

# SALMON AND TROUT ENHANCEMENT PROGRAM (STEP)

2009-2010 Annual Progress Report

Salmon-Trout  
Enhancement Program



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# CONTENTS

	Page
BACKGROUND AND SUMMARY .....	5
Summary of Current Efforts .....	7
Tables and Figures .....	8
STEP DISTRICT DESCRIPTIONS .....	12
EDUCATION AND PROGRAM DEVELOPMENT .....	19
INVENTORY AND MONITORING .....	33
HABITAT IMPROVEMENT .....	39
FISH CULTURE .....	45
APPENDICES .....	55
Appendix 1: STEP Advisory Committee (STAC) .....	57
Appendix 2: STEP Program Staff .....	58
Appendix 3: Schools that work with STEP .....	60
Appendix 4: Groups that work with STEP .....	62

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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, 2009 to September 30, 2010. 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. Because of its strong connection to the volunteer base, and the local needs and interests, STEP is used to directly address recreational fishing priorities; specifically, opportunity, access and mentoring. While the focus is on youth anglers and families it also provides direct and indirect benefits to all anglers.

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 program oversight is provided by the 13-member STEP Advisory Committee (STAC) 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 2009 to September 2010, meetings were held at Coos Bay, Florence, Forest Grove and Madras.

Several new members were appointed to STAC during the reporting period. The members appointed were Patrick Gefre for the North Coast, Lin Howell for the Lower Willamette, and Leslie Wade for the Upper Willamette. Dave Dunahay was reappointed to a second term for Eastern Oregon.

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 2009-2010:

- Over 67,811 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 3,845 youth and adult volunteers. This includes 567 individual Fish Eggs-to-Fry classroom projects that reached over 22,150 students.
- Over 530 volunteers contributed 8,767 hours to participate in 68 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).
- Over 1050 miles of waterways were improved for fish use by 694 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 5.1 million Chinook salmon, coho salmon, steelhead and trout for enhancement or augmentation purposes; 2,892,906 of these fish were reared (fed and cared for) before release and 12,038 broodstock fish were collected (Table 4).
- The agency completed the first full year of implementation of the 25-Year Angling Enhancement Plan. Major accomplishments by STEP include improving access to local easy access angling sites. This has included clean up of brush and other obstacles at existing sites to improve access and development of several new ponds. STEP continues to be involved with the Inland Sport Fish Advisory Committee (ISFAC); in fact a STAC member sits on the committee.
- Promoting close and easy access to angling opportunities and providing simple, low cost fishing opportunities for youth and families (i.e. still-water, “bait and bobber”) will continue to be a priority for STEP during the next couple of years. In addition, STEP volunteers will be increasingly involved in helping restore inland trout fisheries. Examples of current activities include yellow perch removal and Tui Chub removal.

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 2009-2010 statewide volunteer efforts include:

- 5,883 youth and 5,134 adult volunteers in Oregon participated in STEP activities.
- Volunteers participated in an estimated 1,480 projects, totaling 121,487 hours.
- Using the estimated dollar value of \$21.36 for volunteer time for Oregon in 2010, the value of STEP volunteer hours was \$2,594,962.

Since the program was established in 1981, more than 316,752 adult and youth volunteers (Figure 1) have contributed more than 2.8 million hours (Figure 2) to an estimated 31,843 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, 2009-2010. 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			Volunteers			
STEP District	Activities	Participants	Youth	Youth Hours	Adults	Adult Hours
Coos-Coquille	40 (17)	9,370	1,039	5,840	941	4,693
Eastern Oregon	32 (70)	4,816	0	0	191	1,578
Lower Rogue	46 (8)	3,108	6	25	242	1,182
Mid-Coast	26 (39)	3,174	15	105	327	2,995
Mid-Willamette	119 (86)	12,115	0	0	159	988
North Coast	11 (10)	3,687	0	0	194	1,637
North Willamette	33 (220)	18,156	0	0	105	633
Umpqua	44 (10)	6,349	127	760	401	5,435
Upper Rogue	51 (25)	4,241	0	0	59	2,038
Upper Willamette	13 (82)	2,795	2	12	37	232
<b>Total</b>	<b>415 (567)</b>	<b>67,811</b>	<b>1,189</b>	<b>6,742</b>	<b>2,656</b>	<b>21,410</b>

Table 2. STEP inventory and monitoring activities, miles affected and surveyed and volunteer effort, 2009-2010. 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	3	28	32	0	0	6	23
Eastern Oregon	8	0	10	0	0	53	716
Lower Rogue	6	230	18	24	46	57	1,137
Mid-Coast	9	1	1	3	100	68	1,618
Mid-Willamette	11	0	27	15	45	8	136
North Coast	2	0	43	0	0	26	536
North Willamette	0	0	0	0	0	0	0
Umpqua	14	0	5	44	241	77	1,135
Upper Rogue	2	1	1	5	11	25	300
Upper Willamette	13	5	9	19	414	107	2,309
<b>Total</b>	<b>68</b>	<b>265</b>	<b>146</b>	<b>110</b>	<b>857</b>	<b>427</b>	<b>7,910</b>

Table 3. Habitat restoration activities, miles affected and restored and volunteer effort by STEP district, 2009-2010. 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	34	162	13	165
Eastern Oregon	0	0	0	0	0	0	0
Lower Rogue	10	26	2	60	200	34	133
Mid-Coast	5	143	143	0	0	40	208
Mid-Willamette	10	92	0	2	8	25	393
North Coast	5	241	0	17	46	28	363
North Willamette	53	106	0	209	796	75	371
Umpqua	1	10	0	0	0	2	24
Upper Rogue	8	153	43	0	0	143	1,015
Upper Willamette	21	106	0	0	0	12	96
<b>Total</b>	<b>115</b>	<b>878</b>	<b>188</b>	<b>322</b>	<b>1,212</b>	<b>372</b>	<b>2,768</b>

Table 4. Fish culture activities and volunteer effort by STEP district, 2009-2010. 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					
Number of Fish					
STEP District	Activities	Broodstock			
		Collected	Incubated	Reared	Released
Coos-Coquille	24 (17)	9,678	1,953,808	1,595,553	2,887,616
Eastern Oregon	0 (70)	0	14,000	0	14,000
Lower Rogue	5 (8)	643	200,912	86,602	181,377
Mid-Coast	7 (39)	801	390,631	60,250	151,022
Mid-Willamette	0 (86)	0	20,500	0	20,500
North Coast	23 (10)	218	603,434	260,493	561,101
North Willamette	31 (220)	0	100,000	487,753	555,854
Umpqua	13 (10)	698	497,174	402,255	499,127
Upper Rogue	0 (25)	0	8,050	0	5,669
Upper Willamette	2 (82)	0	9,000	0	247,260
<b>Total</b>	<b>105 (567)</b>	<b>12,038</b>	<b>3,797,509</b>	<b>2,892,906</b>	<b>5,123,526</b>

Volunteers					
STEP District	Youth	Youth Hours	Adults	Adult Hours	Total Hours
Coos-Coquille	3,689	29,403	816	16,167	45,570
Eastern Oregon	0	0	0	0	0
Lower Rogue	25	336	102	3,770	4,106
Mid-Coast	17	113	155	10,246	10,359
Mid-Willamette	0	0	0	0	0
North Coast	150	570	158	6,745	7,315
North Willamette	8	24	97	604	628
Umpqua	373	645	214	10,846	11,491
Upper Rogue	0	0	0	0	0
Upper Willamette	0	0	137	1,120	1,120
<b>Total</b>	<b>4,262</b>	<b>31,091</b>	<b>1,679</b>	<b>49,498</b>	<b>80,589</b>

Figure 1. Number of volunteers who participated in STEP activities, 1981-2010. Values for 1981-1990 and 1993 are estimates.

