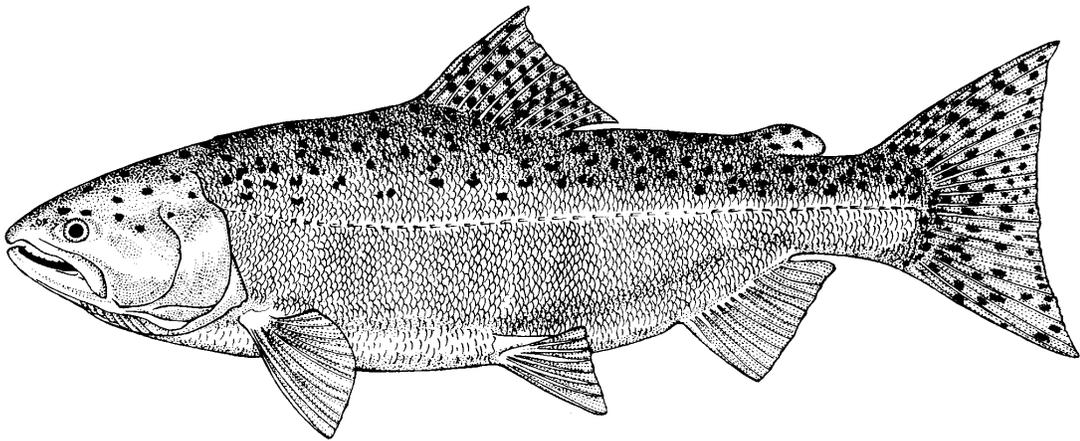




# SALMON and TROUT ENHANCEMENT PROGRAM

Annual Progress Report  
2002



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## EXECUTIVE SUMMARY

This is a report on the activities and accomplishments of the Salmon and Trout Enhancement Program (STEP) from October 1, 2001 through September 30, 2002. Recognizing the value of citizen volunteers, STEP was created in 1981 by the Oregon Legislature. STEP is a volunteer-based program within the Oregon Department of Fish and Wildlife (ODFW) that seeks to rehabilitate and enhance the populations, habitat, and fisheries of native salmon and trout managed by ODFW through the involvement and education of citizens. Given these goals which complement the objectives of the Oregon Plan for Salmon and Watersheds, STEP is an important component in fulfilling the Oregon Plan and has been working toward this for many years.

STEP is funded by the US Fish and Wildlife Service's Sport Fish Restoration Program and ODFW (75% federal with 25% state match), providing for 10 biologists and one ½time coordinator. A Governor-appointed 13-member committee (STEP Advisory Committee, or STAC) advises the Fish and Wildlife Commission and ODFW on the STEP program. In addition to individual volunteers, sport clubs, angling organizations, watershed councils, soil and water conservation districts, schools, and other groups volunteer for, cooperate with, or have been formed for, the STEP Program. ODFW biologists (called "STEP Biologists") work with all types of volunteers, organizations, and government entities on a variety of different projects. Volunteer projects and opportunities are defined by the diversity of fish resource management needs found throughout Oregon, and each of Oregon's watersheds has some fish management priorities that are unique. Thus, the focus of the STEP Program varies geographically across the state. Generally, activities can be grouped into four main categories:

- education and development (classes, information, printed materials, activities, and facility construction and maintenance)
- inventory and monitoring (characterization of fish populations and their habitat by conducting physical and biological stream surveys)
- habitat improvement (riparian and in-stream projects, including fish passage and hatchery-fish carcass placement), and
- propagation (culturing fish to supplement natural production and/or augment fisheries)

A summary of what was accomplished in each of these categories is:

- 11,442 people participated in STEP training, classes, tours, or workshops.
- volunteers spent over 8,600 hours conducting creel surveys, culvert inspections, fish monitoring, and stream surveys in streams and rivers across the state.
- 340 miles of waterways were improved for fish use by 830 volunteers through fish passage, instream, riparian, and hatchery-fish carcass placement projects.
- over 5,600,000 chinook, coho, steelhead, and rainbow trout were released by STEP volunteers for enhancement or augmentation purposes; over 2,600,000 of these fish were also reared before release (i.e., fed and cared for) and over 1,100,000 were marked with a finclip or coded-wire tag by volunteers. The classroom incubator program, which is primarily an education program, released 161,518 unfed fry into Oregon waters. Finally, over 11,000 adult salmonids were collected for broodstock.

As the amount of work accomplished indicates, volunteers contribute a very large effort to the STEP Program. ODFW also contributes time and resources to STEP beyond what is funded by the Sportfish Restoration grant because STEP activities are closely tied to management objectives. Details can be found in Table 1, Figures 1 and 2, and the other sections of this report. Highlights of volunteer effort include:

- 18,050 youth and 6,062 adults in Oregon participated in STEP.
- if volunteer hours and mileage are converted to dollar values and added to actual monetary donations of supplies and services, volunteers contributed \$2,712,663 to accomplish 1,120 STEP projects in 2002.
- in addition to the combined state and federal contribution of over \$1,000,000 for the Sport Fish Restoration-funded STEP program, ODFW contributed at least \$228,000 in funding toward STEP projects, which does not include time spent on STEP projects by non-STEP staff.
- given the combined state and federal contribution to the Sport Fish Restoration-funded STEP program of over \$1,000,000, the returns on this money in both volunteer contributions (\$2,712,663) and other ODFW contributions (\$228,000 plus personnel time) toward projects was very high in 2002 and shows the value of volunteer efforts for the fish resources of Oregon.

The following narrative describes each of the STEP Biologist Districts and then gives an overview and highlights of activities generated by volunteers for each of the four main components of the STEP Program:

- Development of the Salmon and Trout Enhancement Program (STEP)
- Characterization of Fish Populations and Their Habitat in Streams
- Habitat Improvement
- Fish Culture

In the Appendices, the following program information can be found:

- STEP Biologists
- STEP Districts Map
- STEP Advisory Committee (STAC) Members
- Partial List of Groups Involved with STEP

A complete report for each STEP District is available upon request.

# STEP DISTRICT BACKGROUNDS

## Northwest Region

North Willamette District.....*Dick Caldwell (10/01 - 12/01, 3/02 - 8/02)*  
*Dave Liscia (1/02 - 2/02)*  
*Darlene Siegel (8/02 - present)*

The North Willamette Fish District encompasses the Portland Metropolitan (Metro) Area that contains the largest concentrated population of people in the state of Oregon. The territory is bounded by the Columbia River on the north, the Tualatin and Clatskanie River drainages on the west, the crest of the Cascade Range on the east, and the Pudding and the Yamhill River drainages in the Willamette Valley to the south.

The Oregon Department of Fish and Wildlife and all local volunteers and cooperating agencies were saddened by the loss of Dave Liscia on February 22, 2002 in an automobile accident near the North Willamette District office in Clackamas. Dave started his career with ODFW in 1977 as a fisheries biologist and had just taken over the STEP Biologist position in January after having "switched" positions with Dick Caldwell. Dave had also been the STEP Biologist in Roseburg for a number of years prior to becoming an Assistant District Fisheries Biologist in the North Willamette District in 1998. Dave's cheerful attitude and enthusiasm for working with volunteers will be greatly missed. Dick Caldwell graciously took on his old duties as the STEP Biologist, while also maintaining his newly acquired Assistant District Fisheries Biologist duties, until Darlene Siegel was hired as the permanent STEP Biologist for the District. Due to the dedication and hard work of Dave, Dick, and Darlene, a solid level of volunteer projects and educational activities benefiting the community and fish resources in the North Willamette area was maintained despite the hardships and transitions occurring within the District.

Mid Willamette District.....*Gary Galovich*

The Mid Willamette STEP District is a geographically diverse area reaching across the Willamette Valley from the crest of the Coast range east to the crest of the Cascades. The Willamette River travels the length as it flows from McKenzie River confluence downstream to the agricultural lands north of Salem. Within this area, three major stream systems flow from the western slopes of the Cascades into the Willamette (North Santiam, South Santiam and Calapooia). Another four (Rickreall, Luckiamute, Marys, and Long Tom) drain the eastern slopes of the Coast Range.

The District is also one of the most populated regions of Oregon. Salem, Eugene, Corvallis and Albany are the larger urban areas but a number of smaller cities, towns and rural communities are scattered throughout. The natural resource concerns that have accompanied the area's historical land uses of timber harvest and agriculture have been complicated by the challenges posed by urbanization.

A growing human population and the resulting changes to the landscape have placed exceptional pressures upon the Willamette's natural resources, yet the basin continues to support a diversity of fish. Native among these include spring chinook salmon, winter steelhead, and rainbow and cutthroat trout. Several species have also been introduced including fall chinook salmon, coho salmon and summer steelhead. Although the focus of STEP in this area is certainly upon the native salmonids, the program through its

educational, monitoring and habitat efforts also recognizes and benefits the basin's many other native fish.

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 basin, 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 including outreach and education, monitoring and inventory, fish production and restoration are all 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 therefore to involve area groups, schools and individuals in all aspects of ODFW's local fish management efforts, but particularly monitoring and inventory efforts. 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.

South Willamette District..... *Jeff Ziller (District Biologist)*  
*Dan Van Dyke*  
*Kelly Reis*  
*Richard Irish*

The Springfield Field Office coordinates the volunteer effort to restore native populations of salmon and trout within the headwaters of the Willamette River. The major stream systems include the McKenzie River, the Coast Fork Willamette and the Middle Fork Willamette. Only one anadromous salmonid species, the spring chinook salmon, is native to the area. Rainbow, cutthroat, and bull trout are also native to the upper Willamette.

In the Springfield Field Office, the district fish biologist is identified as the STEP biologist. The duties of the STEP biologist are split between the district fish biologist, two assistant fish biologists, and one half time assistant fish biologist. This approach allows flexibility for STEP efforts in the upper Willamette by providing four biologists to work directly with volunteers, and incorporates STEP throughout local management activities.

North Coast District..... *John L. Casteel*

The North Coast District includes all of the coastal basins extending from Neskowin Creek on the South to the Columbia River on the North. It also includes lower Columbia River basins up to Plympton Creek. STEP programs are implemented by all of the fisheries staff in the district, with John Casteel responsible for coordinating and reporting activities. Different staff are involved in projects according to their specific geographic and job responsibilities. Volunteers in the district have a high interest and commitment to fish culture activities and operate two large rearing facilities, two net acclimation sites and one acclimation pond. The district also has a small hatchbox program using spring and fall chinook. Staff also work intimately with local Watershed Councils and local schools.

