

# SALMON AND TROUT ENHANCEMENT PROGRAM (STEP)



## 2010-2011 Annual Progress Report



Prepared by the Oregon Department of Fish and Wildlife  
3406 Cherry Avenue NE  
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## Salmon and Trout Enhancement Program 2010-2011 Legislative Report

### Executive Summary

The Salmon and Trout Enhancement Program (STEP) was established by the Oregon Legislature 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” Since then, more than 317,335 adult and youth volunteers have contributed nearly 3.1 million hours to an estimated 34,078 Salmon and Trout Enhancement Program (STEP) projects.

The annual report summarizes the activities and accomplishments of STEP from October 1, 2010 to September 30, 2011. STEP activities are integral to accomplishing ODFW’s fish management objectives and during the 2010-2011 period, volunteers made a substantial contribution to ODFW. Statewide STEP volunteer efforts involved 6,831 youth and 5,402 adult volunteers contributing 142,363 hours on 1,350 projects. Volunteer time provided was the equivalent of 68.4 FTE (full time equivalents) and is valued at \$3,102,090.

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:*** During the reporting period, 53,906 people participated in STEP training, classes, tours, presentations or workshops, or visited STEP activities or displays at public events. These activities involved over 4,390 youth and adult volunteers and included 649 individual Fish Eggs-to-Fry classroom projects that reached over 21,000 students. Oregon ranks number 2 in the nation for number of classrooms touched by classroom incubators.
- ***Inventory and Monitoring:*** More than 570 volunteers contributed 8,160 hours to participate in 97 projects to inventory and monitor fish populations, assess sport fisheries, conduct fish passage inspections and survey habitat in streams and rivers across the state.

- **Habitat Improvement:** Over 682 miles of waterways were improved for fish use by 864 volunteers through fish passage, in-stream, riparian and fish carcass placement projects and the Keep Oregon Rivers Clean (KORC) program.
- **Fish Culture:** STEP volunteers assisted with rearing and releasing of approximately 5.8 million Chinook salmon, coho salmon, steelhead and trout for enhancement or augmentation purposes. Of these 2,777,969 fish were reared (fed and cared for) by STEP before release and 12,038 broodstock fish were collected.

STEP is funded by a combination of the U.S. Fish and Wildlife Service (USFWS) Sport Fish Restoration (SFR) grant program and ODFW funds. The program has one full-time coordinator and one part-time administrative assistant in Salem and eleven STEP biologists located throughout the state.

The 13-member STEP Advisory Committee (STAC) is comprised of citizens appointed by the Governor. The Committee meets quarterly around the state and advises ODFW on policy and the implementation of STEP. The Committee administers the STAC Mini-Grant Program, funded through a \$50,000 biennial grant from the ODFW Fish Restoration and Enhancement Program. Mini-Grants are available in amounts up to \$2,000 for projects that further the goals of STEP. From October 2010 to September 2011, meetings were held at Coos Bay, Tillamook, Florence and Medford.

Only one new member was appointed to STAC during the reporting period. The member appointed was Doug Ray for the North Coast.

To receive a hardcopy of the Salmon Trout Enhancement Program 2010-2011 Legislative Report contact the Salmon and Trout Enhancement Program Coordinator, Oregon Department of Fish and Wildlife, 3406 Cherry Ave NE, Salem, OR 97303 or by phone at (503) 947-6232. An electronic copy of this Legislative Report can be found at <http://www.dfw.state.or.us/fish/STEP/>

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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, 2010 to September 30, 2011. 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 2010 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 thirteen-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 2010 to September 2011, meetings were held at Coos Bay, Tillamook, Florence, and Medford.

Only one new member was appointed to STAC during the reporting period. The member appointed was Doug Ray for the North Coast. Doug started his second term as he had served a previous term on the committee.

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 2010-2011:

- Over 53,906 people participated in STEP training, classes, tours, presentations or workshops, or visited STEP activities or displays at public events (Table 1). These activities involved over 4,390 youth and adult volunteers. This includes 649 individual Fish Eggs-to-Fry classroom projects that reached over 21,863 students.
- Over 570 volunteers contributed 8,160 hours to participate in 74 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 683 miles of waterways were improved for fish use by 864 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 5.8 million Chinook salmon, coho salmon, steelhead and trout for enhancement or augmentation purposes; 2,77,969 of these fish were reared (fed and cared for) before release and 15,491 broodstock fish were collected (Table 4).
- The agency continues to implement the 25-Year Angling Enhancement Plan. Major accomplishments by STEP include continuing to improve access to local angling sites and improved family fishing events. 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”) continues to be a priority for STEP. Assistance by STEP and STEP volunteers to restore inland trout fisheries will continue.

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 2010-2011 statewide volunteer efforts include:

- 6,831 youth and 4,402 adult volunteers in Oregon participated in STEP activities.
- Volunteers participated in an estimated 1,350 projects, totaling 142,363 hours. This is equivalent to 68.4 full time employees.
- Using the estimated dollar value of \$21.79 for volunteer time in Oregon for 2011, the value of STEP volunteer hours was \$3,102,090.

Since the program was established in 1981, more than 317,335 adult and youth volunteers (Figure 1) have contributed nearly 3.1 million hours (Figure 2) to an estimated 34,078 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, 2010-2011. Activities were defined as those projects having at least one participant or volunteer; figures in parentheses indicate the number of Fish Eggs-to-Fry classroom incubator projects.

EDUCATION AND DEVELOPMENT						
STEP District	Activities	Participants	Youth	Volunteers		
				Youth Hours	Adults	Adult Hours
Coos-Coquille	40 (149)	9,946	1,230	6,998	1,088	5,667
Eastern Oregon	32 (77)	5,533	50	4	291	1,519
Lower Rogue	46 (8)	2,995	6	25	231	1,298
Mid-Coast	26 (37)	4,813	18	117	248	2,318
Mid-Willamette	119 (59)	12,249	0	0	73	339
North Coast	11 (13)	1,867	0	0	191	14,914
North Willamette	33 (204)	6,820	1	6	77	492
Umpqua	44 (10)	3,756	475	2,647	294	4,465
Upper Rogue	51 (27)	3,157	0	0	70	718
Upper Willamette	13 (65)	2,570	2	12	33	200
STAC	15(0)	200	0	0	12	1,540
<b>Total</b>	<b>449 (649)</b>	<b>53,906</b>	<b>1,782</b>	<b>9,809</b>	<b>2,608</b>	<b>33,470</b>

Table 2. STEP inventory and monitoring activities, miles affected and surveyed and volunteer effort, 2010-2011. Activities were defined as those projects having at least one participant or volunteer.

**INVENTORY AND MONITORING**

STEP District	Activities	Miles Affected	Miles Surveyed	Volunteers			
				Youth Hours	Youth Hours	Adults	Adult Hours
Coos-Coquille	3	28	28	0	0	14	49
Eastern Oregon	11	7	6	0	0	39	855
Lower Rogue	8	247	18	68	147	63	1,135
Mid-Coast	12	21	1	3	100	105	2,297
Mid-Willamette	18	0	18	4	50	66	503
North Coast	2	0	43	0	0	40	527
North Willamette	1	0	0	0	0	1	35
Umpqua	9	0	0	18	51	61	880
Upper Rogue	4	5	1	2	17	14	214
Upper Willamette	6	5	6	2	16	70	1,284
<b>Total</b>	<b>74</b>	<b>313</b>	<b>120</b>	<b>97</b>	<b>381</b>	<b>473</b>	<b>7,779</b>

Table 3. Habitat restoration activities, miles affected and restored and volunteer effort by STEP district, 2010-2011. Activities were defined as those projects having at least one participant or volunteer.

**HABITAT**

STEP District	Activities	Miles Affected	Miles Restored	Volunteers			
				Youth Hours	Youth Hours	Adults	Adult Hours
Coos-Coquille	2	1	1	55	380	28	143
Eastern Oregon	0	0	0	0	0	0	0
Lower Rogue	12	32	2	81	162	42	336
Mid-Coast	7	160	7	0	0	74	263
Mid-Willamette	8	81	0	2	6	13	276
North Coast	6	234	0	5	55	19	190
North Willamette	39	83	0	368	1,483	75	366
Umpqua	1	10	0	0	0	2	24
Upper Rogue	9	1	0	9	74	84	806
Upper Willamette	15	71	0	6	42	1	7
<b>Total</b>	<b>99</b>	<b>673</b>	<b>10</b>	<b>526</b>	<b>2,202</b>	<b>338</b>	<b>2,411</b>

Table 4. Fish culture activities and volunteer effort by STEP district, 2010-2011. Activities were defined as those projects having at least one participant or volunteer; figures in parentheses indicate the number of Fish Eggs-to-Fry classroom incubator projects. For classroom incubation projects, this table reflects only the number of fish reared and released. Participation and volunteer efforts for the classroom incubator program were included under education and development (Table 1).