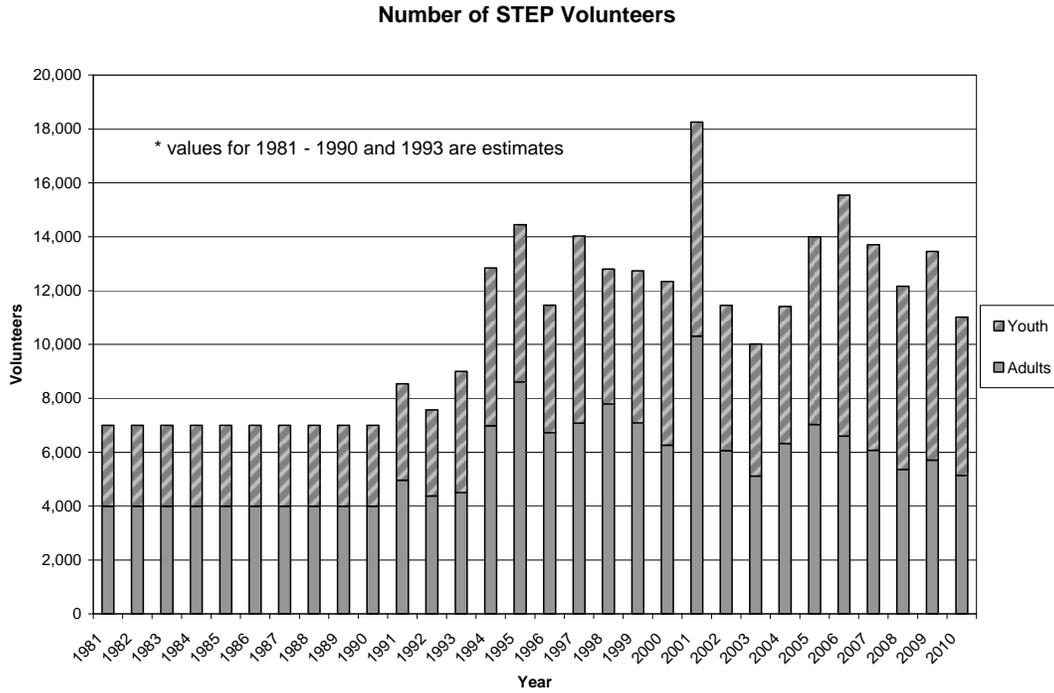
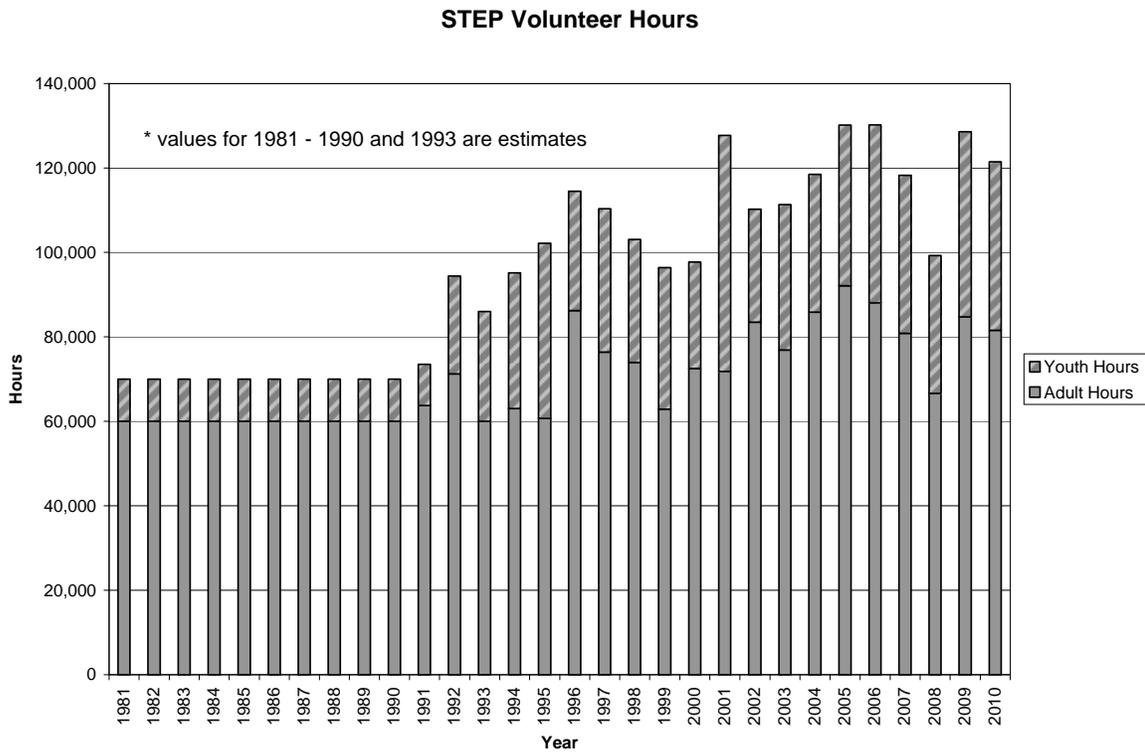


Figure 2. Hours contributed by volunteers towards STEP activities, 1981-2010. Values for 1981-1990 and 1993 are estimates.



# 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 mission is to provide ongoing and improving angling opportunities, improvements to habitat for fish and wildlife, and a continuing contribution to the quality of life that people in this area have come to enjoy and expect.

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.

Because the area's population is large and still growing, 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. Hatchery spring Chinook salmon, summer steelhead, and rainbow trout are releases in various streams and rivers within the district. In addition, rainbow, cutthroat, and brook trout are released into a number of High Cascade Lakes to provide a unique fishery that is

very popular among anglers. 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, and three watershed councils. In addition, STEP works with industrial timber companies such as Weyerhaeuser, Guistina Land and Timber, Guistina Resources, and Roseburg Lumber on a variety of habitat improvement projects within the district. ODFW staff regularly attends 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.

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 30 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: Oregon South Coast Fisherman (OSCF) or Curry Anadromous Fishermen (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 CAF, 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.

The Rogue Watershed is in the second year 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 2009-2010 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 131 district STEP volunteers put in over 2,255 hours and drove 3,193 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.