The Newport STEP program includes all the coastal watersheds located along the central Oregon coast from Salmon River (Cascade Head) in the north to the Siuslaw River in the south. This geographic region extends from the top of the Coast Range Mountains in the east down to the coastal estuaries that meet the Pacific Ocean in the west. The area encompasses five major drainages: the Salmon River, Siletz River, Yaquina River, Alsea River and the Siuslaw River. Newport STEP also includes a number of large ocean tributaries that have significant salmon and trout populations, including the Yachats River, Beaver Creek, Big Creek, Tenmile Creek and Cummins Creek, Siltcoos River and Tahkenitch Creek. George Westfall, an ODFW Biologist, performs STEP duties in the Siuslaw Basin and adjacent watersheds south to the Umpqua River.

### **Southwest Region**

The Umpqua Watershed encompasses Douglas County and extends from Diamond Lake in the Cascade Mountains to the coast at Reedsport. The Umpqua is the second largest coastal basin in Oregon. Volunteers in the Umpqua Watershed participated in 70 projects and contributed over 17,000 hours. Volunteers also contributed or raised over \$60,000 to aid STEP projects. Fish culture and education/development projects comprised most of the District's volunteer's efforts. This year the program reached over 8,400 adults and 3,639 youth. Major groups contributing to the Umpqua included: Umpqua Fishermen's Association (UFA), Gardiner-Reedsport-Winchester Bay STEP (GRWB), Oregon Equestrian Trails (OET), the Umpqua Fishery Enhancement Derby (Derby), Guides who fish the South Umpqua for winter steelhead, the Umpqua Basin Watershed Council (UBWC), Oregon Wildlife Heritage Foundation, and the Cow Creek Band of the Umpqua Tribe of Indians. In addition, the program is strongly supported by the assistance of ODFW district fisheries personnel, Rock Creek Hatchery and local volunteers.

The Tenmile, Coos, Coquille STEP District is located on the Southern Oregon Coast. The District is bordered by the Umpqua River basin to the north and the east. The New, Sixes, and Elk River basins (which are small coastal basins) border the District to the south. The District contains three major watersheds and several small streams that drain directly into the ocean. The major watersheds are: Tenmile, Coos, and Coquille.

The District contains a diverse group of watersheds. Both the Coos and the Coquille River watersheds drain the coast range mountains. These systems have long intertidal areas and have different size estuaries. The Tenmile watershed is also a coastal basin that is dominated by several large lakes.

The primary method of program development is that of obtaining direct citizen involvement in management programs to protect and enhance salmon and trout populations. Early in the development of the program in the District, education and outreach became an important element. We recognized that educating the public, particularly local children, would be an important tool to achieving the long term goals of the program. Education through outreach, would increase awareness about requirements of salmonids so that the general public

would be able to manage stream habitat to maximize salmonid productivity. Habitat restoration projects are also an important component of the volunteer projects in the district. Large numbers of volunteers continue to be involved in the extensive fish culture programs in the District. There are 10 broodstock development, 4 spawning, 20 egg incubation, 7 rearing, and 21 acclimation projects in the District. The fish culture operations in the District involve the largest number of volunteers in recent years.

Lower Rogue District..... *Clayton F. Barber (10/01 - 3/02)*  
*William Tinniswood (interim; 5/02 - 7/02)*  
*John Weber (interim; 7/02 - present)*

District Personnel are organized as follows. The District Biologist is responsible for responding to fish management issues within the district. The District biologist is assisted by two Natural Resource Specialist 2 positions. The first is the Habitat Protection Biologist, funded half on fish management and half under wildlife management. The second is the Salmon and Trout Enhancement Program (STEP) Biologist.

The Lower Rogue District is part of the Rogue Watershed District. The Lower Rogue District includes coastal basins from Four Mile Creek near Bandon south to the California boarder (i.e. the following watersheds: New River , Elk and Sixes Rivers, Euchre Creek, the Rogue River upstream to Mule Creek, Hunter Creek, Pistol River, Chetco River, Winchuck River, and other coastal tributaries).

The focus of the STEP program within the district is to utilize volunteer resources to accomplish district management objectives. The STEP biologist works primarily with local clubs, individuals, landowners, timber companies, watershed councils, educators, and school groups. The majority of volunteers engaged in STEP program activities in this District belong to one of two local STEP clubs: the "Oregon South Coast Fishermen", and the "Curry Anadromous Fishermen." Individuals within these clubs are primarily retired men and women who's interest is to do meaningful work and help restore fish populations within local watersheds. Aquaculture is a primary focus for the Curry Anadromous Fishermen, with activities evolving around operations at Indian Creek Hatchery. The South Coast Fishermen activities have been more oriented toward inventories and habitat enhancement. Both groups put education as a high priority, and they often cooperate with other local entities to accomplish common objectives.

In March 2002, STEP Biologist Clayton Barber accepted another full-time position within ODFW. The District then operated without an acting STEP Biologist for the next several months. In mid-May the position was backfilled by William Tinniswood. John Weber subsequently took over and backfilled the position in mid-July. Weber is the current acting STEP biologist in the interim. Due to the state budget situation, it is unknown when this position will be filled permanently.

Upper Rogue District..... *Charles A. Fustish*

The Upper Rogue STEP District includes the Rogue River Watershed upstream of Mule Creek near river mile 48. The Rogue River, and the District, extends east about 200 miles upstream, where the river rises as a spring near Crater Lake. Approximately 400,000 people live in the District, providing an unlimited array of schools, service clubs, sportsman's clubs, and volunteers to assist in completing STEP projects to educate and improve fish habitat throughout the basin.

Basin fisheries include salmon, steelhead, trout, and warm water fish species. The Rogue River is reported to possess the strongest runs of salmon and steelhead of all the coastal streams in Oregon. In order of abundance, fall chinook, spring chinook, and coho salmon inhabit the system, as do winter steelhead, summer steelhead, cutthroat and rainbow trout. Smaller populations of brook trout inhabit some of the higher elevation streams and wilderness lakes. A small population of brown trout is found near the upper end of Lost Creek Reservoir near river mile 157 and in the streams above the reservoir. Warm water fisheries abound in all the standing waters (reservoirs and backwater areas) of the Rogue River and tributaries. Primary species of warm water fish include largemouth bass, smallmouth bass, black crappie, bluegill, and brown bullheads.

The coho salmon is the only species in the District (listed threatened) on the Federal Endangered Species List. The District recommends against the stocking of species and races of salmonids not already present in the basin, and of warm water fish other than largemouth bass, black crappie, bluegill, and brown bullheads. While all the standing water bodies of the basin have warm water fish, ODFW has only participated in the stocking of two lakes in the basin (Applegate and Lost Creek Reservoirs). The District recommends against the stocking of private ponds with species other than rainbow trout and largemouth bass and other warm water species already present in the district.

This year's STEP activities in the Upper Rogue River basin focused on 3 areas. In the winter months, educational opportunities for students and adults were highlighted with the classroom incubator program and talks to various groups. In the late winter, 8 tree plants were aimed at improving riparian habitat in the long term, while logs were placed in 3 streams to increase the amount of large woody debris in the streams in the short term. Two projects were aimed at monitoring changes in the number of spawners and the amount of spawning gravel deposited because of the presence of the structures.

A total of 85 different volunteers donated 1,030 hours to complete this year's activities. The volunteers came from: Trout Unlimited (TU), Rogue Flyfishers (RFF), the public-at-large, Williams Creek Watershed Council (WCWC), Middle Rogue Watershed Council, Seven Basins Watershed Council, and the Southern Oregon Flyfishers (SOFF).

**High Desert Region  
and  
Northeast Region**

Eastern Oregon District..... *Patty Bowers (10/01 - 6/02)*  
*Jennifer Bock (12/02 - present)*

The Eastern Oregon STEP District includes 18 counties and nearly 67,000 square miles. Organized into two ODFW Regions (Northeast and High Desert), it includes eight fish districts. In 1983, the first Eastern Oregon STEP Biologist was assigned to a position in The Dalles. The position now resides in Bend. Last June, after 12 years of service, Patty Bowers retired. The STEP Biologist position remained vacant June through November; however, Patty volunteered many hours to maintain ongoing projects. Jen Bock started as the Eastern Oregon STEP Biologist on December 2, 2002.

Project definition and direction come from individual fish districts, based on their annual needs. The Eastern Oregon STEP Biologist coordinates volunteer activities for coldwater, warmwater, and all volunteer activities at hatcheries except for the Hatchery Host Program.

The STEP Biologist works with each district and hatchery to identify specific project needs requiring direct supervision and/or volunteer recruitment by the STEP Biologist. The project load is balanced among the districts and hatcheries based on the requests received.

In early January of each year, the project request information is sent to each fish district, hatchery, fish research, and habitat program in Eastern Oregon. Project requests from these sources are received by late February and are used to build a schedule for recruiting and coordination. By the end of March, the dates are generally final. The consolidated project information is distributed to potential volunteers and interested organizations. It is also posted on the Eastern Oregon web site at [www.dfw.state.or.us/odfwhtml/eostep/projects/](http://www.dfw.state.or.us/odfwhtml/eostep/projects/).

Most of the Eastern Oregon STEP project recruiting is accomplished with assistance provided by the Conservation Chair of the Central Oregon Flyfishers. Using e-mail, references to the Eastern Oregon STEP web site, presentations and updates at club meetings, newsletter postings, and phone calls, the recruiting service provided by this group is without doubt a key to the success of the Eastern Oregon STEP program. Recruiting information is also passed along to the Sunriver Anglers via their newsletter. Many individuals, schools, and members of other organizations like the Ochoco Chapter of Trout Unlimited and Oregon Trout are also valuable participants in the program.

District and hatchery personnel directly supervise the largest portion of volunteer activities in the Eastern Oregon STEP District. These supervisors provide project documentation and volunteer time reports to the STEP Biologist on a quarterly basis.

During the 2001-2002 project year, adult volunteers donated 7,889 hours to STEP activities. This translates to \$126,570 when volunteer hours are converted to real dollar equivalencies. Volunteer time is calculated at \$16.05 per hour, based on Year 2000 figures obtained from Independent Sector ([www.independentsector.org](http://www.independentsector.org)). Volunteers also drove over 22,000 miles with their own vehicles to, from and during STEP projects, which calculates to \$8,115 of mileage donated.

# DEVELOPMENT OF THE SALMON and TROUT ENHANCEMENT PROGRAM (STEP)

## Introduction

STEP Biologists and volunteers perform a variety of activities to develop the STEP Program and educate the citizens of Oregon about salmonid issues. This includes:

- "Active" education of the public (giving presentations to groups, teaching classes, conducting tours of projects, and holding workshops)
- "Passive" education of the public (outreach activities, including preparing displays or booths for fairs and festivals, and preparing written materials such as articles, news releases, websites, brochures, and Program publications)
- Training STEP volunteers or cooperators in order to be able to conduct projects
- Facility construction or maintenance
- Miscellaneous (including local administrative help and other activities)

Below are highlights of STEP development and education activities from the different STEP Districts. They are in no particular order and are intended to give an idea about the range of STEP activities for development and education. Note that although a specific activity may be described for a particular STEP District, other Districts may also be performing the same type of activities. A summary of volunteer participation and efforts can be found under the "Development" category in Table 1 (Statewide Summary of STEP Participation).