FISH CULTURE

STEP District	Number of Fish				
	Activities	Broodstock			Released
		Collected	Incubated	Reared	
Coos-Coquille	21 (149)	12,482	1,848,689	1,489,168	2,891,851
Eastern Oregon	0 (77)	0	15,400	0	11,900
Lower Rogue	5 (8)	532	170,737	82,974	108,568
Mid-Coast	7 (37)	1,802	243,691	30,372	115,930
Mid-Willamette	0 (59)	0	20,200	0	20,200
North Coast	20 (13)	233	720,558	278,996	1,387,976
North Willamette	12 (204)	0	99,500	624,577	674,656
Umpqua	12 (10)	442	356,414	271,882	451,035
Upper Rogue	0 (27)	0	11,700	0	2,269
Upper Willamette	2 (65)	0	7,200	0	120,915
<b>Total</b>	<b>79 (649)</b>	<b>15,491</b>	<b>3,494,089</b>	<b>2,777,969</b>	<b>5,785,300</b>

STEP District	Volunteers				
	Youth	Youth Hours	Adults	Adult Hours	Total Hours
Coos-Coquille	3,662	30,469	876	16,703	47,172
Eastern Oregon	0	0	0	0	0
Lower Rogue	31	371	100	6,911	7,282
Mid-Coast	59	305	208	8,865	9,170
Mid-Willamette	0	0	0	0	0
North Coast	300	1,010	446	8,605	9,615
North Willamette	9	52	102	785	837
Umpqua	365	605	237	11,486	12,091
Upper Rogue	0	0	0	0	0
Upper Willamette	0	0	14	144	144
<b>Total</b>	<b>4,426</b>	<b>32,812</b>	<b>1,983</b>	<b>53,499</b>	<b>86,311</b>

Figure 1. Number of volunteers who participated in STEP activities, 1981-2011. Values for 1981-1990 and 1993 are estimates. (Note: 1986-1990 and 1993 were updated during this report based on discovery of a 1993 program report.)

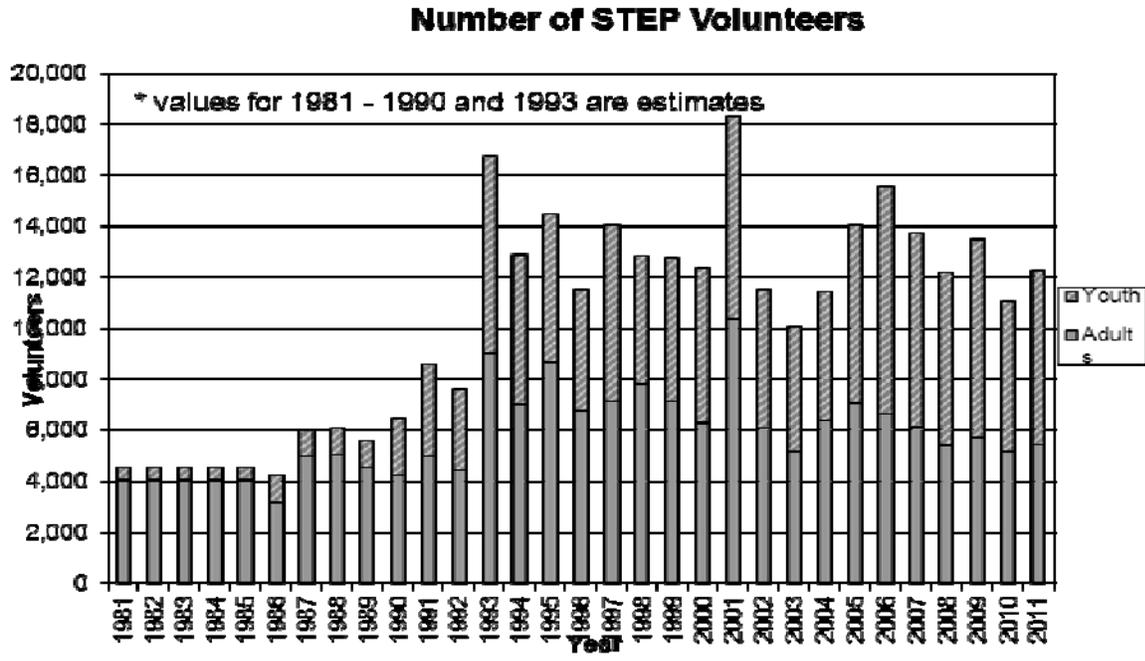
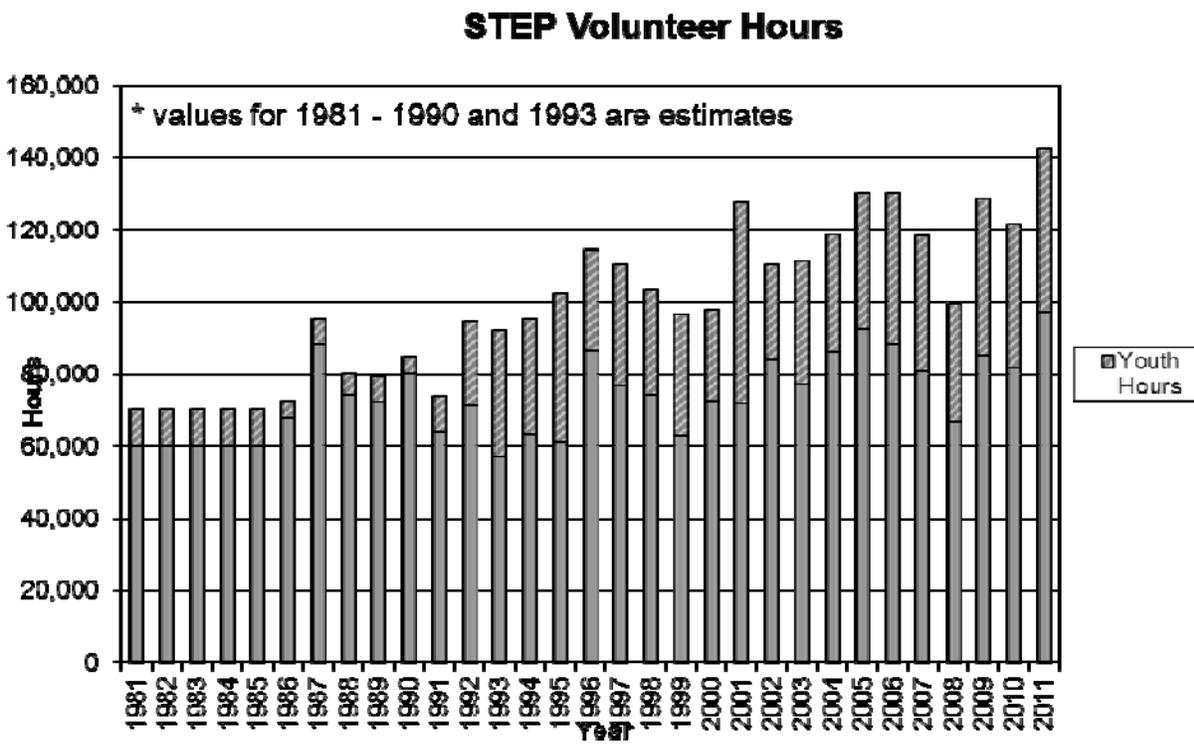


Figure 2. Hours contributed by volunteers towards STEP activities, 1981-2011. Values for 1981-1990 and 1993 are estimates. (Note: 1986-1990 and 1993 were updated during this report based on discovery of a 1993 program report.)



# 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 the Department’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 strives 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 the McKenzie River confluence downstream to the agricultural lands north of Salem. Within this area, three major river systems flow from the western slopes of the Cascades into the Willamette (North Santiam, South Santiam and Calapooia). Another five (Glen/Gibson,

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. Native among these 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 the basin's many other native fish.

In recent years, the Mid-Willamette STEP District has seen a surge in coho salmon numbers throughout the district. The current population of these fish is descendants of hatchery coho salmon released around the Willamette Valley from the 1950's until 1999. Although the releases were discontinued, the coho salmon have persisted, taking advantage of improving habitat conditions due to active restoration by watershed councils, improved riparian and instream protections in zoning regulations, and increasing beaver activities.

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 Endangered Species Act 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 must 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** .....*Shannon Richardson, 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 are the only anadromous salmonid native to the area, however, a summer Steelhead run has been established in the McKenzie, Middle Fork, and mainstem Willamette Rivers. Resident and/or fluvial populations of rainbow, cutthroat, and bull trout are also found within the district. Releases of hatchery spring Chinook salmon, summer steelhead, and rainbow trout are conducted 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 Endangered Species Act (ESA).

Responsibility for implementing the STEP program in the Upper Willamette is shared between the STEP biologist and other district staff. Staff believes 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, 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 Rosboro 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 assists STEP with many projects that could not be conducted without their help.

**North Coast STEP** .....*Ron Rehn, 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 District 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** ..... *Christine Clapp, STEP Biologist*  
*John Spangler, Assistant Fish Biologist*  
*Derek Wilson, Assistant District Fish Biologist*  
*Bob Buckman, District Fish Biologist*

The Mid Coast District includes coastal watersheds from the Salmon River (Cascade Head) to Tahkenitch Lake, extending from headwater streams on the western slope of the Coast Range to their estuaries. This includes several large river drainages including the Salmon, Siletz, Yaquina, Alsea and Siuslaw Rivers. Direct ocean tributaries such as the Yachats River and Beaver, Big, Tenmile and Cummins Creeks also support Mid Coast salmonid populations. Siltcoos and Tahkenitch Lakes, two large coastal lakes in the southern Mid Coast, are especially important for coastal Coho salmon. In addition to Coho salmon, Mid Coast waters support populations of spring and fall Chinook, summer and winter steelhead, Chum salmon, cutthroat trout, and other native non-game fishes.