## **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 2009-2010 (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 in June and is the largest event of its kind in Oregon, with attendance in 2010 exceeding 2,000 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 seven 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 2009-2010 the events were held at Canby Pond in Canby, St. Louis Pond in Gervais, Trojan Pond in Rainier, Mt Hood Community College Pond, and Commonwealth Pond in Beaverton. The events attracted over 500 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 Association of Northwest Steelheaders (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. More than 50 volunteers donated in excess of 300 hours of time helping to make these events successful.

### Other Outreach

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 is one of the most popular destinations on the site.

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.

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.

STEP staff was again a member of the planning committee for the upcoming STEP Conference, to be held in March 2011 at the Twin Rocks Retreat in Rockaway, Oregon. Regularly scheduled planning meetings were attended; donations of sponsorship and auction items were solicited.

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

### Technical Assistance

During the 2009-2010 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, 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 and Shear Dams fish passage projects, road related repair or culvert replacements in Linn, Lane, Polk and Benton Counties, Department of State Lands regulatory actions, and habitat restoration projects throughout 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, the Long

Tom, Calapooia, and Luckiamute Watershed Council's Technical Teams, and the Benton County Wetland and Riparian Workgroup. 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 20 Outdoor Schools, three summer camp fishing clinics, four youth angling events, the Northwest Flytiers Expo, three Salmon Watches, Kid's Day for Conservation, Benton County Forest Expo, Forest Ridge Elementary Field Day, and Corvallis/Philomath District Spring Field Day.

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), Corvallis School District, and US Forest Service. 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 fish dissections were hosted at nine elementary, nine middle school, and three high school classes in the district.

## ***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.

### Youth Education

STEP staff and volunteers assisted with three Youth Angling Enhancement Program (YAEP) events located in Cottage Grove 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.

### Program Outreach

STEP Biologist gave numerous presentations to a variety of groups including the Coastal Conservation Association, Coast Fork Willamette Watershed Council, and Emerald Empire Chapter of the N.W. Steelheaders. Although all the 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 that was sponsored by the McKenzie Fly Fishers. 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.

Staff led a presentation to over 40 landowners who live on or near Cedar Creek in the McKenzie Basin. The presentation focused on the current efforts being conducted by a variety of agencies to restore flows, in stream habitat, and fish use in the system. Many landowners were interested in starting restoration projects on their adjacent property to Cedar Creek and projects should begin starting in the summer of 2011.

## ***North Coast STEP***

### Education and Outreach

North Coast Staff continued to participate in the Freshwater Trust sponsored Salmon Watch Program, conducting 11 fieldtrips and interacting with over 300 students, elementary through high school. At these field trips, staff educated students on the biology, anatomy, 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 Planting Day, Pacific City Dory Days, a presentations to the North Coast chapter of the Association of Northwest Steelheaders and a presentation at one of Nehalem Bay State Park's Summer Evening Speaker Program.

### Fish Eggs-to-Fry Program

The North Coast STEP classroom incubator program this year involved delivering eggs and giving presentations to students in 12 schools, elementary through high school. These schools participated in 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

During 2010 over 900 children and 170 adults participated in North Coast Watershed District (NCWD) Youth Angling Education Program (YAEP) fishing events. Association of North West Steelheaders (ANWS) assisted the North Coast STEP program in assisting and providing guidance in basic fishing skills and education at these events. Youth fishing events also 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. In addition, the Tillamook Anglers continue to sponsor Disabled Angler Fishing Day where disabled people from across the region come to their facility and enjoy a day of fishing, fun, and a BBQ. Approximately 250 people with disabilities participated in the event this year.

## ***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



Photo 1: Casting Class at Eckman Lake

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.

## ***Umpqua STEP***

The Umpqua STEP biologist helped coordinate 26 different educational events that reached 2,470 youth and 1,302 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 a fourth grade level passport that included 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 mobile fish display tank. Students learned how to identify various fish species and about fish anatomy.

Angler education programs took place at Bowman's pond, Herbert'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.

### Rock Ed facility at Rock Creek Hatchery

The groundbreaking for the new Rock Ed facility at Rock Creek Hatchery took place this past year. The Umpqua STEP biologist assisted in the grant writing, design, and educational curriculum for this project. This outdoor information and learning facility will be located on public-owned land (ODFW) along Rock Creek, near its confluence with the North Umpqua River. The facility will include an outreach and information display room with a built-in aquarium that will lead into a large classroom/meeting area available for scheduled activities. There will also be a rearing trough adjacent to the building for fish culture projects and studies.

The interpretive trail through the forested area around the facility will include different segments that showcase fish and wildlife resources and their habitats. The project design was completed in cooperation with local high school students, educators, scientists, and professional representatives of natural resource businesses and organizations. Tours, presentations, field trips, learning kits, displays, publications, and equipment will feature fish, wildlife, forestry, aquatic, and ecology information about Rock Creek and other watersheds in Douglas County.

### 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. All project permits for the boat ramp have been accepted and construction should start in 2011. 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 nearby high school students about fish hatchery management and biology.

### Additional developments

The Umpqua STEP biologist continued the development of the “50 Places to Fish within 60 Minutes of Roseburg” pamphlet and map. This pamphlet will be available to the public in 2011 and will detail 50 locations to go fishing in the Umpqua Basin. Pamphlets will be available at the Roseburg ODFW office as well as the Roseburg Visitors Center and various outdoor stores in town. A large map that shows these 50 locations will also be made and posted at Winchester Dam, where nearly 70,000 people visit every year.

The Umpqua STEP biologist is also working with the Umpqua Fishermen’s Association (UFA) to develop a partnership to maintain the coho fishery in Galesville Reservoir. Currently approximately 15,000 fish are released into the lake as “overage” from state hatcheries. The UFA and ODFW plan on working together to ensure that there is adequate funding and able bodies to make this a consistent stocking program.

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

### Millicoma Interpretive Center

The Millicoma Interpretive Center (MIC) 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 began. Visiting student groups and the general public get a unique “hands-on” learning experience. Groups are involved with the collection of broodstock, spawning, egg 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 MIC and the life cycle of salmon.

For the third year, campers staying at the former Western Rivers Girl Scout Camp near the MIC devoted an entire week to the continued construction of a forest interpretive trail. 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. This year the youths constructed a loop in the trail. 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.

Thirty-three boy scouts from Redding, California worked for days remodeling the wader room and office at the MIC. The facilities were in desperate need of remodeling due to leaks in the roof and lack of heat that caused problems with drying of the waders and other important equipment. The scouts also worked on providing ADA access to a new fish cleaning area at the facility. Scouts formed and poured a concrete ramp to the cleaning area.

### Youth Angling

ODFW hatcheries provided 1,500 legal rainbow trout for stocking in the vacant steelhead acclimation pond at MIC. Three separate loads were transferred to the MIC. Many of the hundreds of children who participated in catching these trout caught their very first fish at the MIC. Volunteers and hosts at the MIC 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. About 3,000 rainbow trout were stocked into the lake for the event. This year the fish were contained in a net enclosure. This increased the catch from 10 trout during the event to over 400 this year. A total of 385 children participated in this event this 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 biologists and volunteers held a fishing clinic on Free Fishing Weekend for the eleventh 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. A record number of children, 311, participated in this year's event at Eel Lake.