## Highlights

Fish Identification Kiosks – Umpqua. Due to the number of citations issued in 2001 for anglers misidentifying coho and chinook, the Umpqua Watershed erected a series of educational kiosks to place at key boat ramps. Gardiner-Reedsport-Winchester Bay STEP (GRWB) took the lead in developing the kiosks for three lower Umpqua estuary sites. With the financial support and expertise of Salmon Harbor, the Port of Umpqua, Umpqua Navigation, City of Reedsport, and Umpqua Fishery Enhancement Derby, kiosks were placed at the Salmon Harbor boat ramp, Coast Guard boat ramp and Unger's Landing. Each display featured a full-sized coho and chinook mount which highlighted the identifying characteristics of each species. GRWB also distributed salmon identification brochures to local tackle shops, stores and restaurants. The displays were featured in several newspaper articles and were an instant hit with anglers who could be seen looking at the display while launching their boats. During the winter the fish cases will be on display at the Discovery Center, Salmon Harbor Marina, and the Reedsport courthouse. The upper Umpqua displays were developed by Assistant District Biologist Dave Harris, a local volunteer and were done in cooperation with Douglas County Parks and Recreation and the Umpqua Derby. These kiosks were placed at Scottsburg boat ramp and River Forks Park to continue educate anglers as they followed the salmon upstream.

Libby Pond Free Fishing Day – Lower Rogue. STEP sponsors the Annual Free Fishing Day event at Libby Pond. This year the event took place on Saturday June 8<sup>th</sup>. Volunteers from the Curry Anadromous Fishermen coordinated the event under the

direction of the STEP Biologist. Local businesses donated prizes such as fishing equipment, tea shirts, and jet boat trips. Press releases were also issued to local newspapers and the Gold Beach radio station. Thirty “trophy trout”, large rainbow trout raised at Elk River Hatchery that average six pounds, were stocked by ODFW prior to the event. At the event, a booth was run by STEP volunteers from the Curry Anadromous Fishermen, who were on hand to assist kids with fishing tips, instruction, registration, and trout measurement. Ribbons and prizes were handed out for participation and fish size and quantity. Free hot dogs and drinks were provided by the Gold Beach Rod and Gun Club. This year three trophy trout and 108 rainbow trout were caught by 41 kids, ages 0-13, who participated in the derby. Pictures of the event were submitted to the local newspaper showcasing winners and families enjoying an outdoor experience.

Classroom Incubator Workshops – Eastern Oregon. The Eastern Oregon STEP Biologist and volunteers presented classroom incubator teacher workshops in LaGrande, Huntington and Spray. In the past, teacher workshops were held in Central Oregon, but because of new interest from Eastern Oregon schools these workshops were presented in these Eastern Oregon locations.

Camp UKANDU Net Pen – North Coast. The Tillamook Bay Boat Club set up a net pen in Smith Lake at Camp Magruder. ODFW stocked the pen with ~200 rainbow trout, which were available for Camp UKANDU, a summer camp for kids with cancer.

STAC Meetings – STEP Coordinator. Meetings of the STEP Advisory Committee (STAC) are included in Program development. STAC members are appointed by the Governor of the State of Oregon. STAC, which advises the Fish and Wildlife Commission and ODFW on the STEP program, met 5 times during the contract period.

Millicoma Interpretive Center Construction – Tenmile, Coos, and Coquille. For the 12<sup>th</sup> year ODFW volunteers continue to work on the construction of Millicoma Interpretive Center. This year the major project taken on by volunteers was a wheel-chair accessible walkway that tied other walkways together. This new walkway was also part of a "Hooks-N-Ladders" course that is under construction at the center. This new course provides student visitors the opportunity to see what it is like to be a salmon moving through an obstacle course. These are exciting new projects that have already received considerable financial support. The Menasha Corporation, Bay Area Sportsmans Association, the Oregon Wildlife Heritage Foundation, and the Northwest Steelheaders have all committed funds for these projects.

Fish Identification Education – Mid Coast (Siuslaw). The Florence STEP Group made a two year effort to educate all anglers within the Siuslaw River and Bay about the differences between coho salmon and chinook salmon. A brochure was distributed to 25 sites showing the clear differences between coho and chinook in bright and spawning colors. A kiosk with life-size examples of adult coho and chinook salmon was built at the ODFW boat ramp at the Port of Siuslaw, the most popular boat ramp in the system. The display has been very well received by the fishing and non-fishing public.

Handicapped Fishing Day – North Coast. The Tillamook Anglers had another successful “Handicapped Fishing Day” at their Whiskey Creek facility. ODFW supplies legal rainbow trout to the facility after production spring chinook are released in July.

These fish are fed through July, August and early September prior to the event which is held the second week of September. The event is for disabled children and groups come from all over the northern corner of the state, with hundreds of disabled kids and adults participating.

Student Education – Tenmile, Coos, and Coquille. The Millicoma Interpretive Center continues to be a popular place for student groups and others to come and learn more about the life histories of salmon and steelhead. The facility continues to receive a considerable amount of media attention in the past year. This has become a valuable outreach tool.

Watershed Council Liaison – Mid Coast. Under Oregon plan guidance, the Mid Coast STEP Biologist worked cooperatively with the Mid-Coast Watersheds Council and the Siuslaw Watershed Council as an active council member and ODFW liaison in:

- a) assessing local watershed conditions and developing an action plans;
- b) implementing best management practices;
- c) developing projects to protect and restore fish habitat and;
- d) informing and educating volunteer landowners and interested citizens.

Acclimation Site Constructed – Umpqua. A new winter steelhead acclimation site was constructed this summer. Funding came from a R&E, the Oregon Wildlife Heritage Foundation, the Cow Creek Band of the Umpqua Tribe of Indians and the Umpqua Fishermen's Association (UFA). The site will help the District reach its goal of acclimating all of the winter steelhead released in the South Umpqua basin. Volunteers from the Umpqua Tribe of Indians prepared the ground, erected the above ground "modutank" raceway, and installed two intakes and a storage shed. The site will begin operation in January 2003 and compliment the efforts of the Canyonville Acclimation site, which was constructed by the UFA in 1998.

FishWorks Newsletter – STEP Coordinator. The *FishWorks* newsletter for STEP and R&E (ODFW's Restoration and Enhancement funding program, which helps support some individual STEP projects) was published 3 times during the contract period and reaches over 5,000 individuals and organizations interested in STEP and R&E. This newsletter is partially paid for by STEP and covers newsworthy items and disseminates information for the Program.

Recruitment and Information Activities – Mid Coast. Recruitment for the Mid Coast STEP District consisted of two community-sponsored events. STEP program information and materials were presented at the Schooner Creek Fair in Lincoln City and a STEP/Oregon Plan aquarium and information booth was displayed at the Hatfield Marine Science Center in Newport. Both events reached a total estimated audience of 1,905 individuals.

Kokanee Karnival – Eastern Oregon. This year's Kokanee Karnival included 12 Central Oregon elementary schools. Producing partners for the Kokanee Karnival include ODFW, Central Oregon Flyfishers, Sunriver Anglers, Central Oregon Llama Association and the Deschutes National Forest. Kokanee Karnival continues to receive exceptional support from both the volunteer community and financial sponsors. Volunteers run the program in its entirety, with ODFW assuming a consulting role. The Kokanee Karnival website can be found at

www.kokaneekarnival.org. The Kokanee Carnival is a year-long program which includes:

- a) a two-week fall field trip program that connects schools receiving eggs for classroom incubators with wild fish spawning in a stream;
- b) field trips to hatcheries for instruction and demonstrations;
- c) classroom incubation of trout eggs during October, November or February;
- d) an angler education clinic providing three hours of instruction on angler ethics, fishing equipment, fish biology, and angling technique, after which students enjoy a barbecue lunch and fishing in nearby Shevlin Pond; and,
- e) a community stewardship project such as tree planting, storm drain marking, letter writing campaigns, or pond cleanup.

Hughey Creek Upkeep – North Coast. Volunteers performed extensive maintenance on the Hughey Creek acclimation site and provided new intake screens to meet screening guidelines.

Inventory Assistance and Landowner Recruitment - Mid Coast. Coordination and technical assistance was provided to participants of the Lincoln Soil and Water Conservation District (LSWCD) watershed workforce for the selection of high priority streams for aquatic habitat inventories and spawning surveys. This local project has recruited many new STEP volunteer landowners that have expressed a desire to collect fish data and improve fish habitat.

Outreach and Education Activities – Umpqua. The Umpqua STEP program reached over 3,600 kids and 8,484 adults with some type of education program or display. About 1,200 kids were able to learn about salmon life cycles through the classroom incubator program. The District also participated in four Free Fishing Days events and exposed kids to fishing through the Sportsmen's Show Pepsi pond, four-day camps, and lure-making demonstrations at the STEP Conference. In addition, the District was able to acquire an easement with a local landowner for developing an area for youth handicap fishing and angler education classes. The district also started using Student Conservation Aids (SCA) as "hosts" at Canyonville Acclimation site and the Happy Valley fish trap where 24-hour surveillance is needed. The SCA's also enhanced each site's educational opportunity in addition to providing security and helping with fish programs. SCA's helped develop display material for the site, recorded the number of visitors and invited local schools and clubs to take tours. The UFA and the Umpqua Derby helped fund the 12-week SCA intern positions.

Media Coverage – Tenmile, Coos, and Coquille. Another method to obtain citizen involvement is the use of the media or reports. Dozens of reports on television and in the newspapers have presented STEP program projects to the public. This media coverage provides the greatest possible educational opportunity to the public.

Creeks and Kids Workshops – Eastern Oregon and Mid Coast. Presentations were given to 25 participants at the "Creeks and Kids" Watershed Education Workshops held at the Triangle Lake Camp in Triangle Lake and the Lake Creek Camp in the Strawberry Mountain Wilderness. The workshop was designed to give educators the

skills and knowledge to use their local stream as watershed learning sites. Participants learned about fish identification, stream surveying, mapping and water quality.

Free Fishing Days – North Willamette. Two free fishing clinics, including the “Passport to Fishing” event at Bonneville Fish Hatchery celebrating its eighth year and a clinic sponsored by ODFW’s Angler Education Program at Small Fry Lake, were conducted in the Portland Metro Area. These free fishing events focused on teaching kids the proper techniques and methods for fishing. Volunteers from sportsmen clubs assisted in these well received fishing clinics.