Christine Clapp has lead responsibility for STEP program activities in the Mid Coast, and John Spangler performs STEP duties in the Siuslaw basin. The Mid Coast program works with local community members from various volunteer groups on a diverse range of projects focused on fisheries management and conservation. Mid Coast STEP volunteer groups include the Depoe Bay Salmon Enhancement Commission, Longview Hills Fishing Club, Central Coast Fly Fishers, the OSU Fish and Wildlife Department, Florence STEP, and the Association of Northwest Steelheaders. Mid Coast STEP also coordinates with watershed councils for restoration projects and Oregon State Troopers for assistance at family fishing events. Alsea Hatchery staff also work with volunteers during broodstock collection and provide valuable support to the Mid Coast STEP program. Both Alsea and Salmon River Hatchery staff organize family fishing events that greatly increase youth angling opportunities in the Mid Coast.

Education and outreach is a central part of the Mid Coast program and will become more important as population growth on the Oregon Coast continues and pressure on the region's natural resources increases. Inventory and monitoring of Mid Coast fish populations through STEP includes the operation of eight fish traps and volunteer assistance with spawning surveys. Habitat restoration is also an essential focus of the Mid Coast STEP, fostering collaboration between landowners, watershed councils, interest groups, fishing clubs and volunteers. The Mid Coast also contains one of the oldest STEP propagation programs in the state, and fish culture continues to attract volunteers and provide an additional educational component in the Mid Coast.

## 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.

The Umpqua Watershed had another successful year with volunteers donating 20,298 hours. The program completed and/or developed seventy projects this year and reached over 3,000 people with its public outreach efforts.

**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 thirty 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, 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. The CAF's primary focus is aquaculture and education while the OSCF's focus is 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 2010-2011 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 124 district STEP volunteers put in over 1,708 hours and drove 4,980 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 ODFW STEP and 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 2010-2011 (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 18th 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 2011 again exceeding 2,000 youth and adults. This was the final year of holding Passport to Fishing at Bonneville Hatchery, with several changes expected for 2012. 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 2010-2011 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 600 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 fifty volunteers donated nearly 300 hours of time helping to make these events successful.

### Fish Eggs-to-Fry Program

NWWD STEP has experienced continued growth in the classroom incubator program. An expanding enthusiasm and desire to implement the program into classroom curriculum brought several new schools to STEP, as the number of participants increased to over 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), CREST, The Oregon Zoo, OMSI, and Reed College sponsored classroom incubation projects in schools around the Portland Metro Area. With the tremendous growth of the program, its success would not be possible without the dedication of the many volunteers donating dozens of hours.

### 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 represented the NWWD at the 2011 Oregon State Fair in the natural resources pavilion providing information and updates about ODFW activities and STEP opportunities in the NWWD and around Oregon.

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

### Technical Assistance

During the 2010 - 2011 contract period, the STEP Biologist gave 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, providing technical expertise to habitat and inventory projects, assisting with volunteer training, and assisting with the 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 project, 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 OWEB Region 3 Technical Review Team, the Benton Co. Fish Passage Task Force, the Luckiamute River Fish Passage Task Force, and the Glen Gibson Watershed Council, Long Tom, Calapooia, and Luckiamute Watershed Council's Tech Teams, and the Benton County Wetland and Riparian Workgroup. During the contract period the STEP Biologist attended 19 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 schools and this has provided the STEP Biologist with additional educational opportunities for the program. The STEP Biologist and STEP volunteers participated in seventeen Outdoor Schools and summer camp fishing clinics and four youth angling events. The STEP Biologist also taught fish biology at the Northwest Flytiers Expo, and taught salmon biology at three Salmon Watches, as well as Forest Ridge Elementary Field Day, Corvallis/Philomath District Spring Field Day, and Kid's Day for Conservation.

The STEP Biologist, along with volunteers from the Albany Chapter of the Northwest Steeheaders, 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 the U.S. Forest Service. At the fishing stations, students catch stocked trout and sunfishes, 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 STEP Biologists most popular activities are 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. Students work in teams of two to three to dissect the fish. Volunteers from the ODFW's Angler Education Program, the Albany

Chapter of the Northwest Steelheaders, 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. The STEP biologist includes information on fish biology, such as how fish hear, see, detect odors, and osmoregulate in fresh and saltwater, as well as similarities between fish and human biology. During the 2010 - 2011 contract year, the STEP Biologist and volunteers hosted fish dissections at eleven elementary, middle school, and 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 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 instream flow into Cedar Creek to meet minimum requirements for aquatic life. There is a five-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 hosted three Youth Angling Enhancement Program 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 selected to participate in the presentation. Students were also allowed to ask questions during the later part of the presentation.

### Program Outreach

The STEP Biologist gave numerous presentations to a variety of groups including Emerald Empire Chapter of the N.W. Steelheaders, Cascade Family Flyfishers and Trout Unlimited. Talks were 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 also presented at the City of Creswell's Earth Day celebration, held at Garden Lake Park.

The STEP Biologist participated in a Fly-Fishing Festival sponsored by the McKenzie Fly Fishers. Educational materials and displays were presented during the event. Staff also was present to answer various questions and listen to concerns from the public attending the event.

## ***North Coast STEP***

### Education and Outreach

North Coast Staff continued to participate in The Freshwater Trust sponsored Salmon Watch Program, conducting twelve fieldtrips and interacting with approximately 300 students, elementary through high school. At these field trips, staff educates students on the biology, anatomy, and life history of salmon. Unfortunately, due to budget cuts this program has been discontinued.

Other outreach and educational activities that occurred this year included: exhibits at the Tillamook County Fair, Washington Elementary Salmon Watch, presentations to the North Coast chapter of the Association of Northwest Steelheaders, and Tillamook County Children's Clean Water Festival. The Tillamook County Children's Clean Water Festival is a daylong event in which every fourth grader in Tillamook County participates in activities and hands-on interactive displays pertaining to overall watershed health. Over 200 students were involved in this event.

### Fish Eggs-to-Fry Program

The North Coast STEP classroom incubator program this year involved delivering eggs and giving presentations to students in seven schools, elementary through high school, and the public library. These programs participated in the hatching and releasing of spring Chinook salmon, fall Chinook salmon, winter Steelhead, and summer steelhead fry into approved streams.

### Youth Angling

During 2010-2011, 897 people participated in North Coast Watershed District (NCWD) Family Fishing Events and other organized fishing events. The Association of Northwest Steelheaders (ANWS) Tualatin Chapter assisted the NCWD STEP program in providing guidance in basic fishing skills at these events. A Disabled Angler Fishing Day also occurred in conjunction with Camp Rosenbaum, the YMCA, and the Tillamook Angler's. Individuals from across the region come to Camp Rosenbaum and enjoy a day of fishing, fun, and a BBQ. Approximately 325 people with disabilities participated in this year's event.

### Improvements to Fishing Access

Volunteers from the Tualatin Chapter of the Association of Northwest Steelheaders assisted with the demolition of the Vanderzanden boat slide in preparation for its replacement. They also assisted with repairs and modifications to the Nehalem Falls fish ladder. These repairs and modifications were implemented to allow ODFW research staff to trap Chinook salmon for a Mark/Recapture study.

In June of 2011, plans funded through a Restoration & Enhancement (R&E) Grant were completed for the Loren's Pond Enhancement Project. This project aims to provide diverse, stable, and productive angling opportunities by improving the aesthetic quality, and adding features such as restrooms, picnic tables, ADA access points, and improving angler access at the Loren's Pond/Drift access site along the Trask River. Current conditions do not provide for access to most of the pond, the lack of adequate restroom facilities and unrestricted vehicle use has created an atmosphere that is not conducive to the family experience, and the failure to maintain the site has allowed for much of the area to be taken over by blackberries. The STEP program will be assisting the Tillamook Bay Watershed Council in applying for another R&E Grant in December 2011 to implement the design beginning spring of 2012.

The North Coast STEP Program is assisting the Rockaway Beach Lions & Lioness Clubs with a project to replace the fishing dock on Lake Lytle. This dock was constructed and installed on Lake Lytle by ODFW in 1988 to allow angler access to open water beyond shoreline vegetation, and is operated under a City of Rockaway Beach Conditional Use Permit with ODFW. Contributing partners on the original construction included Rockaway Beach Lions & Lioness Clubs, City of Rockaway Beach, Oregon Department of Transportation, Tillamook People's Utility District, Tillamook County Parks, Jerry & Elaine Reiber, and the Oregon Youth Conservation Corps. Lake Lytle is located a couple of miles north of Rockaway Beach along Hwy 101, and since its construction, the dock sees almost daily use from late winter through fall. Through several years of use and winter storms, the dock has been repaired on a number of occasions and now must be replaced. The Rockaway Beach Lions & Lioness Clubs and NCWD STEP program will be applying for another R&E Grant in December 2011 to replace the dock during 2012.

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

### Fish Eggs-to-Fry Program

During the 2010-2011 school year, the Fish Eggs-to-Fry classroom incubator program was active at the Beverly Beach Visitor's Center and in 39 classrooms (preschool, K-12), representing eleven schools in Lincoln and Lane counties. Biologist and volunteers used the Fish Eggs-to-Fry program to teach students about salmon and trout life-cycles, habitat requirements and good natural resource stewardship. The program includes classroom presentations with egg delivery, and field trips for fry release. Adult steelhead dissections were combined with many fry release field trips to add a comparative, hands-on approach to understanding habitat requirements through anatomy and physiology.