The STEP biologist facilitated the stocking of legal rainbow trout into portable fire suppression ponds for children to catch as part of five events. The first event was part of the North Bend Jubilee and a trout pond was placed in the Pony Village Mall in North Bend. A second trout pond was set up in Pony Village as part of a prostate cancer awareness event. Mingus Park in Coos Bay was the location of the third trout fishing event. Ponds were also set up as part of the annual Charleston Seafood Festival.

Fishing poles and gear were provided to the children at these events. A total of 2,202 children participated in the angling in the trout ponds. Most children caught fish to take home. The hope is to continue the trout ponds for many years to come. Local fire departments from North Bend,

Coos Bay, Charleston, and the Coos Forest Protection District were instrumental in the set up of these ponds. Nearly 450 first fish certificates were given out as part of these events.

A new Youth Angling Educational Program event was held this year at Marshfield High School. This event was part of a family fun day sponsored by several community partners. A total of 280 children participated in this event and fished for surplus trout from Cole Rivers Hatchery.

The STEP biologist and a small group of volunteers conducted a one day fly fishing workshop at LaVerne Park on the North Fork of the Coquille River. There were 19 adults that participated in the workshop. Participants learned many things like how to tie fishing knots, how to identify aquatic insects, and how to cast a fly rod.

### 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.



Photo 2: Inside Coquille H.S. hatchery

At Coquille High School this past spring, for the fourth 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: New Morgan Creek Classroom

The reconstruction of the educational and fish cultural facilities continued at Morgan Creek during the report period. Work continued on a second building. This new building will provide 2,800 square feet of a covered work area. The main components of the 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. This year the roof, siding, windows, wiring, and doors were completed. The building was designed around the coded-wire-tagging trailer that is at the facility for one week each spring.

## Noble Creek Hatchery

Volunteers with Coos River STEP continued to use the 4 deep matrix hatchboxes that they purchased last year, to incubate salmon at the hatchery until they are ready to be fed. These deep matrix hatchboxes replaced most of the older style hatchboxes at Noble Creek Hatchery. Coos River STEP volunteers also purchased and installed automatic fish feeders. These feeders automatically dispense fish food once an hour throughout the day. These feeders made a great improvement in the way we feed juvenile Chinook at Noble Creek Hatchery.

## Other Outreach

A new outreach project began this year at the annual Salmon Celebration sponsored by the Coquille Indian Tribe. This year STEP partnered with the tribe to operate a booth at the celebration. The booth had a live adult Chinook in a large aquarium, juvenile Chinook, demonstrations on reading scales, extracting coded-wire-tags, decoding the tags, games and contests, as well as many informational displays. This booth was a huge success as over 700 visitors took time to learn more about salmon. Over 15 volunteers staffed the booth for the weekend. Many of the visitors to the booth left with a greater appreciation about salmon and salmon management.

## ***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.

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

38 presentations were made to students at 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 Oregon South Coast Fisherman (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 180 kids turned up for the event this year. Annually OSCF gives away fishing poles to early anglers that attend the event. 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 12<sup>th</sup> marked the annual free fishing day event at Libby Pond. Over 55 kids registered for the event organized by ODFW. Curry Anadromous Fishermen (CAF) and 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. 55 participants caught over 180 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.

### Ice Box Access

The OSCF maintained a lease agreement with a Chetco River front landowner. The area has been a popular access point for local area anglers for many years. Throughout 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, CAF, 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 south coast STEP activities. ODFW used this venue to hold an open house on fish related projects and issues. An estimated 500 people visited the booth throughout the weekend and a number of people joined the STEP groups.

### 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, OPRD 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 on the life history patterns of anadromous salmonids increased understanding of the basin's fish populations, fish passage barriers, and the distribution of fish in the Medford area.

Three members of the Upper Rogue staff participated in four Salmon Watch field trips providing information on salmon and steelhead life histories to students of various ages during the fall of 2009.

Adult spring Chinook salmon and steelhead were displayed at a festival celebrating Spam Meat in Shady Cove. Volunteers and the 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 100 attendees. Native and exotic species of fish and crayfish were captured from Bear Creek and displayed. Topics of discussion included small streams, urban streams, and intermittent streams, summer steelhead life history, and the native and exotic species on display.

### Fish Eggs-to-Fry Program

The classroom incubator program remained popular this year. A total of 8,050 eyed spring Chinook salmon eggs were delivered by volunteers to 25 schools in the Rogue Valley. At the end of the incubation period, 5,669 spring Chinook salmon fry were released into the Rogue River near Medford and Grants Pass.

### Free Fishing Weekend

Nine volunteers from the Church of the Nazarene, the public and ODFW assisted anglers at the annual Free Fishing Day Event held at Expo Pond in June 2010. Other groups of volunteers in the district sponsored Free Fishing Weekend Events at Hyatt Lake, Butte Falls Hatchery, and Fish Lake in Jackson County and Lake Selmac in Josephine County. Volunteers prepared and purchased fishing gear that was loaned out to 57 youth and 82 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.

A volunteer spent 8 hours preparing rods, reels, and fishing gear for fishing events this year.

An ODFW biologist and 10 volunteers spent 60 hours assisting anglers at a Youth Angling Enhancement Program (YAEP) event held at Reinhart Park Pond on Saturday, May 1, 2010. ODFW staff estimated that the YAEP event in 2010 was attended by approximately 35 youth and 45 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 2009-2010, 420 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.

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, WolfTree 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 2010, the STEP biologist recruited and scheduled volunteers to serve as instructors at Kokanee Karnival's seven-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, Ponderosa Elementary School's "Science Camp," Malheur's "Invasive Carp Awareness Day," Prineville's "Fish Festival," and High Desert Museum's "Teacher's Night Out." Over 1,000 students participated in these events.

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

### Klamath Fin and Feather Field Days

The STEP biologist, along with staff from OSU Extension and the U.S. Fish and Wildlife Service, coordinated the second annual *Klamath Fin & Feather Field Days* at ODFW's Klamath Hatchery. 150 middle school students attended this four day field trip. During the fall field trip, students rotated through six learning stations: 1) Fly-fishing/Recreation 2) Fish Biology 3) Fish Identification 4) Macroinvertebrates and Water Quality 5) Birds and Riparian and 6) Tribal Culture and Fish. Stations were designed to teach Oregon Education benchmarks.

In the spring, students participated in a fishing clinic where they learned about fishing regulations and were able to try fly-fishing and spin casting in a stocked pond. The STEP biologist was responsible for developing content, funding, training volunteers, contacting teachers, providing equipment and evaluations.

### Creeks and Kids Teacher Workshop



Photo 5: Learning about macroinvertebrates at Creeks and Kids 2010

The Eastern Oregon STEP biologist was an instructor at a week-long teacher workshop, “Creeks and Kids,” coordinated by Jackson Bottom Wetland Association and funded by ODFW’s Restoration & Enhancement Program. Teachers were taught stream and fisheries related activities to enhance their school curriculum. Many of their activities are drawn from the STEP publication, The Stream Scene. The STEP biologist was responsible for field and classroom instruction of trout sampling methods and procedures, fish identification, basic trout biology and trout habitat. Twenty

eight teachers participated in this workshop.