Teaching – South Willamette. The District participated in Oregon Trout’s Salmon Watch, a coordinated effort to teach students about wild salmon through a curriculum and field trips to observe spawning salmon.

Internships – Mid Willamette. The STEP Program supervised an intern from Oregon State University.

Viewing Deck Construction – Eastern Oregon. Several viewing decks were constructed at the Wizard Falls Hatchery. Three volunteers contributed 367 hours to the construction of the decks as well as installing fish food vending machines.

# CHARACTERIZATION OF FISH POPULATIONS AND THEIR HABITAT IN STREAMS

## Introduction

Volunteers assist the Department in conducting a variety of inventory, monitoring, and evaluation projects. A variety of fish species, including chinook, coho, steelhead, and trout, their habitat, and fisheries for them are characterized. The major types of characterization are:

- Creel Survey
- Passage/Culvert Inspection
- Fish Monitoring
- Stream (i.e. habitat) Survey
- Miscellaneous (including water quality monitoring)

Volunteers use a variety of sampling gear to conduct this information gathering. Sampling gear used by STEP volunteers includes:

- Adult Trap
- Backpack Electrofisher
- Boat Electrofisher
- Gill Nets
- Hook-and-Line
- Minnow Trap
- Hoop Trap
- Physicochemical Samplers
- Rotary Fish Trap
- Seine
- Snorkel
- Sonar
- Telemetry Equipment
- Angler Interviews
- Video Tape Review
- Visual Observation

Below are highlights of STEP characterization activities from the different STEP Districts. They are in no particular order and are intended to give an idea about the range of STEP activities for development and education. Note that although a specific activity may be described for a particular STEP District, other Districts may also be performing the same type of activities. A summary of stream/river distances characterized, volunteer participation, and other contributions by ODFW (non-STEP) can be found in under the “Characterization” category in Table 1 (Statewide Summary of STEP Participation).

## Highlights

Urban Stream Surveys – Mid Willamette. The City of Albany has long neglected its urban streams. These waters were considered of “marginal value”, although no information existed to substantiate that claim, and received little restoration or protection consideration. Trapping and other stream sampling efforts conducted by the Albany Chapter ANWST documented for the first time the presence of juvenile salmon and steelhead in the city’s creeks. This established the value of these and

similar waters to rearing fish often thought by many to be only migrating downstream through the adjacent Willamette River. Also found were Pacific lamprey and cutthroat trout. As a result, the city has conducted one fish passage improvement project, has another in the planning stages and has initiated a program to increase community awareness of the urban streams. In Sweet Home, a similar effort documented the seasonal presence of juvenile steelhead and salmon in Ames Creek, a tributary of the South Santiam River. Restoration efforts in upper Ames Creek have previously emphasized resident cutthroat trout. This information, however, demonstrates the need for fish passage improvements in the lower reaches and the importance of the stream to the locally more highly valued fisheries in the South Santiam.

Stream Scene Implementation – Mid Coast. Mid Coast STEP and the Mid-Coast Watersheds Council (MCWC) continued a partnership to develop and implement watershed education and awareness in mid-coast communities. Advice and assistance was provided to a part-time MCWC Education Coordinator on watershed projects for local schools and youth groups. The Education Coordinator advised 12 teachers how to utilize the ODFW Stream Scene curriculum and recommended field assessment techniques. Over 1,100 students and 110 parents participated in 24 field trips collecting water quality data, macroinvertebrate diversity and stream habitat data.

Lookout Point Dam Survival – South Willamette. A project to gauge survival rates of juvenile spring chinook passing through the turbine at Lookout Point dam was completed during the report year. STEP volunteers from the Northwest Steelheaders, Middle Fork Willamette Watershed Association, and the Lost Creek Watershed Group assisted workers from the Corps of Engineers, the US Forest Service and ODFW in marking over 37,000 juvenile chinook in two days of work at Willamette Fish Hatchery. The fish were released into Lookout Point Reservoir in October 2001. Fish were collected in a downstream migrant trap below the dam. Survival rates exceeded 80% in the project, although delayed mortality was not investigated.

Bonnie Falls Fish Trap – North Willamette. Volunteers from the Scappoose Bay Watershed Council assisted in modifying and monitoring the adult fish trap at the Bonnie Falls Fish Ladder on the North Fork of Scappoose Creek. This trap is currently in operation and valuable information is being collected.

Winchuck Smolt Trap – Lower Rogue. In an effort to characterize populations of fall chinook on the Winchuck River, the Oregon South Coast Fishermen operate a downstream migrant trap just upstream of tidewater on the Winchuck River. Operation of the trap represents the continuation of a 12-year database that has been a priority for the district. Oregon South Coast Fishermen have been operating the trap for the last three years. The information obtained is of great value to current management and the work would otherwise not be accomplished under current staffing levels. The District will utilize information obtained from trapping operations to help manage local populations. The annual execution of this project represents volunteer hours both in installing, maintaining, and removing the trap, as well as daily operations in counting, identifying, marking, and recounting fish. Weekly operations include a training session by the STEP Biologist in trap operation, fish identification and marking techniques. Volunteers work in two-man teams to monitor the trap daily, Monday through Friday. Weekly expansion estimates for chinook salmon are

summarized throughout the migration period from June through the end of August to provide a population estimate.

Angler Log – North Coast. The District developed a volunteer creel book to assist in collecting data on coastal salmonid populations and angler activity. In particular, collecting information on hatchery:wild ratios and run timing is of particular interest for all basins in the district.

Project Evaluation – Upper Rogue. We monitored instream habitat projects completed in 2,000 in Flat Creek, and 2,001 in Rock Creek and Upper Grave Creek. Because of low flows in the winter of 2000-2001, the projects showed no increase in gravel deposition below the structures. However, in the winter of 2001-2002, gravel was deposited upstream of half of the structures placed in Flat Creek. Winter steelhead were seen effectively spawning in the newly deposited gravel.

Hoop Trapping – Mid Willamette. For the past several years, STEP has maintained a program that annually operates up to fifteen hoop traps in the mid Willamette basin. The traps are slightly modified versions of larger traps traditionally used to sample adult salmon and steelhead. The intent is to document the presence of cutthroat trout, juvenile salmon and juvenile steelhead in waters where no fish information exists, to learn about their life history and habitat needs and to get a sense of relative abundance. The traps are inexpensively constructed by the Albany Chapter ANWST and are safe for adults and high school-aged students to operate. The targeted waters may be seasonal and are typically in urban or low elevation agricultural areas. Often the streams have been severely altered and receive little protection because of perceived fishery value.

Radio Telemetry – Eastern Oregon. Six volunteers from Central Oregon Flyfishers and Trout Unlimited assisted with radio telemetry fish tracking on Deep Creek (Crooked River). Six volunteers contributed 88 hours to this project.

Knowles Creek Trap – Mid Coast (Siuslaw). The Florence STEP Group has had up to 8 volunteers daily assisting an ODFW partner group monitoring a juvenile fish trap on Knowles Creek. These folks have showed up everyday for up to 4 months each spring to assist others with correct fish identification and fish handling techniques, learned from the STEP Biologist.

Adult Otolith Collection – Umpqua. With the large runs of adult coho last winter, volunteers and district staff participated in "head hunting parties" on Brush Creek. Since 1999, Brush Creek has been the site of a study to evaluate the survival of volunteer released unfed coho fry. The otoliths (ear bones) of the fry were marked by chilling and warming the water while the developing coho were still at Rock Creek Hatchery. Approximately 200,000 marked unfed fry were released in 1999, 2000, and 2001. Each spring, district staff collected every 12<sup>th</sup> smolt at juvenile traps on Brush Creek so survival to outmigration could be determined. During the fall of 2001, the coho released in 1999 were scheduled to return – hence the "head hunting". Based on the preliminary results, otolith-marked coho comprised about 50% of Brush Creek's smolt outmigration each year. Of 117 adult coho heads collected in 2001, 53% were otolith-marked. Volunteers and staff are ready again to go on headhunting parties in 2002 to aid this study. More detailed analysis of the data remains in order to look more closely at survival estimates of the marked and unmarked fish and compare the results to a nearby "control" stream.

Monitoring – Mid Coast. Mid-Coast volunteers conducted salmon spawning surveys, general stream surveys, and fish population surveys throughout the District. Lincoln City volunteers and the Hebo US Forest Service continued a steelhead and coho trap operation on the South Fork of Schooner Creek in the Siletz Basin. The objective is long-term monitoring of coho and steelhead populations at a basin scale. Yachats area volunteers continued a water quality monitoring program in Yachats River and estuary. Newport STEP provided training and technical assistance on temperature monitors, protocols and site selection for the project. Yachats area volunteers also surveyed the Yachats River Basin for fall chinook and coho escapement and spawning distribution.

Stayton Island Traps – Mid Willamette. In the North Santiam, Stayton Island serves as an important location for assessing and monitoring salmon and steelhead populations. Several channels on which small diversion dams have been built surround the island. In the ladders that provide fish passage at the dams, ODFW has established trap sites to monitor run size, determine hatchery-to-wild ratios and gather life history information on the native spring chinook and winter steelhead. Daily operation of these traps begins in late winter and continues through the fall. One ODFW staff position is dedicated toward the operation of the traps but additional help is needed to insure personal safety and to expedite handling of the sampled fish. During the peak of the run, these traps can daily produce up to 300 adult salmon and steelhead so often several people are needed. STEP provides the volunteers needed to monitor these sites. At least one and often more volunteers daily accompany the ODFW staff in an operation that can take up to several hours. Counts of fish are made by species and each fish is checked for markings and condition then manually passed via net from the trap box to the river above. Volunteers include the Salem and Albany Chapters of the Association of the Northwest Steelheaders (ANWST), the Santiam River Guides, Oregon State University and several individuals not associated with a particular group.

Spawning Surveys – Eastern Oregon. Volunteer projects included Chinook spawning surveys on John Day and Grande Ronde tributaries and rainbow trout spawning surveys on the Deschutes River. Twenty-five volunteers spent 428 hours and drove 1,136 miles in their effort to record redds and adult fish in these basins.

Lost Creek Smolt Trap – South Willamette. Lost Creek (Middle Fork Willamette River) was surveyed for the second consecutive year, with volunteers staffing a rotary smolt trap for downstream migrants between November 20, 2001 and June 3, 2002. Dace (species undetermined) were the most numerous fish collected, followed by redbside shiner and lamprey ammocoetes. A total of 282 cutthroat and 93 rainbow trout were collected, along with several juvenile spring chinook. Volunteers from the Lost Creek Watershed Group fished the trap. Plans call for a third year of trapping on Lost Creek. This will match similar trapping projects on the Mohawk River (McKenzie River) in 1992-1994 and on Little Fall Creek (Middle Fork Willamette River) between 1994 and 1996. The three streams are the largest waterbodies not affected by dams in the lower portions of the two watersheds.