Figure 1. Egg to fry educational display at the Beverly Beach Visitor's Center



## Education

Mid Coast biologists and volunteers offered additional educational opportunities to 700 children within the Lincoln and Siuslaw School Districts, including classroom dissections, after-school program activities, and support for the Florence Stream Team. Salmon biology and aquatic ecology were also taught at several outdoor schools, after-school programs, and fifth grade field trips in Lincoln County. Mid Coast STEP also partnered with the Hatfield Marine Science Center for several of their summer Sea Camp programs, as well as education days with eighth graders from the Lincoln County School District. In addition to fish dissections, Mid Coast STEP led an estuary seining trip in the Alsea Bay for camp participants to learn about juvenile fishes. Four Oregon State University students were also mentored as ODFW interns, assisting with trap operations on the North Fork Alsea fish trap and learning about fisheries management and salmonid biology. The Mid Coast STEP biologist also participated in various public meetings and presented at fishing club and volunteer meetings addressing fish ecology, management, monitoring, and volunteer opportunities. Trap operation and fish handling training was also held at the Schooner Creek fish trap for members of the Longview Hills Fishing Club who operate this trap twice per week.



Figure 2. Estuary seining with kids from Hatfield's summer Sea Camp.

## Youth Angling

Volunteers led five successful family fishing events in the Mid Coast at Olalla Reservoir, Eckman Lake, Big Creek Reservoir, Cleawox Lake, and at the Lhuuke Illahee Fish Hatchery near Siletz with more than 1,000 youth participants. Additional youth angling events were offered at the Salmon River Hatchery and at Thissell Pond by Alsea Hatchery staff and volunteers.



Figure 3. 1<sup>st</sup> annual family fishing event at Olalla Reservoir.

## ***Umpqua STEP***

The Umpqua STEP biologist helped coordinate 27 different educational events that reached 2,463 youth and 793 adults. This included six Free Fishing Day events that occurred in Douglas County, about nineteen classroom incubators projects, 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, Native American 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 forty-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 U.S. 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.

Other educational programs completed this year included the Glide Forestry Tour, Creek Days in Myrtle Creek, and multiple YMCA events.

### Rock Ed facility at Rock Creek Hatchery

The construction of the new Rock Ed facility at Rock Creek Hatchery took place this past year. 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. This facility is scheduled to be finished by the fall of 2012.

### Additional developments

The Umpqua STEP biologist finished the "50 Places to Fish within 60 Minutes of Roseburg" pamphlet and map. These pamphlets have been available to the public via the Roseburg ODFW office as well as the Roseburg Visitors Center and various outdoor stores in town. A large map that shows these fifty locations has been posted at Winchester Dam, where nearly 70,000 people visit every year.

Another project that was developed was the partnership between ODFW, the Umpqua Fishermen's Association, and the Douglas County Food Bank. Hatchery coho salmon adults collected from Cow Creek at the Galesville trap that are considered excess and not needed for broodstock were taken to the food bank. These fish were distributed to those in need throughout the county and were a welcome meal to those families and individuals that received them.

Gardiner-Reedsport-Winchester Bay (GRWB) STEP is currently working on the grants and design for a chiller and new filtration system in their hatch house. This new system will be used to both cool and filter the water coming into the egg stacks at their facility. Mortality rates have been excessive over the past few years and this will help resolve that problem.

The primary method of program development is to obtain direct citizen involvement in management programs to protect and enhance salmon and trout populations. A total of 100 projects were conducted in the District using volunteers. A total of 10,632 volunteers were involved in these projects. Volunteers were not only from the general public but were from school and youth programs as well. School groups and youth organizations provide the majority of the volunteers used in District programs. A total of 8,530 youths were involved in the program in some manner. An additional 4,372 youths participated in educational programs.

## ***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 fourth 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.

### 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. This was again a huge success with hundreds of children participating in the catching of these trout. Many children caught their very first fish at MIC this past year. 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. For a second year, about 3,000 rainbow trout were stocked into the lake for the event. This year the fish were contained in a net enclosure. In past few years no more than 10 trout have been caught by children participating in the event. This

year over 450 trout were caught. A total of 395 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. There were also many other family friendly activities available that day.

On Eel Lake, the STEP biologists and volunteers held a fishing clinic on Free Fishing Weekend for the twelfth 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 one month prior to the event. Volunteers with the Eel/Tenmile STEP Association, with guidance by the STEP biologists, rear 1,000 trout from a local hatchery in a net pen in Eel Lake specifically for the clinic. A total of 311 children again participated in this year's event at Eel Lake. This tied a previous record for participating children.

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. This year an extensive angling clinic was added to the event in the mall. Children were taught knot tying, how to fish local lakes, spinner making, casting, and other needed angling skills. A second trout pond, partnership with Safeway, 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. This pond was a partnership with the Coos Bay Fire Department and part of the city's annual Fourth of July celebration. 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 2,319 children participated in the angling in the trout ponds. Most children caught fish to take home. A total of 230 fishing rods and reels were given to some of the children that participated in these events. 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.

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 nineteen 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. This is the second year that this workshop has been offered.

### 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



Photo 1: Inside Coquille H.S. hatchery

life histories and their struggle to survive. The high school students spawn and incubate salmon and steelhead eggs at the station which provides a wonderful “hands-on” experience for the younger students. This is a wonderful time to see the older students impart resource awareness and education to these younger students. For the adult volunteers and teachers, it is a time to sit back and enjoy.

At Coquille High School this past spring, for the fifth 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 2: 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. The building was designed around the coded-wire-tagging trailer that is at the facility for one week each spring. The new building is large enough to comfortably have up to three classes, or nearly 90 volunteers, marking Chinook at the same time. This new building has become an important educational and fish cultural tool at the facility.

### Noble Creek Hatchery

Volunteers with Coos River STEP continued to use the four deep matrix hatchboxes that they purchased two years ago, 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

For the second year, STEP has partnered with the Coquille Indian Tribe to operate a booth at the annual Salmon 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 25 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.

Lower Rogue STEP biologist made 27 presentations 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.

Lower Rogue STEP made 45 presentations 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 Lower Rogue STEP biologist and 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 120 kids turned up for the event this year. Annually OSCF gives away fishing poles to young 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

On June 11th Lower Rogue STEP held 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. 62 participants caught over 178 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 Lower Rogue STEP biologist and OSCF 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

The Lower Rogue 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 STEP Fish Eggs-to-Fry program that has been offered to the District third grade for the past 21 years. 2011 marked the first year that all of the third grade classes in the Lower Rogue STEP district attended the event.

The OSCF and CAF STEP groups teamed up to staff stations that taught casting, line tying, and hook baiting. Concurrently, ODFW, ORPD, and SCWC presented an aquatic education curriculum. Once the core skills of fishing were taught, youth fished in the pond with Angler Education instructors. ODFW stocked the pond prior to the event. Youth that harvested fish had the option to keep or release their catch. The kids that chose to retain their catch were escorted to a fish cleaning area where they were taught the responsibility of packaging and cleaning their fish for a meal. With the success of Reel Fish Day, the schools and all groups involved felt the project was a great success and is currently scheduled for this school year. With the success of Reel Fish Day, Brookings, Port Orford, and Gold Beach school districts will continue to send their 3rd grade classes to this event.

Students that attended the 2011 event without knee boots were able to have boots available to them. The boots were provided with funds from a STAC Mini-Grant. The new boots were appreciated and improved the Reel Fish Day experience.

### Pikeminnow Dissection

The 1st annual Free Fishing Day Rogue River Pikeminnow Derby created a cascading effect for pikeminnow research at Gold Beach High School (GBHS). With a discussion of how to use the resulting catch of pikeminnow during the derby, an idea was developed to hold and preserve the catch for future research. The catch was preserved through the summer to be dissected in the biology classes at GBHS.

The Lower Rogue STEP biologist provided a presentation to discuss topics about local student STEP opportunity, invasive species and what is known currently about the non-native Umpqua Pikeminnow (*Ptchocheilus umpqua*) in the Rogue River. In addition, data sheets were provided to be filled out during dissection. On the following day, students dissected the pikeminnow to

determine anatomy and food habits based on the size and weight of each individual specimen. The results were compiled for the fishing guides and participants of the pikeminnow derby.

This project has stimulated GBHS students to think about how this invasive species impacts the Rogue River. Questions like: How does this species interact with all sizes of salmonids and other native fishes? Do pikeminnow feed on and impact other non-native species in the river? What size of juvenile salmon do pikeminnow prey on in the Rogue River? With these questions being asked, there is no doubt this project will continue in future years.

## ***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.

Both native and non-native fishes and crayfish of Bear Creek, a tributary of the Rogue River, were displayed at the Bear Creek Festival. Interested public was told about salmon life histories, how salmonids spawn in the Rogue River and how streams, urban streams, and intermittent streams are important to juvenile salmonids. Questions were answered by the Rogue STEP Biologist at the annual See Our Salmon Viewing at Touvelle Park sponsored by the Seven Basins Watershed Council and the Stream Restoration Alliance of the Middle Rogue.

The Siskiyou Film Festival was attended and a display was provided of dams recently removed. Handouts of information from the small stream, urban stream, and intermittent stream project were available.

Presentations were made on the results to date of the small stream, urban stream, and intermittent stream project to the Coastal Conservation Association of Medford and the Illinois Valley Watershed Council.