### Klamath Falls Salmon Dissection Training

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 for related activities. Steelhead trout from Cole River Hatchery were delivered to teachers that participated in the training.

### Youth Angling

In addition to nine days of youth angling clinics during Kokanee Karnival and Klamath Fin & Feather Field days, the STEP biologist coordinated two youth angling events at Pine Nursery Pond in Bend. The STEP biologist also partnered with Bend Parks & Recreation and provided angling instruction and equipment for a youth angling event at Shevlin Park Pond.

# 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 2009-2010 (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 2009-2010 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.

### 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 staff and volunteers operated six 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 numbers are greatly reduced in the mainstem. Further investigations, along with habitat restoration efforts, are scheduled for the near future.

The STEP staff and volunteers conducted various monitoring activities in Cedar Creek to obtain baseline information before riparian and in-stream restoration activities occur starting in the summer of 2010. Volunteers assisted with checking fish traps, collecting water temperature information, and other fish sampling activities.

STEP volunteers participated in an angler mark-recapture population estimate for rainbow trout on a 5 mile reach of the McKenzie River. The project was intended to determine a baseline population size (fish per mile) of rainbow and cutthroat trout following the cessation of stocking hatchery rainbow trout in the 5 mile reach. STEP staff conducted multiple trainings for volunteers regarding how to flow tag fish and record data.

### High Cascade Lakes Sampling

STEP volunteers assisted ODFW 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.

ODFW staff and volunteers spent a week in the Waldo Lake Wilderness sampling over 20 High Cascade Lakes. Crews used gill nets and angling to collect information on trout survival, growth, and condition. Most of the lakes sampled produced nice sized trout during the trip. Data from these surveys will be used for the future management of our High Lakes Stocking program.

### 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 3700 brook trout were relocated to Junction City Pond which should allow for additional growth on the fish remaining in Gold Lake and provide a brook trout fishery in Junction City Pond.

## ***North Coast STEP***

### Temperature Monitoring

The Salmonberry STEP Monitoring Project continues to provide valuable data through temperature monitoring and winter steelhead spawning surveys on the Salmonberry River. This information is utilized by ODFW and many other resource groups and agencies. Headed by Ian Fergusson, the Salmonberry STEP Monitoring Project has utilized volunteers from AmeriCorps, Clark-Skamania Flyfishers, Native Fish Society, Northwest Steelheaders, Oregon Trout, Rainland Flycasters, Sierra Club, and Trout Unlimited since 1993 to carryout these monitoring projects.

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

### Population Monitoring

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 in monitoring steelhead, coho, and fall Chinook at various trapping locations throughout the district.

### Diamond Lake Shiner Removal

The STEP biologist also was responsible for monitoring and removal of golden shiners in Diamond Lake. One student volunteer assisted. During four removal efforts over 500 shiners were collected.

### Camp Creek surveys

The STEP biologist oversaw Gardiner, Reedsport, Winchester Bay (GRWB) STEP volunteers and Reedsport High School students in completing multiple habitat surveys of Camp Creek as well as the design of a habitat restoration project which will be implemented in 2011.

## 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 Biologists continued to monitor the hatchery winter steelhead juveniles in the Coos and Coquille basins with the help of volunteers. The sampling occurred near the winter steelhead acclimation sites during the end of June/first week of July looking for hatchery steelhead that have residualized and are 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. During the 2009 brood year volunteers collected 205 samples.

## Estuary Seining

OSCF volunteers completed their 20<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. In addition, the data is used to indicate when hatchery Chinook smolt should be released to 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 21-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 2010 Winchuck trapping season concluded with 61 days of trap operation and 4,602 fall Chinook salmon smolt sampled.

## Huntley Park Seining

The Huntley Park Seining Project represents a continuation of a 35-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 2010 sixteen-week study included 48-days of data collection with approximately 370 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 2009-2010 report period 21 streams have been sampled. 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 2009-2010, 24 volunteers spent 298 hours and drove 1,654 miles to sample hoop traps placed in Bannister, Brooks, Redlick, Snider, Larson, and Wrights Creeks in the Rogue River Basin. Because of low spawning flows, fewer fish were captured in the traps than in previous years.

A total of seven fish identification workshops gave 26 adult and 1 student volunteer information with which to identify fish captured in traps and while salvaging fish from isolated pools in drying streams.

## ***Eastern Oregon STEP***

### East and Paulina Invasive Tui and Blue Chub Control

East and Paulina Lake's trout fishing has deteriorated due to an overpopulation of invasive chub. As part of a five year chub control plan, volunteers are mechanically removing chub with trap and fyke nets. The STEP biologist directed the efforts of volunteers to assist with this labor intensive project. Trap nets are set on the shoreline during chub spawning season, and nets are emptied daily. Volunteers are trained to set the nets, remove fish from the nets, haul fish to the disposal site and collect biological data. In conjunction with mechanical control, ODFW will implement a modified fish stocking program to enhance biological chub control through the use of piscivorous rainbow trout. In 2010, STEP volunteers, along with ODFW staff, removed 35,000 pounds of chub from Paulina and East Lake.

### Mann Lake Pre & Post Rotenone Treatment Projects

ODFW's Hines Fish District treated Mann Lake with rotenone in order to remove invasive goldfish and restore the hatchery stocked Lahontan trout population. Volunteers from various fishing clubs assisted with pre and post treatment projects at Mann Lake. The STEP biologist and District Fish biologist coordinated the pre-treatment volunteer projects. Projects included surveying tributaries entering the lake, construction of a barrier to prevent goldfish movement, sampling the lake with trap nets to determine fish species composition and sampling benthic macroinvertebrates. Volunteers also conducted a post treatment benthic organism survey to determine macroinvertebrate loss and recovery.

### Crooked River Trout Population Survey



Photo 6: Electrofishing on the Crooked River

The STEP and District biologist coordinated and supervised volunteers who assisted with a boat electrofishing population survey on Crooked River. Volunteers assisted biologists by releasing fish upstream after sampling. They also recorded biological data and informed downstream anglers about the sampling boat. The Crooked River supports an easy access, year round, wild trout fishery for anglers. The Crooked River trout population has declined in recent years and anglers want to be involved with monitoring one of their favorite local fishing rivers.

# 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, and access to funding and outreach.

KORC program was created to collect and recycle discarded angling line and tackle continued in 2009-2010. 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 2009-2010 (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 15<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 Chinook and coho salmon in area streams and increase stream nutrient levels for aquatic organisms.

Over 275 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 Association of Northwest Steelheaders (ANWST), students from various local schools, Stop Oregon Litter and Vandalism (SOLV), Project YESS (Youth Employability Support Services), 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.

### Line and Tackle Collection

As part of the KORC program four line and tackle collection stations were in their fifth year of use on the Sandy River. STEP and volunteer members of the Sandy Chapter of the NW Steelheaders maintained the stations. Stations in their third or fourth year of use can also be found on the Clackamas River, Blue Lake Park, Herman Creek, and Salish Ponds, all maintained through volunteer efforts. Additional materials are being prepared for new stations to be installed in several popular fishing spots in the district.