Winchester Bay Fishery Monitoring – Umpqua. GRWB STEP continues to coded-wire-tag (CWT) fall chinook released in the Umpqua estuary to help the district learn more about chinook distribution and survival. The STEP group has been actively participating in the CWT program since 1996. This year the program marked 91,748

pre-smolts released in Winchester Bay and 24,625 pre-smolts used to "payback" Smith River for chinook collected as wild brood. Since all of the CWT chinook also have their adipose-fin clipped, the tagging program also helps the Umpqua Watershed evaluate hatchery stray rates in the lower Umpqua. The clipped fish also help local anglers recognize the efforts of GRWB. Acclimating the chinook in netpens in Winchester Bay has created a thriving bank fishery for recreational anglers. GRWB has been able to acquire the donations necessary for funding the CWT program and keeps the ODFW fish-taggers supplied with fish throughout the 6-8 week marking period.

Recruitment Surveys – Tenmile, Coos, and Coquille. The most important monitoring operation that volunteers are involved with each year are the fall chinook recruitment surveys that are conducted in the Coos and Coquille estuaries. In the Coos River basin, volunteers release in excess of three million chinook juveniles annually. With the large numbers of fish released, an evaluation of the impacts on wild chinook is needed. One way to measure the impacts is to monitor the growth and abundance of chinook in the estuary. Researchers have indicated that if mean fork length of juvenile chinook at ocean entrance in the fall of the year is below 13 cm then the carrying capacity for the basin has been exceeded. This monitoring begins in the spring and continues through the fall of the year.

Spawner Surveys – Upper Rogue. Flat Creek spawner surveys were done by 12 volunteers who spent 93 hours walking the stream. Only 4 coho salmon carcasses were found after surveying every 2 weeks for 6 months. Stream flows no doubt had a major impact on their ability to find carcasses during the winter of 2001-2002. Flows appeared to rise after the coho started spawning and remained high until January, when steelhead entered the streams. There were few major flow events after January 1, 2002. This forced the steelhead to spawn in the lower reaches of the streams and explained why few juvenile steelhead were seen in the streams of the upper Rogue in 2001-2002.

Cutthroat Hoop Traps – South Willamette. Volunteers constructed upstream migrant hoop traps to begin more intensive monitoring efforts for cutthroat trout in the district. Two of the traps helped further survey efforts on Hill Creek (Coast Fork Willamette River) near Creswell. A flood control project diverts the headwaters of Hill Creek directly into the Coast Fork Willamette, leaving a seven-mile stretch of lower Hill Creek with poor flow and minimal trout habitat. The diverted section of "Upper" Hill Creek flows through a long concrete channel before dropping several feet down to the river. Both the drop at the river and the velocity barrier presented by the concrete channel are assumed to block the migration of fluvial cutthroat trout into headwater spawning tributaries. No adult cutthroat were captured during periodic trapping just above the concrete channel. Lower Hill Creek flows through agricultural land before entering millponds in Creswell. The stream crosses Interstate 5 at Creswell and enters Creswell Pond, an old gravel quarry at Garden Lake Park, before reaching the Coast Fork Willamette River. Water quality is often questionable, and exotic fishes including common carp, bluegill, largemouth bass and mosquitofish are prevalent in Lower Hill Creek. Surprisingly, cutthroat trout were the second most common catch in the trap between late February and early June. The confirmation of a remnant population of cutthroat trout in lower Hill Creek, at least seasonally, is an exciting find that will help in education efforts to improve the health of the watershed. Several restoration opportunities to benefit cutthroat trout have been identified in the Hill Creek watershed. The District is working with the

Friends of Garden Lake Park in Creswell to develop a fish and wildlife friendly management plan and to improve conditions in the watershed.

H-W Genetics Research – Umpqua. The UFA is participating in a study to look at the survival of unfed coho fry and the differences between hatchery, wild, and native fish. Via the Conservation Hatchery Incentive Program (CHIP) the Umpqua Watershed is looking at the differences between the genetics and survival of hatchery x hatchery and wild x wild coho. Volunteers help spawn the one hundred pairs of each cross used for the study. A genetic sample and specific measurements of each adult are recorded. The eggs of each individual pair are incubated in separate baskets so the fecundity of each pair can be recorded, then cumulatively compared between hatchery and wild pairs. Once the eggs are eyed, the eggs are transported to hatchboxes and raised by UFA volunteers to the unfed fry stage. Egg and fry mortality is tracked to continue recording data for looking at survival. The unfed fry were released at specific locations on the Calapooya. When the coho return as adults in 2004 another genetic sample will be collected to look at survival, then yet another sample will be taken of outmigrating smolts in 2006 to look at what types of cross-breeding occurred during 2004 (H x H, W x W, H x W) and whether or not there are any differences in fecundity between the crosses. During the spring of 2002, UFA volunteers raised and released over 370,000 coho for this study. The study will be repeated again in 2003.

Thompsons Mills Surveys – Mid Willamette. On the lower Calapooya River, a historic mill, Thompsons Mills, has created both flow and passage concerns for native and more specifically anadromous fish. Much political and social effort has gone toward resolving the many problems presented by the continued operation of this privately owned mill. To provide the information needed to determine a “best solution”, this past year ODFW conducted physical and biological surveys of the associated channels and monitored fish behavior and movement at the water diversion structures. Several individual volunteers and the Albany Chapter ANWST assisted ODFW staff with these efforts that included stream habitat surveys, seine and electrofish surveys and construction and daily operation of the trap facilities. This work showed how the mill’s operation affects the migration, spawning and rearing of winter steelhead and spring chinook. Data gathered on stream flows and temperatures also suggested how the existing complex of channels could be maintained while still providing for the needs of fish.

Macroinvertebrate Sampling – Eastern Oregon. Four volunteers donated 32 hours and drove 126 miles to assist biologists with Fall River macroinvertebrate sampling after a lethal fire retardant spill.

# HABITAT IMPROVEMENT

## Introduction

Volunteers have completed a large number of habitat improvement projects. These efforts either directly benefit salmonid habitat (instream work such as placement of large woody debris or hatchery fish carcasses, creation of weirs, and placement of spawning gravel), indirectly benefit salmonids (riparian work which reduces temperatures and allocthanous input), or open habitat up for utilization (passage repair). The major types of habitat improvement described in Table 1 are:

- Passage Work
- Instream Work
- Riparian Work
- Instream and Riparian Work (both part of the same project)
- Hatchery Fish Carcass Placement
- Miscellaneous

Below are highlights of STEP habitat improvement projects from the different STEP Districts. They are in no particular order and are intended to give an idea about the range of STEP activities for development and education. Note that although a specific activity may be described for a particular STEP District, other Districts may also be performing the same type of activities. A summary of stream/river distances affected, volunteer participation, and other contributions by ODFW (non-STEP) can be found in under the “Habitat” category in Table 1 (Statewide Summary of STEP Participation).

## Highlights

Fire Recovery and LWD – Upper Rogue. Permit applications were completed for 3 projects to place large woody debris (LWD) in the West Fork of Evans Creek, Flat Creek, and Elk Creek, a tributary of the West Fork of the Illinois. The fire season was the worst recorded this century in Southern Oregon, with over 600,000 acres burned. The Illinois basin was hit worst with one fire that burned over 500,000 acres. The entire Flat Creek drainage was burned, with 2/3 of the 47 logs placed in the stream in 2000 vaporized. One half of the original 9 structures in the lower 1.5 miles were replaced, and Boise decided to place 21 more structures in the upper 2.5 miles. ODFW volunteers stabilized the logs with 1 inch manila rope attached with 4 inch staples. This stabilization technique was approved by NOAA Fisheries for use in waters that contained threatened coho salmon. The fires also made it hard to find an operator that was not already working on the fires. ODFW worked with ODOT to complete the project on the West Fork of Evans Creek. ODOT supplied \$15,000 to mitigate for habitat damaged by the replacement of Robertson Bridge. Boise paid the operators and donated the logs for the project on Flat Creek. The Elk Creek project was partly funded with \$7,000 of Jobs-in-the Woods money, and \$5,000 from Friends of the South Coast Fishermen.

Carcass Placement – North Coast. Volunteers and watershed councils placed over 26 tons of salmon and steelhead carcasses in North Coast rivers to improve basic productivity.

Wilhelm Creek Restoration – Mid Coast (Siuslaw). Wilhelm Creek is a new stream that the Florence STEP Group has adopted to restore to a high level of fish productivity. Twelve boulder weirs were installed in 0.75 miles of streams to help collect gravel to improve chinook spawning success.

LWD Education and Stockpiling – South Willamette. A severe windstorm struck the southern Willamette Valley in early February 2002. In response, the District proactively distributed information to local land management entities and the public with two objectives: to promote the value of downed woody debris for fish and wildlife habitat, and to recruit large wood that must be removed by landowners for use in fish habitat projects. In addition, with funding provided by the Oregon Wildlife Heritage Foundation, the District hired a contractor to haul appropriately sized material. Two loads of cottonwood logs were moved from a roadway at Jasper State Park to a habitat project site on private land along a tributary to Lost Creek. Several other truckloads of material were hauled to a storage site for use in future projects. Springfield Utility Board personnel were very helpful in providing material and assistance in the project.

Riparian Plantings – Upper Rogue. To provide for long term riparian habitat in the Rogue River basin, trees were planted in Dutcher Creek, Bear Creek in Central Point, Williams Creek, lower Grave Creek, Wood Creek, an Illinois River Tributary, Upper Grave Creek, Pleasant Creek, and the East Fork of Evans Creek. A total of 4,421 deciduous and coniferous trees were planted throughout the basin at a cost of \$2,079 for trees and equipment. Members of the Southern Oregon Fly Fishers, Trout Unlimited, Rogue Fly Fishers, Boise, and public volunteers participated along with agency personnel.

Carcass Placement – North Willamette. The seventh year of the carcass placement project was completed with cooperation from ODFW (Sandy Fish Hatchery), the US Forest Service (USFS) and the US Fish and Wildlife Service (Eagle Creek Hatchery). Carcasses are intended to mimic historic run densities of spawning coho salmon in the system and to increase the nutrient levels in the stream for aquatic organisms. This year launched a monitoring project to identify the effects of the nutrient enrichment on watershed productivity. Parameters studied included nutrients, periphyton biomass, benthic macroinvertebrate biomass, smolt abundance, and carcass retention. Carcasses were distributed by helicopter in order maximize the quantity and accessibility of the river systems. 5,355 coho carcasses were dropped by helicopter into three tributaries to the upper Clackamas River. 3,637 coho carcasses were dropped into three tributaries of the upper Sandy River. Hand placement also occurred in the Sandy, Clackamas, Molalla, Upper Tualatin and Yamhill basins. Volunteers from the Association of Northwest Steelheaders, students from David Douglas High School, and members of the Sandy River Watershed Council, Tualatin River Keepers, and Confederated Tribes of the Grande Ronde assisted in distributing carcasses.