Information was provided to the Illinois Valley news for an article on salmonids and other species living in streams that run through Cave Junction. Another news article in the Daily Grants Pass Courier promoted the Family Fishing Event at Reinhart Park Pond in Grants Pass.

An underwater camera was purchased with District STEP funds and used to inform the residents of Ashland that salmon and steelhead are actually living in Ashland Creek in the middle of Ashland during the summer months. A Native Fishes of the Rogue poster was developed with the help of volunteers to inform the public about which species of fish in the Rogue are native and should not be harmed.

## Free Fishing Weekend and Family Fishing Weekend

District personnel and 8 volunteers from Crater Bass were involved in a Family Fishing Event and 4 volunteers from the Church of the Nazarene were involved in the annual Free Fishing Weekend. A total of 80 youth and 103 adults participated in the two fishing projects. One volunteer spent 60 hours preparing and repairing loaner rods and reels before, during, and after the events. Other groups of volunteers in the district sponsored Free Fishing Weekend Events at Hyatt Lake, Butte Falls Hatchery, Fish Lake in Jackson County, and Lake Selmac in Josephine County.

## ***Eastern Oregon STEP***

### Kokanee Karnival

Kokanee Karnival continues to be a popular education program for Deschutes, Jefferson, and Crook County elementary students. In 2010-2011, 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 each year.

Approximately 1,500 students participated in the Kokanee Karnival Electives Program in which teachers sign up for classroom activities such as raising trout, basic trout biology class, and (or) angler education. Kokanee Karnival receives exceptional support from both the volunteer community and our financial sponsors. Partners for the Kokanee Karnival include STEP, Central Oregon Flyfishers, Sunriver Anglers, Wolfree Inc., and the Deschutes National Forest. The Eastern Oregon STEP biologist serves on the Kokanee Karnival steering committee, coordinates portions of the program, and provides training, technical assistance and volunteer recruitment. In 2011, 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.



Photo 3: Catching Backyard Bass

### 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: Deschutes Watershed Council's "Salmon Watch", High Desert Museum's "Make a Splash" Festival, Ponderosa Elementary School's "Science Camp," Madras 4-h Pond Tour, Wolfree, Powell Butte's Ochoco Creek field day, Monument's "Conservation Day", and Prineville's "Fish Festival."

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 third annual *Klamath Fin & Feather Field Days* at ODFW's Klamath Hatchery. Eighty middle school students attended this two 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 2-day 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 4: Learning about macroinvertebrates at Creeks and Kids 2011

The Eastern Oregon STEP biologist was an instructor at a week-long teacher workshop, "Creeks and Kids," coordinated by Western Oregon University and funded by ODFW's Restoration & Enhancement Program. Teachers were taught stream and fisheries related activities to enhance their school curriculum. The majority 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 Fish Eggs To Fry and Salmonid Dissection Workshop in Klamath Falls. Twenty teachers participated in this teacher training. Teachers learned how to set up a trout incubator and 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 three youth angling events at Pine Nursery and Shevlin Pond in Bend. The STEP biologist also partnered with Bend Parks & Recreation and provided angling instruction and equipment for the youth angling events.

## ***STEP Administration***

### 2011 STEP Conference



The biennial STEP conference was held in Rockaway Oregon. Over 100 volunteers, staff, and educators attended the one-day event. The theme this year was “Teach Today, Fish Tomorrow” and highlighted education in all aspects of STEP.

# 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 2010-2011 (Table 2). This narrative is not intended to be comprehensive, but instead reflects the range of STEP activities for each area.

## ***Lower Willamette STEP***

### Sandy River Creel Surveys.

STEP, along with the Sandy Chapter of ANWST, assisted NWWD staff performing creel surveys on the Sandy River in an effort to determine catch and effort by anglers fishing for spring Chinook and summer steelhead. Anglers were interviewed at boat ramps and along the river banks as part of an ongoing effort to evaluate ODFW hatchery strategies on the Sandy River.

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

### Fish Populations and Their Habitat in Streams

During the 2010 - 2011 contract 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 the Salem area, students from Jane Goodall Environmental Middle School (JGEMS) and other local high schools assisted the STEP Biologist to sample local streams with seine nets and electroshocking. This year, the JGEMS students did a comparative study of Clark Creek, a small urban stream in Salem. Students collected fish, macroinvertebrate, and habitat data on two reaches of the creek; one above and one below where the creek goes underground for several hundred feet. 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.

### Fish Surveys

During this last year, hoop traps were deployed in Valentine Creek (North Santiam River), McDowell Creek (South Santiam River), and Courtney Creek (Calapooia River). The value of hoop traps as an outreach tool was demonstrated on Valentine Creek. When a landowner along the creek was contacted by the North Santiam Watershed Council staff about restoration proposals, the landowner said “there aren’t any fish in that ditch”. The Council partnered with STEP to set a trap in Valentine Creek and the landowner was tasked with checking the trap. After filling up three data sheets in as many weeks with native fishes such as steelhead/rainbow trout, cutthroat trout, northern pikeminnow, large scale suckers, sculpin, and dace, the landowner was convinced of the value of the creek. The landowner has now become a strong advocate for restoration projects in the area.

### Cutthroat Trout Surveys in the Long Tom

STEP also partnered with the Long Tom Watershed Council on a study of cutthroat trout in three Long Tom River Basin subwatersheds. The study, funded by an R&E grant, is investigating the movements of cutthroat trout in the subwatersheds (Ferguson, Bear, and Owens Creeks) by capturing fish via traps or electroshocking, Passive Integrated Transponder (PIT) tagging the fish, then monitoring their movements around the basins with array stations. Data collected will also provide information on growth, survival, and population numbers in the subwatersheds. Volunteers from the Long Tom Watershed Council and STEP worked together to monitor the traps, electroshock the creeks, tag the fish, and record data for the study. Teams of three volunteers worked in all weather conditions to check the traps three days a week from January to May. In all, 28 volunteers assisted with the study.

## ***Upper Willamette STEP***

### Fish Surveys

STEP staff worked with volunteers to conduct electrofisher surveys of fish presence in Cedar Creek. This information will be used to examine fish distribution and to evaluate the STEP water right exemption.

STEP volunteers participated in an angler mark-recapture population estimate for rainbow trout on a five 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 floy tag fish and record data.

## High Cascade Lakes Sampling

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

## Gold Lake Trapping

Volunteers from the McKenzie Flyfishers assisted with an on-going project to trap and remove brook trout from Gold Lake in an effort to enhance the lake's rainbow trout fishery. Brook trout are numerous in Gold Lake, tend to become stunted, and are also responsible for decreasing the size and number of rainbow trout in Gold Lake. This year approximately 4,915 brook trout were relocated to Charlton and Shadow Lakes and an unnamed lake next to Shadow Lake Campground, which should allow for additional growth on the fish remaining in Gold Lake and provide additional brook trout fishing opportunities in the Cascades.

## ***North Coast STEP***

### Temperature Monitoring



The Salmonberry STEP Monitoring Project continues to provide valuable data through winter steelhead spawning surveys and temperature and macroinvertebrate monitoring 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. At the 2011 STEP Conference, Ian Fergusson was honored with one of the Resource Steward awards.

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

### Population Monitoring

Volunteers helped monitor fish populations at several fish traps including Schooner Creek, Palmer Creek, and Siletz Falls in the Siletz basin, the Bohannon fish trap on Drift Creek in the Alsea basin, Munsel Creek, Green Creek, and Whittaker Creek in the Siuslaw basin, and Little Woahink Creek trap in the Siltcoos basin. Volunteers organized all trap operations on Schooner Creek and assisted with various trap maintenance projects throughout the



Figure 4. Cable car to the Siletz trap.

season. These trap operations provide essential information on fish returns for district management and over 3,200 hours were donated by more than forty volunteers. Three Oregon State University (OSU) interns were also hired and trained to assist with trap operations on the North Fork Alsea fish trap. Two other OSU interns assisted with Siletz and Bohannon trap operations, as well as broodstock collection on the Siletz River and family fishing events. District volunteers and OSU interns also assisted ODFW staff with spawning surveys in the Siletz and Alsea basins, and the Depoe Bay Salmon Enhancement Commission completed spawning surveys on North Depoe Bay Creek.

## ***Umpqua STEP***

The STEP biologist coordinated volunteers and ODFW staff in monitoring steelhead, coho, and fall Chinook at various trapping locations throughout the district. This data is used during regulation proposal reviews as well as propagation proposals.

### High Lakes surveys

Four high lakes in the district were surveyed this year. This data is used to analyze the stocking strategies for the high lakes. Multiple volunteers were helped with this project and we plan to continue these efforts into the future.

### Fall Chinook Spawning Surveys

Further monitoring efforts for fall Chinook will include incorporating volunteers during our spawning ground surveys in lower Umpqua tributaries. These surveys yield information regarding both wild returning fish and hatchery origin fish distribution and abundance.

### 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. Each stream within the three major basins has specific habitat limitations. Only detailed surveys can identify the problems so that they can be corrected.

## 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 twelve 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 2010 brood year volunteers collected 578 samples.

### Estuary Seining

The Lower Rogue STEP biologist and 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

The Lower Rogue STEP biologist and OSCF operated a downstream migrant trap just upstream of the Winchuck River estuary. Operation of the trap represents the continuation of a 22-year database. OSCF have operated the trap for the past thirteen 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 2011 Winchuck trapping season concluded with 59 days of trap operation and 13,553 fall Chinook salmon smolt sampled.