### ***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 21 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 fish passage and habitat restoration projects.

For one such project, the STEP Biologist assisted the Calapooia Watershed Council with surveys of the lower Calapooia River and the Willamette River near Albany. The surveys are part of an effort to characterize the physical habitat condition of this area in relation to anthropomorphic, geomorphic, and fluvial influences. The information and data from these surveys will be used to develop engineering and fish and wildlife habitat restoration guidance for the Calapooia and Willamette Rivers. Restoration work will focus on improving floodplain connectivity and fish habitat.

#### Students Restoring Blair Creek

Sometimes habitat restoration projects can be combined with educational opportunities. One such occasion was a project in Blair Creek near Philomath that was sponsored by the Marys River Watershed Council, the Freshwater Trust, and Students from 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade classes at Lincoln School in Corvallis. The landowner agreed to allow the students access to his creek side property. Students interviewed the landowner, surveyed the property, mapped out zones relative to the creek, chose appropriate plants, and spent several days in cold wet weather planting the trees, shrubs and grasses. Fish traps were set to show students which fish were present in the creek. Math, science, botany, and writing lessons were incorporated into the lesson.

## 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 contributed many hours toward carcass enrichment efforts in the Mid-Willamette district.

Due to disease concerns at the Marion Forks Hatchery, the salmon carcass distribution for the North Santiam River Basin had to be changed. The carcasses had to be distributed weekly on spawning day instead of being frozen and distributed in bulk. A videographer accompanied the crew one day and produced a half hour documentary on the carcass distribution program which was aired on the local TV station in Salem.

## ***Upper Willamette STEP***

### Carcass Placement

STEP staff worked with volunteers from the Coastal Conservaton Association (CCA) and the ANWST to distribute spring Chinook salmon carcasses in the McKenzie, Middle Fork Willamette and Coast Fork Willamette basins. Over 5,200 adult carcasses totaling over 62,000 pounds were distributed into streams in the Upper Willamette Basin.

### Riparian Restoration

STEP staff, along with multiple local agencies, formed a partnership to conduct a variety of water quality and habitat restoration projects in Cedar Creek; a tributary / side channel to the McKenzie River. This partnership is a long term effort designed to increase flows to restore native fish habitat and water quality. In addition, STEP is working with landowners to conduct riparian and in-stream habitat improvements that are intended to reduce water temperatures and improve habitat conditions for native fish and wildlife.

## ***North Coast STEP***

### Stream Nutrient Enrichment



Photo 7: Placing frozen carcasses

As part of the ODFW stream nutrient enrichment program the STEP Biologist and other NCWD staff directed and assisted volunteers in the distribution of over 107,032 lbs of fish carcasses into 240 miles of North Coast rivers and streams from the Little Nestucca to the lower Columbia River tributaries to benefit salmonids and other species.

## Restoration in the Nehalem Basin

As a result of concerns over limiting factors that impact chinook and other salmonid production in the Nehalem basin, a group of concerned citizens has requested that ODFW guide the development of a volunteer group under the STEP Program, currently identified as the Nehalem STEP Restoration Committee (NSRC). This group's primary function is to identify and implement habitat restoration projects in the basin. Right now this group is focusing on restoration projects within the estuary and lower river to improve juvenile rearing conditions by improving habitat complexity through the placement of large wood within these areas. During the summer of 2010, permits were secured to implement the groups' first project. This pilot project will consist of placing 3 wood structures within the Nehalem at RM 0-2.5 (within the tidal channels of Alder Creek). These structures will consist of small trees bound in clumps with jute rope. This project is scheduled for implementation in 2011.

### ***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, mostly hosts at the facility, involved the planting of hundreds of trees along Morgan Creek and a newly restored wetland area nearby. Douglas Fir and Western Red Cedar were the only trees planted this year at the

location. Prior to planting about one-half acre of blackberries were removed. Trees were donated from the Bureau of Land Management and a tree farm near Scottsburg.

Willow trees were planted along the riparian area of Palouse Creek, in the Coos River Basin, this past winter by the STEP biologist, fish habitat biologist, students from the Harding Learning Center, and a few adult volunteers.



Photo 8: Students planting willows

### 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. ODFW staff and volunteers processed and placed 8,351 salmonid carcasses into 10 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 with placement of fall Chinook salmon carcasses. A total of 2,275 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.

### Estuary Riparian Enhancement

ODFW and Oregon Stewardship selected four south coast estuaries for riparian enhancement. Euchre, Hunter Creek, Pistol and Winchuck rivers were chosen due to the lack of diverse riparian vegetation and the potential that riparian enhancement may improve Chinook production. Oregon Stewardship contacted the landowners of the estuaries for access and planting on their property. Students from Brookings and Gold Beach schools planted willow and spruce trees in early spring of 2010 and followed up with watering and weeding. The latest fall reports indicate good growth and excellent survival of last years plantings. This project would have been difficult to achieve without the leadership of Oregon Stewardship.

## ***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. 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 180 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 2010.

### Keep Oregon's Rivers Clean Program

Volunteers collected over 162 pounds of monofilament in the six 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, 15 pounds is similar to the last three years. Previous year's weights of 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.

Kokanee Power volunteers filled 47, 55-gallon bags with trash and monofilament from the Expo Ponds at Jackson County Fairgrounds. The club later came back and installed monofilament recycling stations at high use areas on the ponds.

### Fish Passage

Fish passage checks were performed in the early fall and after each major freshet by ODFW 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***

Nothing to report during this period.

# 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 has provided 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. 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 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 220 classrooms. These incubation projects hatched eggs and released nearly 100,000 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. This extensive commitment to the schools includes the purchase of the incubation equipment, delivery of the fish eggs to the classroom, and support services to each of the participating schools.

### Fish Acclimation Projects

Acclimation facilities have become a key component of fish release strategies in the NWWD and operation of these facilities is an important function of STEP. Releases from acclimation sites are intended to coincide with hatchery production and provide increased angling opportunities on the Willamette and Clackamas rivers. Recent improvements in local fisheries can be attributed to these acclimation projects. STEP continued the growth of acclimation sites once again by bringing another facility online in March of 2010. This newest and largest project yet was completed on Eagle Creek, a tributary of the Clackamas River.

The Foster Creek facility continued to be a productive site for STEP. From that site 43,000 spring Chinook smolts, 25,000 winter Steelhead smolts and 25,000 summer Steelhead smolts

were acclimated and released into the Clackamas River in the early spring of 2010. Under the guidance of STEP, volunteers maintained the facility, performed all fish culture activities, and assisted with release.

Acclimation at Cassidy Pond, the oldest operating site, continued in 2010 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 60,000 spring Chinook smolts and 25,000 winter Steelhead smolts, which were released into the Clackamas River in the spring of 2010. 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 Clear Creek Acclimation Facility was completed and put into production in spring of 2009. Spring of 2010 marked the 2<sup>nd</sup> year of releases from this site. Feeding and daily maintenance was provided by volunteers from the McLoughlin Chapter of the ANWST who donated over 150 hours to this project. During the months of March and April nearly 110,000 spring Chinook smolts were acclimated and released to provide additional returns of adult spring Chinook to the extremely popular Willamette River and Clackamas River sport fisheries.