Restoration Projects – Mid Coast. Mid Coast habitat restoration projects were completed at Drift Creek (Siletz River), Beaver Creek (Ocean tributary) and the mainstem Yaquina River. Project activities included: instream wood placement, riparian release, tree and shrub planting, tree protection installation, riparian enclosures, dike removal and culvert modifications. Landowners cooperated in the design and layout for 2001/2002 projects and preparations for 2003/2004 instream and riparian projects in the Siletz, Alsea, Yaquina and Yachats basins. The pre-

project process included on-site meetings, site mapping, project cost estimations and grant writing. During this report period, STEP volunteer landowners have contributed and donated many pre and post project hours of labor, mileage and equipment to develop STEP projects.

WF Millicoma Boulder Weirs – Tenmile, Coos, and Coquille. Two boulder weirs were constructed on the West Fork Millicoma River. The construction of these weirs was facilitated by the Northwest Steelheaders Association and funded through the R&E Program and local groups. These very large bolder weirs were intended to address the limited spawning habitat that are characteristic of the Coos River basin. Three hundred cubic yards of spawning gravel was placed on these weirs in an attempt to speed their effectiveness.

Carcass Placement – Mid Willamette. The placement of salmon and steelhead carcasses into area streams for nutrient enrichment is accomplished only through the efforts of STEP volunteers. This past contract year, over 4,500 salmon and steelhead carcasses were placed in the Santiam and Calapooia basins. To replicate historic abundance and distribution, fish were placed in 14 different streams and across 167 miles. Volunteers have made themselves available whenever the hatcheries spawn their brood stock. Placement of the resulting fish is by hand and many are large and difficult to handle. Most of the treated stream reaches are remote with difficult or very poor access. In those areas more visible to the public, volunteers are sensitive to public perception and answer the many questions that come from curious onlookers. Although certainly not the most glamorous of STEP activities, it deserves special recognition due to the commitment and dedication displayed by these volunteers. The Albany Chapter ANWST, the Santiam Flycasters, Santiam High School in Mill City and several individuals made this year's effort possible.

Foster Creek Enhancement – North Willamette. An instream habitat enhancement project was conducted in cooperation with Clackamas County Water and Environmental Services and private landowners along Foster Creek. Twenty-eight logs were placed in complexes and designed to stabilize riverbanks and increase habitat diversity for state listed coho salmon and federally listed steelhead and resident cutthroat trout.

# FISH CULTURE

## Introduction

STEP volunteers conduct all stages of fish propagation, including collecting and spawning adults, incubating eggs, and rearing, acclimating, and releasing fry, juveniles, or smolts. STEP volunteers work in conjunction with state hatcheries at one or many of the stages in the rearing cycle. They may receive eggs, fry, juveniles, or smolts from a state hatchery and rear and transfer or release them. They may simply receive smolts for acclimation before release or assist in broodstock collection. In a few locations where there are no state hatchery programs due to lack of hatcheries or hatchery capacity, STEP runs hatcheries which perform the entire rearing cycle from broodstock collection to release. Regardless of whether the STEP activities are carried out in conjunction with a state hatchery or not, STEP propagation activities must fall within ODFW management objectives and guidelines.

Oversight of STEP propagation projects 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 that the program is within Department objectives and policies regarding need and impact on wild fish. STEP propagation activities are integrally linked with ODFW fish management programs. Specific legal limitations (i.e., rules) regarding STEP also exist which, in addition to ensuring that the projects are in compliance with other applicable goals, policies, rules, and plans, limit the duration and size of projects. STEP propagation projects can only run from 3-5 years, depending on the type of project and species involved. Once this time period is up, the projects must be re-approved to continue. In addition, STEP propagation projects cannot exceed 100,000 fish without approval by the Commission. Despite certain STEP-specific legal requirements, STEP's importance to Oregon's fish resources does grant it some legal protection, such as not having to obtain water rights to operate a facility. Once a STEP project has begun, ODFW's STEP Biologists work with the volunteers to assure the facility complies with the applicable reporting and operating requirements for state facilities, in addition to those for the STEP Program. The STEP Biologists also help carry out the project logistically, work with other ODFW staff to coordinate cooperative propagation efforts, and provide technical advise. Most of the facilities which STEP groups utilize for propagation are funded, built, and run by the volunteers, with ODFW assistance and oversight.

The purpose of STEP propagation programs is to rehabilitate or supplement populations of naturally produced salmon and trout and/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 certain areas.

The major types of fish culture (i.e., propagation) described in Table 1 are listed below. Note that effort and fish numbers are not included in more than one category. Also, many projects had a dual purpose and served as education opportunities to increase public understanding of Oregon's aquatic resources and the environment.

- Releasing Unfed Fry as part of the Classroom Incubator Program (the primary purpose of this program is education, but because fish are released into the wild it is included in this section)
- Releasing Unfed Fry as part of the Hatchbox Program
- Rearing Fish (all activities included here involve feeding and caring for fish, though not all fish are necessarily marked)
- Acclimation of Fish before Stocking

- Collecting Adult Broodstock
- Miscellaneous Activities (including volunteer help at ODFW hatcheries for maintenance, marking, stocking, and other duties, and salvage of wild fish)

Below are highlights of STEP fish culture projects from the different STEP Districts. They are in no particular order and are intended to give an idea about the range of STEP activities for development and education. Note that although a specific activity may be described for a particular STEP District, other Districts may also be performing the same type of activities. A summary of release numbers, volunteer participation, and other contributions by ODFW (non-STEP) can be found in under the “Fish Culture” category in Table 1 (Statewide Summary of STEP Participation). A summary of the numbers of fish released can also be found in Figure 1 (Fish Releases by Species and Stage) and Figure 2 (Fish Releases by STEP District and Stage).

## Highlights

Rainbow Trout Marking – South Willamette. A project to mark rainbow trout fingerling destined for Hills Creek Reservoir was completed during the report period, and the work should benefit bull trout over time. The trout support an excellent fishery in the reservoir and were nearing release from the hatchery. The District, considering a change in the angling regulations to target the fishery on rainbow trout with an adipose fin clip, decided to recruit a cadre of volunteers to mark this year’s release and to keep open different management options. A total of 14 adults and 37 high school students marked over 90,000 fingerling. The potential change in management would add an additional layer of protection for the federally threatened bull trout and would protect wild cutthroat and rainbow trout as well. The current regulation relies on the ability of anglers to identify several different trout species and release all bull trout. Under the proposal, the presence of an adipose fin will help protect bull trout from an accidental take by a careless angler.

Classroom Incubation – North Willamette. One-hundred ninety-four school classroom incubation projects, plus one individual hatchbox project, incubated and released over 97,000 unfed salmon and trout fry into sixteen lakes, ponds, and streams within the Portland Metro Area. Classroom egg incubation projects have an educational purpose and are intended to supplement fish life cycle discussions in the classroom. In addition, several local Chapters of the Association of Northwest Steelheaders (ANWST) as well as the local 4-H Program continue to sponsor classroom incubation projects in schools around the Portland Metro Area. The ANWST commitment to the schools includes the purchase of the incubation equipment (approximately \$4,000 this past year) and the delivery of the fish eggs to the individual schools participating in these classroom incubation education projects.

Chetco Brood Stock Collection – Lower Rogue. The Chetco fall chinook program is facilitated at Elk River Hatchery using locally collected fish from the Chetco River. Fall chinook broodstock for this program are captured from wild stock collected on the Chetco River annually in October and November. Fish are collected from the Chetco River and held at Elk River Hatchery until they are ripe enough to spawn. Adults are spawned and the resulting eggs are hatched and fish are reared to the smolt stage where they are then trucked back to the Chetco River and released at just above tide water. The chinook smolts then acclimate and imprint on the Chetco River before they migrate downstream to start the ocean phase of their life cycle. The broodstock collection goal for the current program is 300 adult fall Chinook

annually. Volunteers are used in the broodstock collection phase of this project. A 300' beach seine is deployed using a motorboat to encircle and capture fish in two pools where the fish congregate in the Chetco River. Collection can take anywhere from three days to a month and a half to get enough fish to reach production goals.

Nestucca Fall Chinook Rearing – North Coast. The Rhoades Pond fall chinook rearing facility operated by the Nestucca Anglers on Three Rivers produced ~36,000 smolts for release into the Nestucca System.

Cranebow Marking – Eastern Oregon. Four volunteers spent 26 hours marking “cranebow” trout (produced from Crane Prairie Reservoir rainbow trout brood) with Wizard Falls' hatchery personnel.

Marking – Tenmile, Coos, and Coquille. A total of 400 volunteers have been involved in rearing programs in the District. Fin-marking of the reared fish demand a larger number of participants than any other volunteer project. Nearly 70,000 salmon and steelhead were again marked this year in an effort to evaluate the success or impact of the various release groups. Volunteers mark most of the chinook that are released from the Millicoma Interpretive Center and the steelhead that are released from the Noble Creek STEP facility. Student groups provide most of the labor in completing this task. Since the program began, students have marked over one million chinook in the Coos River Basin. Schools spend a considerable amount of money providing their students for marking fish. A single school once spent over \$5,000 for transportation and substitute teachers for a single fin-marking project.

Wilson Wild Broodstock Program – North Coast. The Wilson River wild steelhead broodstock collection was suspended early due to the potential closure of Trask Hatchery. Due to the early suspension the volunteers were only able to collect enough adults to produce ~36,000 of the 50,000 smolt goal.

Classroom Incubation – Upper Rogue. The classroom incubator program was once again in full swing by late October in previous years. A total of 43 teachers had incubators in the classroom from late October until Christmas break. A total of 8,500 spring Chinook salmon eggs were distributed to classrooms in the Medford and Grants Pass areas, 500 trout were incubated in Prospect, and 250 steelhead were incubated at the local BLM office. From a total of 9,250 eggs distributed, 2,207 eggs were picked, 1,754 fry perished and 5,289 fry were released into the Rogue River at Medford and Grants Pass. Close to 500 trout were released into Skookum Creek, a tributary of the Rogue River above Lost Creek Dam.

Classroom Incubators – Eastern Oregon. More than 56 classroom incubator projects were in operation during the 2001-2002 contract period. Three conservation clubs continue to assist schools in purchasing needed aquarium supplies and troubleshooting incubation problems. Most classroom incubator fry are either released into private ponds without outlets to streams or into water bodies stocked with the same stock of fish. A total of 8,855 rainbow trout and summer steelhead unfed fry were released.