### Huntley Park Seining

The Huntley Park Seining Project represents a continuation of a 36-year adult salmonid monitoring database. This project is conducted annually from July 15<sup>th</sup> throughout October 31<sup>st</sup> 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 2011 sixteen-week study included 45-days of data collection with approximately 506 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 2010-2011 report period, 22 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. Also, many fish passage barriers and habitat improvement projects have been identified throughout the Rogue District.

In 2010-2011, 41 volunteers spent 680 hours and drove 1,654 miles to sample hoop traps placed in Wrights Creek, Larson Creek, Whetstone Creek, Tributary A in Cave Junction, and Lazy Creek in the Rogue River Basin.

Tributary A was the only new stream sampled during the 2010-2011 sample period. The hoop trap captured 43 juvenile coho salmon, 24 juvenile steelhead, and two cutthroat trout within the City limits of Cave Junction. Exotic species captured in the trap included redbside shiners, Umpqua pikeminnow, and bluegill. A three foot high concrete irrigation dam in George Creek

was identified as a fish passage barrier along with trash and old tires that were removed during a cleanup by volunteers.

The hoop trap in Lazy Creek was placed to allow us to sample and study Klamath smallscale suckers. Volunteers from St. Mary's School captured and measured sixteen adult suckers, six juvenile steelhead, 31 juvenile coho salmon, 73 juvenile Chinook salmon, and four sculpins. We believe that the suckers are using Lazy Creek for spawning. On April 30, 2011, one of two suckers captured was near spawning and lost some eggs while being measured. Breeding tubercles also appeared to be on the ventral and caudal fins of the male suckers. The District and volunteers plan further studies of the life history and spawning habits of Klamath smallscale suckers in small, urban, and intermittent streams.

Traps were placed in the East and West Forks of Jones Creek by volunteers to move down stream migrating juvenile steelhead past a barrier when an irrigation canal is filled capturing the stream. The catch in 2011 of 8,770 juvenile steelhead was ten-fold higher than any previous year of the study which was started in 2007. Record high springtime precipitation and the addition of two roughened chutes to perched culverts near the mouth of the stream are probably responsible for the increased steelhead spawning in Jones Creek. While it was a banner for trap catches in Jones Creek, previous catches were greatest in the East Fork. In 2011, the bulk of the juvenile steelhead were captured in the West Fork, indicating that the East Fork may be impassable a short distance upstream from the trap. We plan on working with volunteers during the winter of 2011-2012 to survey the stream to look for a potential barrier. Traps were also placed in Wrights, Larson, and Murphy Creeks to trap and haul salmonids past known fish barriers.

Vannoy and Lathrop Creeks were surveyed with the help of volunteers to determine fish presence, passage barriers and potential habitat improvements on a large farm purchased by the City of Grants. A pond on Redlick Creek, a tributary of the Rogue near Shady Cove, was surveyed to determine its potential for rearing steelhead for a volitional release study. While temperatures in the pond were acceptable at a depth of 4 feet during the summer months (58o F), the presence of largemouth bass and other warmwater fish species may limit the survival of any juvenile steelhead transplanted to the pond.

A pond near the junction of Ashland Creek and Bear Creek was sampled with electrofishing gear and lobster and minnow traps to determine fish presence. The pond is being studied for its potential to cool water from Ashland Creek before it enters Bear Creek. The City of Ashland releases warm effluent from its sewage treatment facility into Ashland Creek. The pond was found to contain juvenile steelhead, goldfish, and some warmwater species.

## ***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 2011, STEP volunteers, along with ODFW staff, removed 15,000 pounds of chub from East Lake.

#### Mann Lake Pre & Post Rotenone Treatment - Macroinvertebrate Sampling

ODFW's Hines Fish District treated Mann Lake with rotenone in order to remove invasive goldfish and restore the Lahontan trout population. Central Oregon Flyfishers conducted pre and post treatment benthic organism survey to determine macroinvertebrate loss and recovery. Volunteers also identified species and wrote a report, written by Dr. John Anderson (volunteer and retired entomologist). There is considerable data available that address the recovery of zooplankton following rotenone treatment of lentic waters, but there are few data associated with the recovery of macroinvertebrates. The data presented in this report contributes to the knowledge concerning macroinvertebrate recovery after rotenone treatment of a large lake.

#### High Lakes Trout Sampling

The Cascade High Mountain Lakes are stocked every other year by helicopter. Despite this effort, there has been relatively little sampling to determine fish productivity or angler use in these lakes. For that reason, ODFW staff, along with volunteers, began sampling high lakes this past August. Twenty-five lakes in the Winopee and Irish/Taylor area were sampled by angling, snorkeling, and netting.

It is our hope to continue with high lakes sampling in the next five years and obtain a better understanding of what is happening in these lakes. Based on the information collected, ODFW will likely alter the management for some of the lakes, whether it is a change of trout species, stocking method or elimination of a lake from stocking altogether.

#### North Fork and South Fork Crooked River Trout Population Survey



Photo 5: Electrofishing on the Crooked River

The district biologist and STEP biologist coordinated and supervised volunteers who assisted with electrofishing and hook & line population surveys on the North Fork and South Fork Crooked Rivers. Volunteers assisted biologists by hiking into remote areas, carrying sampling gear, netting fish, and collecting biological data. The N.F. and S.F Crooked River often provide excellent angling opportunities to anglers willing to hike into remote areas and get away from the crowds.

# 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 2010-2011. 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 2010-2011 (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 16th year of the district's stream nutrient enrichment program was completed with cooperation from 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 350 youth volunteers and 70 adult volunteers contributed to the project, placing nearly 75,000 pounds of coho and Chinook salmon carcasses in the Sandy River Basin, the Clackamas River Basin, and the Yamhill Basin. Volunteers from the ANWST (the Association of Northwest Steelheaders), students from various local schools, SOLV (Stop Oregon Litter and Vandalism), Project YESS (Youth Employability Support Services), members of the Sandy

River Watershed Council and Clackamas River Watershed Council, Timber Lake Job Corp, 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 sixth 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 fourth or fifth 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, USFWS) to conduct stream nutrient enrichment, instream and riparian habitat, and fish passage restoration projects.

STEP is in a unique position in that it can bring all aspects of restoration under one program. These include pre and post project monitoring, technical guidance, equipment, labor, access to funding, and outreach. During the 2010 - 2011 contract period, STEP made twenty site visits to offer technical and grant seeking advice to landowners throughout the SWWD. The STEP Biologist provided technical advice to the Calapooia, Luckiamute, North Santiam, South Santiam, Long Tom, and Marys River Watershed Councils on the fish passage and habitat restoration projects.

The most exciting event for fish in the Mid Willamette Valley STEP District was the removal of the Sodom and Shearer Dams on the Calapooia River in the summer of 2011. Over the four year process leading up to the dam removals, STEP provided technical assistance, supported the OWEB grant process for funding, attended landowner outreach meetings, and provided volunteers for the fish salvage during the dam removals. Combined with the removal of the Brownsville Dam in 2007, the removal of Sodom and Shearer Dams has opened up the Calapooia River to allow for migration of spring Chinook salmon and winter steelhead to their historic spawning areas in the upper reaches of the watershed.

#### 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. To replicate historic abundance and distribution, fish are placed in five different rivers and creeks streams in the district. This past contract year, salmon and steelhead carcasses that were used as brood for programs at the South Santiam Fish Hatchery were again

placed in the Santiam and Calapooia basins. However, due to the closure of the Minto fish collection facility, salmon carcasses were not available for outplanting this year in the North Santiam River Basin. Volunteers from the Albany Chapter of the Northwest Steelheaders and STEP contributed many hours toward carcass enrichment efforts in the Mid Willamette district. Hundreds of spring Chinook salmon and summer steelhead carcasses were distributed to the South Santiam River and its tributaries. Volunteers assisting with carcass distribution included students from Sweet Home High School.

## ***Upper Willamette STEP***

### Carcass Placement

STEP staff worked with staff from the McKenzie Hatchery to outplant carcasses. Nearly 1,800 adult carcasses totaling over 21,000 pounds were distributed into the mainstem McKenzie River.

STEP staff worked with a local Boy Scouts of America troop to complete a spawning habitat enhancement project on Augusta Creek, a tributary to the mainstem Willamette River. Volunteers placed twelve logs in three aggregates and placed a total of four cubic yards of washed river rock. This will provide critical spawning habitat to native cutthroat trout over a 160ft. stretch of creek.

### Riparian Restoration

STEP staff, along with multiple local agencies, participated in 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.

### Mosby Creek fish habitat enhancement

STEP staff partnered with multiple entities, including the Coast Fork Watershed Council and Weyerhaeuser to complete a large-scale fish habitat enhancement project on Mosby Creek in the Coast Fork Willamette basin. The project, funded in part by the Oregon Watershed Enhancement Board, incorporated a variety of restoration techniques and monitoring activities and is slated to occur throughout the next few years.