#### Eagle Creek Acclimation Facility Construction

The newest and now largest facility, located at Eagle Fern Park on Eagle Creek was completed and put into production in early 2010. With funding from an R&E grant provided by the Oregon Wildlife Heritage Foundation, this facility was built from the ground up on the banks of Eagle Creek a few miles up from the confluence with the Clackamas River. Through cooperation with STEP, the NWWD staff, Clackamas County Parks, volunteers, and private contractors all assisted in the construction. Feeding and daily maintenance was provided by volunteers who donated over 130 hours to this project, with instrumental support provided by the Clackamas County Parks Dept.

This Eagle Creek Acclimation project was in full production from March to May when 180,000 spring Chinook smolts were acclimated and released into Eagle Creek. As a major tributary of the Clackamas River these smolt releases will be instrumental in providing additional returns of adult spring Chinook to the Willamette and Clackamas rivers, as well as reintroducing a once popular spring Chinook fishery to Eagle Creek.

### ***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 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, ODFW's Angler Education Instructors, 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***

#### High Cascade Lakes Backpack Stocking

STEP staff, along with over 200 volunteers, participated in the bi-annual stocking of the High Cascade Lakes with trout. Volunteers stocked 57 lakes with nearly 40,000 fingerling rainbow, cutthroat, and/or brook trout.

#### Fish Eggs-to-Fry Program

More than 9,000 spring Chinook salmon eggs were incubated by 84 teachers in 49 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 30 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 Ck.  
Hatchery Sign

The Tillamook Anglers continue to operate Whiskey Creek Volunteer Hatchery; releasing almost 100,000 Spring Chinook salmon smolts and an additional 98,000 Fall Chinook salmon fry into the Wilson and Trask Rivers. The Nestucca Anglers also continue to operate Rhoades Pond, rearing 98,000 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 218 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 staged. 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.

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 not met in the Lower Umpqua for the Gardiner-Reedsport STEP program. High water in the fall limited the success of trapping efforts; however pre-smolt releases are expected to be near 50,000. Umpqua Fishermen's Association (UFA) volunteers will be releasing nearly 225,000 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 nearly 160,000 Chinook salmon using their volunteer labor.

GRWB STEP also utilized student volunteers to assist with fin clipping and nearly 100,000 pre-smolts were marked during a 2 week period. This was a very educational experience for the students and plans have been made for the schools to be involved again next year.



Photo 10: Fin Clipping Spring 2010

Gardiner-Reedsport-Winchester Bay (GRWB) STEP is developing its fin-clipping facility by building a 30'x15' permanent canopy for protection from the elements for those who fin clip fall Chinook. This structure will be completed by April, 2011.

### Acclimation and Release

Winter steelhead acclimations and releases took place this past year at Eastwood Elementary, Canyon Creek acclimation site, and the Seven Feather 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 in 2010.

## ***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, ten egg incubation, five rearing and 15 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 back on track this past season. Returns to both Eel Lake and to Millicoma Interpretive Center were back to normal return levels. The previous year returns of two-salt winter steelhead were absent to these two programs. Problems at the rearing hatchery prevented these fish being released as smolts which was the reason for the loss of an entire brood year. Steelhead collections were strong and collections were conducted without too much difficulty.

### 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, 189,593 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.

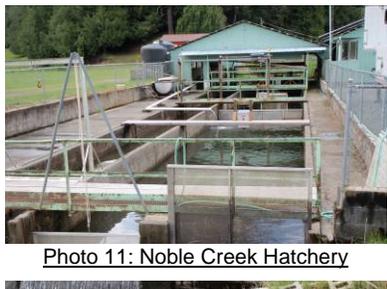


Photo 11: Noble Creek Hatchery

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. A total of 2,311,751 Chinook salmon pre-smolts were released into the Coos Basin in the spring of 2010.

For the third 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. The fish held and fed well in this new rearing area then left the reservoir in a timely manner. A new trap was designed for installation into the fishway at the reservoir in an attempt to trap returning adult and jack Chinook to evaluate this project.

## Fish Eggs-to-Fry Program

Again this year the number of classroom egg incubation projects also increased in the district. A total of 17 classroom incubators were operated at 16 different schools. More classroom aquaria are planned in the near future. This past year over 4,049 students at 16 schools got to observe eggs 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.

New this report period, the students from Coquille High School took on a project to take the lead on working with all the students at the nearby elementary and middle schools setting up and operating classroom aquaria. The students devoted days to making props and setting up the aquaria. The high school students gave presentations about the biology of salmon to every class at these schools. Each student at the schools were given their own salmon egg to name and place in the aquaria. The high school students did an outstanding job on their presentations and their props. This was a huge hit to these schools.

## Coos Fall Chinook Salmon Monitoring and Evaluation Plan

During this report period, 7,925 fall Chinook returned to the three STEP facilities in the Coos River basin. In 1983 only 4 Chinook returned to STEP facilities in the Coos River basin. While the returns have increased since the beginning of the program, returns in recent years have not been as good as they were in 2004. In 2004, 16,801 Chinook returned to the same facilities.

The STEP biologists directed about 8,569 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 1,160,897 Chinook salmon were marked in the basin in 2010. Increasing the percentage of fish marked aids in the monitoring and evaluation of these programs as well as allowing more fish to be recorded on hatchery harvest cards. This facilitates the increased harvest of hatchery fish.

The increased number of marked Chinook will also provide better monitoring and evaluation of the interactions of juvenile hatchery Chinook 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.

During the report period, volunteers, staff, and students operated the South Coos River Trap as part of the monitoring and evaluation project. A total of 1,140 Chinook were captured, marked, and released into Coos River. An additional 78 Chinook were taken for broodstock.



Photo 12: Fin Clipping at Noble

Observations of hatchery Chinook at the trap documented a stray rate of 16 %. The trap was also used to conduct a Peterson Mark Recapture Population Estimate of Chinook in the South Coos River. The estimate of Chinook in the South Coos River basin was 4,431 adults and 1,425 jacks.

### Rearing and Acclimation

Volunteers operated a total of 20 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. These acclimation sites have increased angling opportunity in the District. Another purpose of these acclimation sites is to obtain a geographical separation between hatchery and wild salmonid populations. Separating hatchery and wild salmonids is valuable to reducing the potential impacts of hatchery fish on wild populations.

## ***Lower Rogue STEP***

### Chetco River Broodstock Collection

OSCF volunteers and fishing guides assisted ODFW staff in collecting broodstock for the Chetco River hatchery programs. A total of 120 fall Chinook salmon and 107 winter steelhead were collected and transported to Elk River Hatchery.

### Ferry Creek Acclimation

ODFW and OSCF acclimated fall Chinook 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 hatchery program. Volunteers reared two 18,000 fish groups of fall Chinook salmon smolt.

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 85,371 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 2010.



