ashland Watershed Council  
Bear Creek Watershed Council  
Calapooia Watershed Council  
Deschutes Valley Water District  
Long Tom Watershed Council  
Lower Nehalem Watershed Council  
Luckiamute Watershed Council  
Marys River Watershed Council  
Middle Rogue Watershed Council  
North Santiam Watershed Council  
Sandy River Watershed Council  
Seven Basins Watershed Council  
South Coast Watershed Council  
Upper Rogue Watershed Association  
Williams Creek Watershed Council