## ***North Coast STEP***

### Stream Nutrient Enrichment



Photo 6: 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 187,697 lbs of fish carcasses into 234 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

Because of concerns over limiting factors that influence 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. Originally identified as the Nehalem STEP Restoration Committee (NSRC), the group's primary function was to identify and implement habitat restoration projects in the basin. A small pilot project was conceived to place wood structures using pre-commercial thinning (donated by Longview Timber Corp.) into tidal channels of the Nehalem estuary. In addition, the Lower Nehalem Watershed Council has also been involved in this project. The project focused on improving habitat complexity in the lower river and estuary by placing wood structures into areas utilized by Chinook and other salmonids to provide benefits for rearing, feeding, and cover from predation through the added complexity, and to compensate for the loss of LWD due to human influences. This pilot project will be used to evaluate fish use and persistence of the structures over time. However, dwindling interest and lack of participation by NSRC resulted in this project being implemented by the NCWD staff and the Lower Nehalem Watershed Council.

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

### Habitat Restoration

Volunteers from two local fishing clubs and the Oregon Hunters Associations helped district staff maintain a riparian planting project in the Yachats wildlife area. Landowners in the Siletz basin also helped the STEP biologist plan a large wood restoration project on three properties along Ojalla Creek. In addition, the Florence STEP group removed a decommissioned fish trap on West Indian Creek in the Siuslaw basin to restore unimpeded fish passage and aesthetics of the site to pre-trap conditions.

### Nutrient Enrichment

As part of the ODFW stream nutrient enrichment program, biologists directed and assisted volunteers in the distribution of 15,486 lbs of fish carcasses over 281 river miles.

## ***Umpqua STEP***

### Carcass Placement

GRWB STEP continued its participation in the nutrient enrichment program by placing Chinook salmon carcasses from spawning events 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.



Photo 7: Students planting willows

Willow trees were planted along the riparian area of Ferry Creek (tributary to Noble 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.

### 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 over 10,000 salmonid carcasses into ten 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 2,895 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

Lower Rogue STEP with help from Oregon Stewardship and students improved estuary riparian habitat. 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 2011 and followed up with watering and weeding. The latest fall reports indicate good growth and excellent survival of last year's plantings. This project would

have been difficult to achieve without the leadership of Oregon Stewardship. This is an annual project that is difficult to achieve without the leadership of Oregon Stewardship.

### Tsunami Clean Up

With the 2011 Japan earthquakes and the resulting tsunami waves, the Port of Brookings was one of the most physically and economically impacted ports in Oregon. There were numerous sunken boats, destroyed docks, and litter throughout the port and Chetco River estuary. The resulting damage from the tsunami limited sport and commercial boat fishing access through the summer of 2011.

The Chetco River is a small estuary and its boat basin is a large part of the summer rearing habitat for outmigrant Chinook smolt, with the estuary being critical habitat for Chinook and a need to improve boat access to the Port of Brookings. The OSCF contributed over 180 hours cleaning the port of debris in an effort to limit pollution and improve fishing access.

### Chetco River Fish Salvage

The Lower Rogue STEP biologist coordinated with OSCF volunteers to collect and then released an estimated 8,000 stranded Chetco River fall Chinook juveniles from off channel pools. With the higher than normal late spring flows, an above average number of juvenile Chinook salmon fry were observed stranded in off channel pools. Volunteers with OSCF located pools that were no longer connected to the river and that had a high risk of dewatering over the summer months. The volunteer group purchased seine net material and spent five days clearing these pools of Chinook. A number of Chinook fry were estimated and released into the main channel of the river. Although the majority of the fish salvaged were Chinook, some juvenile winter steelhead was observed in the catch.

## ***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 three 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. ODFW personnel and volunteers plan to develop wooden passage structures for passage barriers where feasible and allowed by the permit process, while funds are being sought for permanent repairs. 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 Steelheadheaders, Southern Oregon Fly Fishers, and the Stream Restoration Alliance of the Middle Rogue placed 313 coho salmon carcasses from Cole Rivers Hatchery on a 0.5 mile stretch of Taylor Creek and 300 coho carcasses on a 0.4 mile stretch of Sugarpine Creek to provide nutrients for the rearing of juvenile coho salmon, steelhead, and trout in the spring of 2011.

### Keep Oregon's Rivers Clean Program

Volunteers collected over 200 pounds of monofilament in the seven years since the Monofilament Recycling Program started in 2004. Not only does the project improve the looks of the riparian habitat, it also saves birds and small wildlife from becoming entangled. This year's total, 37 pounds is one of the highest amounts collected. Previous year's weights of monofilament recycled ranged from thirteen to 46 pounds. The increased amount of monofilament collected from the recycling bins this year may be due to the increased number of adult spring Chinook salmon available for harvest in 2011.

### Fish Passage

Fish passage checks were performed in the early fall and after each major freshet by volunteers at about thirty culverts and fish passage structures in Josephine and Jackson Counties. ODFW personnel were called in when culverts or fish ladders became plugged after freshets. Four volunteers drove 150 miles and worked 59 hours to check passage at the structures in 2010-2011.

### ***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 continues to bring new schools to STEP, as over 200 classrooms participated. These incubation projects hatched eggs and released nearly 60,000 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. Two dozen volunteers from ANWST contributed over 200 hours and 700 miles of travel to the program. 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 yet another facility online in April of 2011. This latest site saw completed construction and operation on the Bull Run River, a tributary of the Sandy River.

The Foster Creek facility continued to be a productive site for STEP. From that site 41,000 ChS smolts, 25,000 StW smolts, and 26,000 StS smolts were acclimated and released into the Clackamas River in the early spring of 2011. This pond is located on Ris and Janet Bradshaw’s

property. Under the guidance of STEP the Bradshaw's and additional volunteers maintained the facility, performed all fish culture activities, and assisted with release.

Acclimation at Cassidy Pond, the oldest operating site, continued in 2011 thanks to the donation from Larry and Naomi Cassidy of their property, pond, time, and effort. The Cassidy's were instrumental in the acclimation of 50,000 ChS smolts and 25,000 StW smolts, which were released into the Clackamas River in the spring of 2011. 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 2011 marked the third year of releases from this site. Feeding and daily maintenance was provided by volunteers from the McLoughlin Chapter of the ANWST who donated over 230 hours to this project. During the months of March and April over 150,000 ChS smolts were acclimated and released to provide additional returns of adult spring Chinook to the extremely popular Willamette River and Clackamas River sport fisheries.

The Eagle Creek Acclimation 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. This site is operated in cooperation with STEP, the NWWD staff, Clackamas County Parks, and volunteers. Feeding and daily maintenance was provided by youth and adult volunteers who donated over 100 hours to this project, with instrumental support provided by the Clackamas County Parks Department.

This Eagle Creek Acclimation project provided for the acclimation and release of nearly 250,000 ChS smolts 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.

The newest acclimation facility was put into operation on the Bull Run River at the site of the decommissioned PGE Bull Run Powerhouse. Releases of ChS from this acclimation site are part of a district strategy to address problems involving stray rates of Sandy Hatchery ChS by giving the salmon a return destination away from the wild fish sensitive Upper Sandy Basin. The ChS currently released at Sandy Hatchery will often not return to the hatchery during low water years, resulting in them moving well up into reaches of the Upper Sandy in numbers far higher than acceptable.

The first year of Bull Run in 2011 saw over 45,000 ChS smolts released, with tremendous help from volunteers with the Sandy Chapter of ANWST. For 2012 this facility is expected to allow the release of over 150,000 ChS smolts.

## ***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 Classroom Program within the District is for educational purposes only and is not intended to contribute to fish production goals. However, as an educational program, it is without a doubt 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. During the 2010 - 2011 contract period, sixty schools raised 13,200 spring Chinook salmon and 29 schools raised 5,000 rainbow trout.

Eggs are delivered to each classroom by ODFW staff or STEP volunteers. A brief presentation or question/answer period helps to prepare the students for the project and convey the importance of their effort. STEP 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 4H 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 3 volunteers, participated in the bi-annual stocking of the High Cascade Lakes with trout. Volunteers stocked eighteen lakes with nearly 17,000 fingerling rainbow, cutthroat, and/or brook trout.

### Classroom Egg Incubator

Approximately 8,900 spring Chinook salmon eggs were incubated by 82 teachers in 47 different schools as part of the Classroom Incubator Program. The unfed fry were released by individual teachers in December at Alton Baker Canoe Canal in Eugene.

### McKenzie River Trout Stocking

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

## ***North Coast STEP***

### Volunteer Hatchery Programs



Photo 8: Whiskey Ck.  
Hatchery Sign

The Tillamook Anglers continue to operate Whiskey Creek Volunteer Hatchery, releasing approximately 102,000 Spring Chinook smolts and an additional 99,000 Fall Chinook fry into the Wilson and Trask rivers. The Nestucca Anglers also continue to operate Rhoades Pond, rearing 103,000 Fall Chinook smolts for release into Three Rivers and the Nestucca. This year, the Wild Winter Steelhead Broodstock Collection Programs continued on the Nestucca and Wilson Rivers.

Over sixty volunteer anglers participated in these programs, collecting over 233 wild winter steelhead to be used as broodstock by ODFW hatcheries.

### High School Hatcheries

Astoria High School's hatchery program released 3,210 coho and 28,830 Chinook presmolts into Young's Bay, and Warrenton High School released 2,918 coho, 15,454 Chinook, and 450 winter steelhead presmolts into the Skipanon River.

### Rhoades Pond Upgrades

Nestucca Angler's, with assistance from local STEP biologists, were successful in obtaining funding through an R&E grant in August of 2011 to make much-needed repairs to their facility.