Winchester Bay Fishery Augmentation – Umpqua. The GRWB program has its own hatch house and operates a series of traps for collecting brood in addition to receiving chinook from the Smith River Falls fishway. Brood fish collected are taken to the Gardiner facility and held in raceways on site until spawning. With the

assistance of the STEP Biologist, GRWB members spawn, tray and pond the fall chinook on site. About 25% of the fish are released as payback. When the fish used for the terminal fishery are larger than 200 fish/pound and have been coded-wire-tagged, they are transported to Winchester Bay and acclimated to the bay in netpens. This year after touring the Clatsop County Economic Development Council's chinook project at Young's Bay the GRWB program developed submerged feeders like those used at Young's Bay. These were installed to help the netpenned chinook pre-smolts mimic their wild cousins and feed underwater instead of coming to the surface to feed on hand-broadcasted food. The feeders appeared to be successful. The GRWB program had its second most successful year and released 124,748 chinook into Winchester Bay.

Depoe Bay Supplementation – Mid Coast. The Depoe Bay Salmon Enhancement Commission continued a coho supplementation project on North Depoe Bay Creek. Eggs are incubated and fry are reared in circular tubs until around 2 grams each at a hatchery site located above the Depoe Bay reservoir dam. Pre-smolt fry are then released into the reservoir to rear naturally.

Backcountry Stocking – Eastern Oregon. One backcountry fish-stocking project was completed during this reporting period. Fifteen volunteers spent 150 hours horse packing trout into Blue Lake, near Lakeview. Volunteers and ODFW personnel stocked 30,000 rainbow trout fingerlings.

Nestucca Wild Broodstock Program – North Coast. A new wild winter steelhead broodstock program was initiated on the Nestucca River. Anglers were used to collect wild adults as broodstock. Collection was suspended early due to the potential closure of Cedar Creek Hatchery. The hatchery was not closed, but the anglers had already collected enough broodstock to reach the production goal of 50,000 smolts.

Acclimation – Mid Coast (Siuslaw). The winter steelhead smolt acclimation projects at Whittaker Creek and Greenleaf Creek have been very successful at reducing the straying of hatchery steelhead into wild fish spawning areas. The rates of return have also significantly improved in the past 2-3 years with the consistent care and feeding of these highly prized fish. The Siuslaw River is returning more and larger winter steelhead to the fishery because of the programs assistance from the volunteers.

Fish Salvage – Upper Rogue. Because of public concern, volunteers were once again recruited to salvage salmon and trout that became trapped in isolated pools as streams dried up. Many volunteers have yet to report this year's data, but so far have rescued and transported over 15,000 stranded salmonids to running waters.

Calapooya Restoration – Umpqua. STEP volunteers in the upper Umpqua raise chinook to help restore runs in areas which have adequate habitat, but which currently have low returning adult numbers. Presently the program is releasing fall chinook in the Calapooya which has averaged about 1 fish/mile on spawning ground surveys. Releases began in 2000 and will continue until 2004. The UFA, which raises the chinook, hopes to restore the Calapooya to a run of about 11 fish/mile. UFA members and local volunteers help district staff collect brood at Happy Valley fish trap on the South Umpqua. They then assist Rock Creek Hatchery with spawning the fish. After the eggs are eyed they are allocated out to different sites where they are

raised in hatchboxes. Approximately 25% of the chinook are released back into the South Umpqua as payback, while the remainder are released in the Calapooya.

Tenmile Lake Broodstock Conversion – Tenmile, Coos, and Coquille. For the third and final year volunteers were involved in the conversion of the Tenmile Lakes steelhead program from a Coos River stock to a native stock. This was the most labor intensive broodstock development project that has ever been undertaken in the District. Native steelhead in the Tenmile Lakes basin are very difficult to capture because the bulk of the broodstock must be netted out of very large lakes. The collection efforts were only successful in capturing 0.25 steelhead per netting effort. Volunteers working in the Eel/Tenmile STEP Association devoted a tremendous amount of time and effort to make this conversion possible. This project is just one of the broodstock collection and development programs in the District.

Whiskey Creek Hatchery Rearing – North Coast. Whiskey Creek Hatchery operated by the Tillamook Anglers produced ~100,000 spring chinook for release into the Trask and Wilson Rivers.

Siletz Conservation Hatchery – Mid Coast. Newport STEP provided technical assistance and equipment in developing a coho conservation hatchery with the Siletz Tribe at Rock Creek on the Siletz River. The program is designed to spawn limited numbers of wild coho adults from selected Siletz River streams and release their offspring into tributaries where wild coho are absent or present in extremely low numbers.

Acclimation – Tenmile, Coos, and Coquille. Volunteers operated a total of 26 rearing or acclimation projects during the report period. Acclimation sites continue to be improved with each passing year. These acclimation ponds have increased angling opportunity in the district. Another purpose of these acclimation sites is to obtain a geographical separation between hatchery and wild steelhead and salmon populations. Separating hatchery and wild steelhead is valuable to reduce the potential impacts of the hatchery fish on wild populations. Volunteers now operate 13 steelhead acclimation ponds in the District that release a total of 270,000 steelhead smolts annually.

Letz Creek Rearing – South Willamette. STEP volunteers from the Emerald Empire Chapter of the Northwest Steelheaders operated a winter steelhead rearing facility. Located near Lorane in the Siuslaw watershed, the Letz Creek facility is dedicated to native broodstock development and fishery supplementation. Springfield STEP provided assistance to the Letz Creek volunteers and the North Coast Fish District of ODFW during the report period. The volunteer effort at Letz Creek was again the largest single STEP activity locally. Volunteers put in long hours in support of Oregon's fish resources. The program raised steelhead smolts for release into the Siuslaw River, and exposed volunteers to important resource issues. Volunteers donated 3,000 hours and drove over 30,000 miles to rear, finclip and release the fish. Trapping adults for broodstock was another significant contribution by the volunteers to the Siuslaw winter steelhead program. An estimated 18,000 smolts were released from Letz Creek in 2002.

Yaquina Broodstock Collection – Mid Coast. Newport area volunteers and students from Oregon State University assisted ODFW with the capture of wild adult chinook broodstock in the Yaquina River for the Yaquina Bay Hatchery. This project is a

cooperative adult capture and acclimation release site operated by the Port of Newport with assistance from ODFW and local volunteers. The goal is to generate a small sports fishery inside Yaquina Bay.

Opal Springs Rearing – Eastern Oregon. One rearing project continues in the Eastern Oregon STEP District. The Deschutes Valley Water District project at Opal Springs received their annual allocation of 5,000 rainbow trout from Oak Springs Hatchery. Fish were reared to 4.8/lb before marking and release into the Crooked River. This production mitigates fish loss from a small hydro project.

Winter Steelhead Program Support – Umpqua. The City of Canyonville, fishing guides, SCA intern, local volunteers, UFA and district staff worked together for another successful year of the South Umpqua winter steelhead program. Guides helped collect about 48% of the fish used for the brood stock for the program. Meanwhile the other volunteers helped acclimate and release 59,919 winter steelhead smolts at Canyonville and 30,369 smolts at Galesville netpens. This year the fish trap on Canyon Creek adjacent to the acclimation site had over 600-winter steelhead return. About 93% of these fish were of hatchery origin. To see if "recycling" these fish downstream would contribute to the recreational fishery, volunteers and staff tagged and transported 228 Canyonville steelhead downstream about 40 miles. The program also radio-tagged 25 steelhead to evaluate the impact of recycling. Few floy-tagged fish were reported, however of the radio-marked fish about 12% strayed into the North Umpqua, 25% returned to Canyon Creek, and 56% stayed in the South Umpqua basin, but did not return again to Canyon Creek.

Table 1. Statewide Summary of STEP Participation. "Category" corresponds with the different sections of the report. See the report text for a description of what project types are included in each specific activity within a category.

Category	Activity	Projects	Measure	Volunteer Contribution - YOUTH				Volunteer Contribution - ADULT				Vol. Contrib. TOTAL (\$)	ODFW Funds (\$)	
				Number	Total Hours	Mileage	Donations (\$)	Number	Total Hours	Mileage	Donations (\$)			
Development														
	Education*													
	Active	178	11,181	51	176	0	610	628	8,000	9,680	26,430	161,798	4,825	
	Passive	59	Unknown	578	2,248	465	1,395	951	8,590	1,385	45,700	221,721	3,150	
	Training	35	261	89	290	290	0	172	1,189	2,705	937	25,769	7,000	
	Construction/Maint.	40	N/A	7	54	210	60	222	2,068	2,972	47,130	82,410	425	
	Miscellaneous	5	N/A	0	0	0	0	26	388	954	157	6,733	0	
	<b>TOTAL</b>	<b>317</b>	<b>11,442</b>	<b>725</b>	<b>2,768</b>	<b>965</b>	<b>2,065</b>	<b>1,999</b>	<b>20,235</b>	<b>17,696</b>	<b>120,354</b>	<b>498,431</b>	<b>15,400</b>	
Characterization														
	Creel Survey	3	N/A	0	0	0	0	28	64	0	0	1,028	0	
	Passage Insp.	6	4	1	2	0	0	15	122	40	61	2,066	0	
	Fish Monitoring	108	100	227	544	859	420	591	7,605	9,153	22,210	157,076	73,485	
	Stream Survey	10	9	60	120	80	0	24	119	600	224	4,309	500	
	Miscellaneous	6	N/A	0	0	0	0	15	105	376	215	2,038	0	
	<b>TOTAL</b>	<b>133</b>	<b>113</b>	<b>288</b>	<b>666</b>	<b>939</b>	<b>420</b>	<b>673</b>	<b>8,015</b>	<b>10,169</b>	<b>22,710</b>	<b>166,517</b>	<b>73,985</b>	
Habitat														
	Passage Work	13	N/A	0	0	0	0	3	9	0	0	145	500	
	Instream Work	14	6	2	4	20	0	45	235	590	24,600	28,659	3,150	
	Riparian Work	27	13	30	148	150	0	158	1,162	10,740	7,270	32,271	1,063	
	Instr./Ripar.	11	4	20	560	1,000	0	37	164	60	0	12,008	500	
	Carcass Plcmnt.	52	317	225	1,019	1,015	0	282	1,420	7,040	0	42,087	0	
	Miscellaneous	3	0	11	33	0	0	17	215	900	0	4,309	0	
	<b>TOTAL</b>	<b>120</b>	<b>340</b>	<b>288</b>	<b>1,764</b>	<b>2,185</b>	<b>0</b>	<b>542</b>	<b>3,205</b>	<b>19,330</b>	<b>31,870</b>	<b>119,479</b>	<b>5,213</b>	
Fish Culture														
	Classroom Incubator	411	161,518	12,656	32,165	0	425	326	2,228	4,032	8,303	562,208	8,390	
	Hatchbox	31	964,552	372	1,571	683	354	245	7,356	12,249	8,110	156,463	2,280	
	Rear**	26	2,688,723	2,925	16,168	945	6,600	1,198	24,424	57,159	141,475	820,785	55,261	
	Acclimation**	35	1,794,772	608	3,250	1,070	3,885	551	11,416	7,750	23,104	265,598	7,325	
	Brood Collection	26	11,219	125	335	900	0	379	5,121	9,450	2,100	93,447	60,381	
	Miscellaneous***	21	145,687	63	268	0	0	149	1,455	3,635	754	29,735	0	
	<b>TOTAL</b>	<b>550</b>	<b>5,766,471</b>	<b>16,749</b>	<b>53,757</b>	<b>3,598</b>	<b>11,264</b>	<b>2,848</b>	<b>52,000</b>	<b>94,275</b>	<b>183,846</b>	<b>1,928,236</b>	<b>133,637</b>	
<b>TOTAL</b>		<b>1,120</b>		<b>18,050</b>	<b>58,955</b>	<b>7,687</b>	<b>13,749</b>	<b>6,062</b>	<b>83,455</b>	<b>141,470</b>	<b>358,780</b>	<b>2,712,663</b>	<b>228,235</b>	

NOTES

"Measures" are as follows: "Development" - number educated;  
 "Characterization" - distance surveyed in miles (if point sampling occurred, such as with a trap, no mileage is included);  
 "Habitat" - distance restored in miles (if point restoration occurred, such as with passage improvement, no mileage is included);  
 "Fish Culture" - number of fish.