Photo 13: South Coast Fishermen  
Collecting Adult Chinook

## ***Upper Rogue STEP***

### Fish Salvage

94 bass anglers from four bass clubs caught 3,212 largemouth bass from Hyatt Reservoir in 13 hours. A total of 2,269 were transported to Applegate Reservoir, and 705 were transported to Lost Creek Reservoir to add to the diversity of fishing opportunities at both reservoirs.

Volunteers salvaged over 1,4540 steelhead and 8 juvenile coho salmon from isolated pools from streams in the Rogue River basin that dried up during the spring and summer of 2010. Coho salmon numbers in the catch were down from previous years because of low abundance and low flows during their spawning run of 2009.

120 juvenile steelhead 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 2010, 18 juvenile Coho salmon, 40 juvenile steelhead, 1 sculpin, and 4 Pacific Giant Salamanders were captured in the trap and were released live into the Applegate River. Three volunteers donated 45 hours to move the fish to the flowing waters of the Applegate River.

A total of 8050 eyed spring Chinook salmon eggs from Cole Rivers Hatchery were delivered by volunteers to 25 classrooms in the Rogue River Basin. A total of 5669 survived to swimup stage and were released into the Rogue River.

## ***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. All trout were released in ponds or reservoirs.

## **APPENDICES**

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**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	Lin Howell	1 <sup>st</sup>	July 2014
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	2 <sup>nd</sup>	September 2014
Eastern Oregon (Northeast)	Sammie Mosley	1 <sup>st</sup>	October 2011

\*List current as of September 30, 2010

<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**

(9/30/2010)

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## Appendix 2 (continued)

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### ***Appendix 3: Schools that work with STEP***

The following is a partial 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**

7 Oak MS	Evergreen Elementary
Abiqua School	Ferguson Elementary
Altamont Elementary	Florence School District Stream Team
Ash Creek Elementary	Florence Schools
Astoria High School	Forest Ridge Elementary
Bandon High School	Gervis MS
Bear Creek Elementary	Gervis Outdoor School
Blossom Gulch School	Gladstone High School
Bonanza Elementary	Glide High School
Broadway Middle School	Gold Beach Elementary School
Brookings Elementary School	Hartman School
Buckingham Elementary	Hawthorne Elementary
Bunker Hill School	Heppner High School
Calapooia MS	Hidden Valley High School
Cascade Middle School	High Lakes Elementary
Cave Junction High School	Hillcrest School
Central Christian School	Hillcrest School
Cheldilin Middle School	Hines School
Chiloquin Elementary	Hoover Elementary
Clackamas High School	Jefferson School
Condon Grade School	Jewell Elementary
Conger Elementary	John Tuck Elementary
Coos Bay school district	Juniper Elementary
Coquille High School	Kalmiopsis Elementary School
Corvallis High School	Kids Zone After-School/Summer
Crook County Middle School	Knappa High School
Culver High School	LaPine Elementary
Dalles Middle School	LaPine Middle School
East Elementary School	Lava Ridge Elementary
Eastwood Elementary School	Lewis and Clark
Eddyville School	Liberty Elementary School
Elk Meadow Elementary	Lighthouse School
Elkton School	Lincoln School
Elton Gregory Middle School	Lincoln School
Estacada High School	M.A. Lynch Elementary

Madison School  
Madras Elementary School  
Marshfield High  
McKay HS  
Middle School  
Millicoma Mid. School  
Montesorri School  
Mrytlecrest School  
Neahkahnie Jr. High  
North Bay School  
North Bend Middle School  
North Sherman Elementary School  
Oakland School District  
Parkdale Elementary  
Pendleton High  
Peterson Elementary  
Philomath 6th grade  
Phoenix Elementary School  
Pilot Butte Middle School  
Pine Eagle High School  
Pine Ridge Elementary  
Powers School  
Redmond High School  
Reedsport High School  
Reedsport Middle School  
Reynolds High School  
Riley Creek Elementary School  
Robert Frost MS  
Roseburg School District  
Sherman High School  
Siletz School  
Sisters Middle School  
South Sherman Elementary School  
St Francis School  
St Josephs School  
Stanfield High School  
Sutherlin School District  
Taft Elementary  
Tallent Middle School  
Terrebonne Community School  
Three Rivers School

Tillamook High School  
Tom McCall Elementary  
Tumalo Elementary  
Vale Elementary  
Warrenton High School  
West Linn High School  
Westside Elementary  
Westside Magnet School  
Willow Creek Elementary  
Winston School District  
Yoncalla School District

**Colleges and Universities**

Oregon State University  
Willamette University  
Southern Oregon University  
Umpqua Community College

## Appendix 4: Groups that work with STEP

The following is a partial 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

Albany Chapter ANWST	Native Fish Society
American Fisheries Society	Natural Resources in Polk Co.
American Rivers	Nestucca Anglers
ANWST - Association of Northwest Steelheaders	Oregon Equestrian Trails Volunteers
ANWST - Mid-Coast Chapter	Oregon Public Broadcasting
ANWST - Sandy Chapter	Oregon South Coast Fisherman
ANWST - Tualatin Valley Chapter	Oregon Stewardship
ASE interns	Oregon Wildlife Heritage Foundation
Baptist Church of Waldport	OSU Extension Summer Camp
Bi-Mart	Rainland Flycasters
Boy Scouts	Salmon Watch
Boys and Girls Club	Santiam Flycasters
Central Coast Flyfishers	Senior Fishing Buddies
Central Oregon Bass Anglers	Sierra Club
Central Oregon Flyfishers	SOLV
Coastal Conservation Association	South Coast Anglers STEP
Coos River STEP	Southern Oregon Flyfishers
Coquille River STEP	Starker Forest
Cow Creek Band of Umpqua Indians	Sunriver Anglers
Curry Anadromous Fishermen	Sunriver Resort
Depoe Bay Salmon Enhancement Commission	Tillamook Anglers
Eel Tenmile STEP	Trout Unlimited
Florence STEP Group	Twin Rocks Friends Camp
Flycasters	Umpqua Fishermen Association
Freshwater Trust	Youth Employability Support Services
Gardiner-Reedsport-Winchester Bay STEP	YMCA
Grande Ronde Tribe	
KBSC	
KDC volunteers	
Klamath Country Flycasters	
Kokanee Power	
Long View Hills Fishing Club	
Lower Umpqua Fly Casters	
Mckenzie Flycasters	
McKenzie River Guides Association	
Middle Rogue Steelhead Chapter of Trout Unlimited	
MRWCS/FT	

## **Government**

Bureau of Land Management  
City of Canyonville  
City of Cave Junction  
Natural Resource Conservation Service

## **Watershed Councils**

Alsea Watershed Council  
Ashland Watershed Council  
Bear Creek Watershed Council  
Calapooia Watershed Council  
Coast Fork Watershed Council  
Illinois Valley Watershed Council  
Long Tom Watershed  
Lower Nehalem Watershed Council  
Luckiamute Watershed  
Marys River Watershed  
MidCoast Watershed Council  
Middle Rogue Watershed Council  
Polk Co. Soil and Water  
Sandy River Basin Council  
Seven Basins Watershed Council  
South Coast Watershed Council  
Upper Rogue Watershed Association