The liner at Rhoades Pond was damaged during a flood event several years ago, and needs replacement. In addition, the outlet structure is in overall poor shape, eroding badly, and due for a total replacement (this structure is from the original 1976 construction). In addition, the intake at the river and supply line needs replacement. Total project cost is estimated at \$90,000 and is scheduled for completion fall of 2012.

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

### Broodstock Collection

Two wild winter steelhead broodstock collection programs on the Alsea and Siletz rivers were supported by 29 volunteer anglers. Wild winter steelhead were spawned at the Alsea Hatchery to enhance smolt stocking in these rivers. The hatchery winter steelhead program on the Siuslaw River was also supported by over 96 volunteers. STEP volunteers collected winter steelhead for broodstock at Green Creek, Whittaker Creek and Letz Creek in the Siuslaw basin. The Florence STEP group also spawned four pairs of Coho salmon at the Munsel Creek trap to use as broodstock for a small educational program at the Munsel Creek hatchery.



Photo 90. Adult Trap at Letz Creek

### Fish Acclimation Projects

Mid Coast biologists 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 to operate the Siuslaw River winter steelhead hatchery program. Volunteers operated adult capture facilities, spawned fish, and reared eggs to the eyed staged. Mid Coast volunteers also assisted with winter steelhead smolt acclimation projects. Trapping and acclimation sites are located at Palmer Creek, Whittaker Creek, Green Creek, Munsel Creek and Letz Creek. In addition, volunteers operated a small educational propagation program in which they captured, spawned, and reared Coho salmon eggs to summer parr. The Florence STEP group acclimated a total of 87,000 winter steelhead smolts at Green Creek (15,000) and Whittaker Creek (72,000). The Emerald Empire Chapter of the NW Steelheaders reared and fin-clipped an estimated 15,000 winter steelhead smolts for release from the Letz Creek facility. Volunteers from Longview Hills Fishing Club and Central Coast Fly Fishers also helped operate an acclimation site 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) operated an educational Coho salmon hatchbox project with 20,000 eggs from the Trask Hatchery. Eggs were incubated in two hatchboxes along North Depoe Bay Creek and then transported to North Depoe Bay Reservoir where they rear over winter prior to release. This program is supported by the community, and youth volunteers from the Neighbors for Kids after-school program assist SEC members with daily care and operation. The Depoe Bay SEC also leads public tours of the facility and hosts a volunteer fin-clipping day.

## Munsel Creek Hatchery

Volunteers from the Florence STEP group operated an egg incubation facility on Munsel Creek to provide eyed eggs for the Siuslaw River winter steelhead program. Green eggs were collected from broodstock captured at Green Creek and Whittaker Creek and taken to the Munsel Creek Hatchery. Volunteers incubated approximately 212,000 eggs to provide enough eyed eggs for 85,000 smolts and twenty classroom incubators. In addition to steelhead, approximately 10,000 Coho salmon were incubated, reared, fin-clipped and released from the Munsel Creek Hatchery.

## ***Umpqua STEP***

UFA volunteers will be releasing nearly 180,000 pre-smolt fall Chinook into Calapooya Creek in the spring. They also assisted with broodstock collection of coho and the release of 60,000 coho smolts. GRWB STEP volunteers will release approximately 55,000 pre-smolt fall Chinook into Winchester Bay 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 95% of their Chinook salmon using volunteer labor.

GRWB STEP also utilized student volunteers to assist with fin clipping and nearly 55,000 pre-smolts were marked during a one 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 constructed a 30'x15' fin-clipping facility. This permanent canopy will protect those who fin clip fall Chinook from the elements.

## 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 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 2011.

## High Lakes Stocking

The STEP program also coordinated the district's High Lakes stocking using volunteers from Oregon Equestrian Trails. Volunteers stocked eleven lakes in the district with over 15,000 trout. Over fifty volunteers assisted with this year's high lakes stocking and the project was very successful.

## **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, nine egg incubation, five rearing, and fifteen 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 more than twenty years, a significant proportion of the steelhead has been acquired through angler donations. In the Coos River basin, about forty percent of the steelhead broodstock were again donated by anglers. Angler donations are a slow, time-consuming process that involves many volunteers.



Photo 11: Dellwood Trap

The steelhead collections in the Coos and Tenmile were back on track the past two seasons. Returns to both Eel Lake and to Millicoma Interpretive Center were back to normal return levels. A record number of one-salt steelhead were observed returning to both the Millicoma Interpretive Center in the Coos and Eel Lake in the Tenmile Lakes Basin.

### 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, 255,142 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.

The newest program for releasing fry was the Fourth Creek project in lower Coos Bay. Fourth Creek is a stream that historically had a good population of coho until a reservoir was constructed on the stream. The reservoir had only a spillway and no fishway. Subsequently, coho have not been able to access the stream for many decades. Five years ago the Coquille Indian Tribe reconstructed the reservoir and added a “state-of-the-art” fishway. Releasing fry into the stream and reservoir will hopefully reestablish a coho population in this stream. This is a true rehabilitation project.

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 2,282,127 Chinook salmon pre-smolts were released into the Coos Basin in the spring of 2011.

For the fourth 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 fourteen classroom incubators were operated at thirteen different schools. More classroom aquaria are planned in the near future. This past year over 4,372 students at thirteen 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.

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

During this report period, 10,612 fall Chinook returned to the three STEP facilities in the Coos River basin. In 1983 only four 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 a total of 10,632 volunteers to be involved in the fish cultural programs in the District. Fin marking of the reared fish, which is part of the Coos Fall Chinook 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 finmarked fall Chinook released in the Coos River Basin. This increased fin-marking started in the spring of 2007. Volunteers and students again had a very challenging spring to fulfill the requirements of the fin-marking. A total of 1,595,506 fall Chinook were marked this past spring at five different facilities. The percentage of fall Chinook released from Morgan Creek continues to increase as the number of students and volunteers also increases. During the report period over 80% of the Chinook released from Morgan Creek were marked. The hope is that soon all the Chinook released into the basin will be marked. 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 1,357 Chinook were captured, marked, and released into Coos River. An additional sixty Chinook were taken for broodstock. Subsequent spawning ground surveys in the South Coos River basin by staff documented approximately 13% of the Chinook adults were hatchery strays. 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 6,766 adults and 111 jacks.

### Rearing and Acclimation

In 2011 Chinook presmolts were reared and released from the campus of Coquille High School. A total of 14,823 Chinook presmolts were released from the school. Students at the school participate in the entire fish cultural process. Students trap, hold, and spawn the Chinook. The students also fertilize and incubate the eggs to the “eyed stage.” Coquille High School is the only facility other than Bandon Hatchery where eggs are incubated to the “eyed stage.” Students also pick, shock, and inventory the eggs. Students also rear the Chinook to presmolt size and fin mark each fish prior to release.

About 124,500 fall Chinook smolts were released from three locations in the Coquille River basin. Two of the groups were placed into acclimation sites in the lower river. The two acclimation sites are Sevenmile Creek and Ferry Creek.

A new program this year was the release of Chinook presmolts from Bandon Hatchery into Ferry Creek in the lower Coquille River. A total of 9,218 presmolts were marked by volunteers and released into Ferry Creek. The purpose of the program is to develop a Chinook broodstock that returns to Bandon Hatchery. This is a paired program with 10,010 Chinook smolts that are acclimated in lower Ferry Creek. Only the presmolts are marked which will provide an evaluation of the two release strategies

The STEP Biologists directed the volunteers to operate a total of twenty 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.

## ***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 135 fall Chinook salmon and 106 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 17,500 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) reduce the proportion of naturally spawning hatchery fish in the wild population.

### 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 80,900 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 2011. With recent improvements to the Indian Creek Hatchery water supply. 2011 marked the first year that the entire smolt production at Indian Creek were reared and released as full size smolt.



Photo 12: South Coast Fishermen  
Collecting Adult Chinook

## ***Upper Rogue STEP***

### Fish Salvage

Forty-seven bass anglers from four bass clubs caught 2070 largemouth bass from Hyatt Reservoir in sixteen hours. A total of 420 were transported to Lost Creek Reservoir, and the rest were transported to reservoirs outside of the Rogue River Basin to add to the diversity of fishing opportunities at reservoirs.

Volunteers salvaged over 535 juvenile steelhead, 98 juvenile coho salmon, 116 Klamath smallscale suckers, seven turtles, and eight rough-skinned newts from isolated pools from streams in the Rogue River basin that dried up during the spring and summer of 2011. Overall, salvage numbers were down from previous years because of record level of spring snow and rainfall that kept many streams flowing throughout the summer.

A total of 7,800 eyed spring Chinook salmon eggs from Cole Rivers Hatchery were delivered by volunteers to 24 classrooms from Prospect to Cave Junction and the Grants Pass BLM office in the Rogue River Basin. A total of 4846 survived to swimup stage and were released into the Rogue River.

## ***Eastern Oregon STEP***

### Fish Eggs to Fry: Program

Seventy-seven 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)	Doug Ray	2 <sup>nd</sup>	December 2014
North Coast (Tillamook-Pacific City)	Patrick Gefre	1 <sup>st</sup>	October 2013
Mid-Coast	Vacant		
Umpqua	Mike Brochu	2 <sup>nd</sup>	June 2013
Tenmile, Coos and Coquille	Vacant		
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)	Vacant		

\*List current as of September 30, 2011

<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**

(9/30/2011)

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## Appendix 2 (continued)

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### Lower Rogue STEP:

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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