"ODFW Funds" includes funds in addition to the STEP Sport Fish Restoration grant. Funding for additional staff time is not included.

"Volunteer Contribution TOTAL" is the combined value of volunteer hours, mileage, and donations. Volunteer hours were given a value of \$16.05 / h (a national volunteer average) and mileage was assumed to be worth \$0.365 / mile, which is the State of Oregon re-imbursement level.

\* "Active" education includes all activities where STEP Biologists or volunteers teach others outside of STEP (e.g., class, workshop, tour, meeting).

\*\* "Passive" education includes activities making information available to the non-STEP public (e.g., publications, articles, festival booths, displays, news releases, web sites).

\*\*\* "Training" includes the education of volunteers or others actively participating in STEP activities.

\*\* 1,138,698 of the fish released by STEP volunteers were also marked.

\*\*\* "Miscellaneous (Fish Culture)" includes volunteer help at ODFW hatcheries (e.g., maintenance, marking, stocking) and salvage of wild fish.

Figure 1. Fish Releases by Species and Stage. Releases of fish include those from the “Classroom Incubator”, “Hatchbox”, “Rear”, and “Acclimation” activities listed in Table 1. “Pre-Smolts” include all fed fish prior to the smolt stage (e.g., fed fry, fingerlings, etc...).

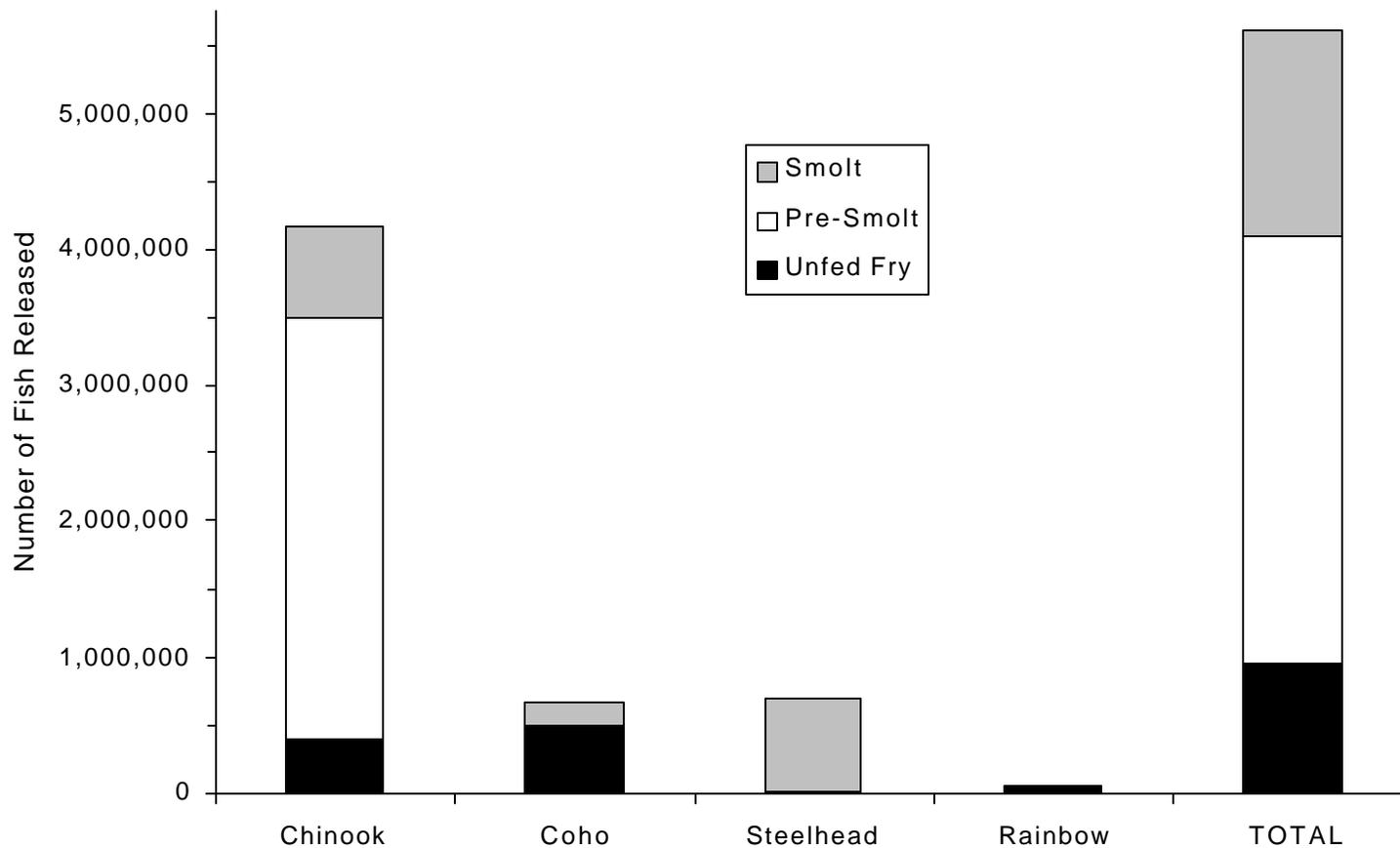
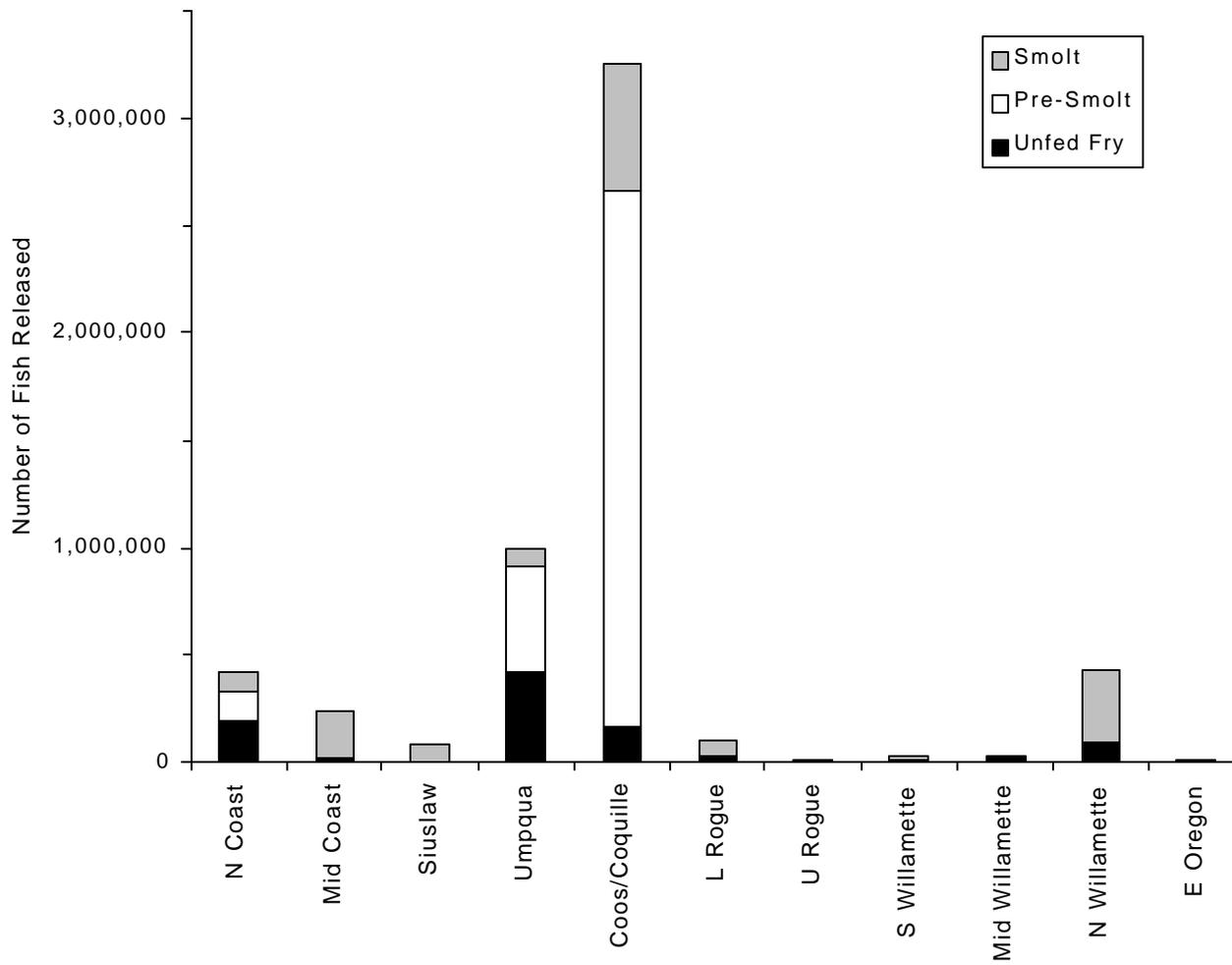


Figure 2. Fish Releases by STEP District and Stage. Releases of fish include those from the “Classroom Incubator”, “Hatchbox”, “Rear”, and “Acclimation” activities listed in Table 1.



## **APPENDICES**



# SALMON and TROUT ENHANCEMENT PROGRAM

## STEP Biologists

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### *North Willamette District:*

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### *Mid Coast District (Siuslaw River):*

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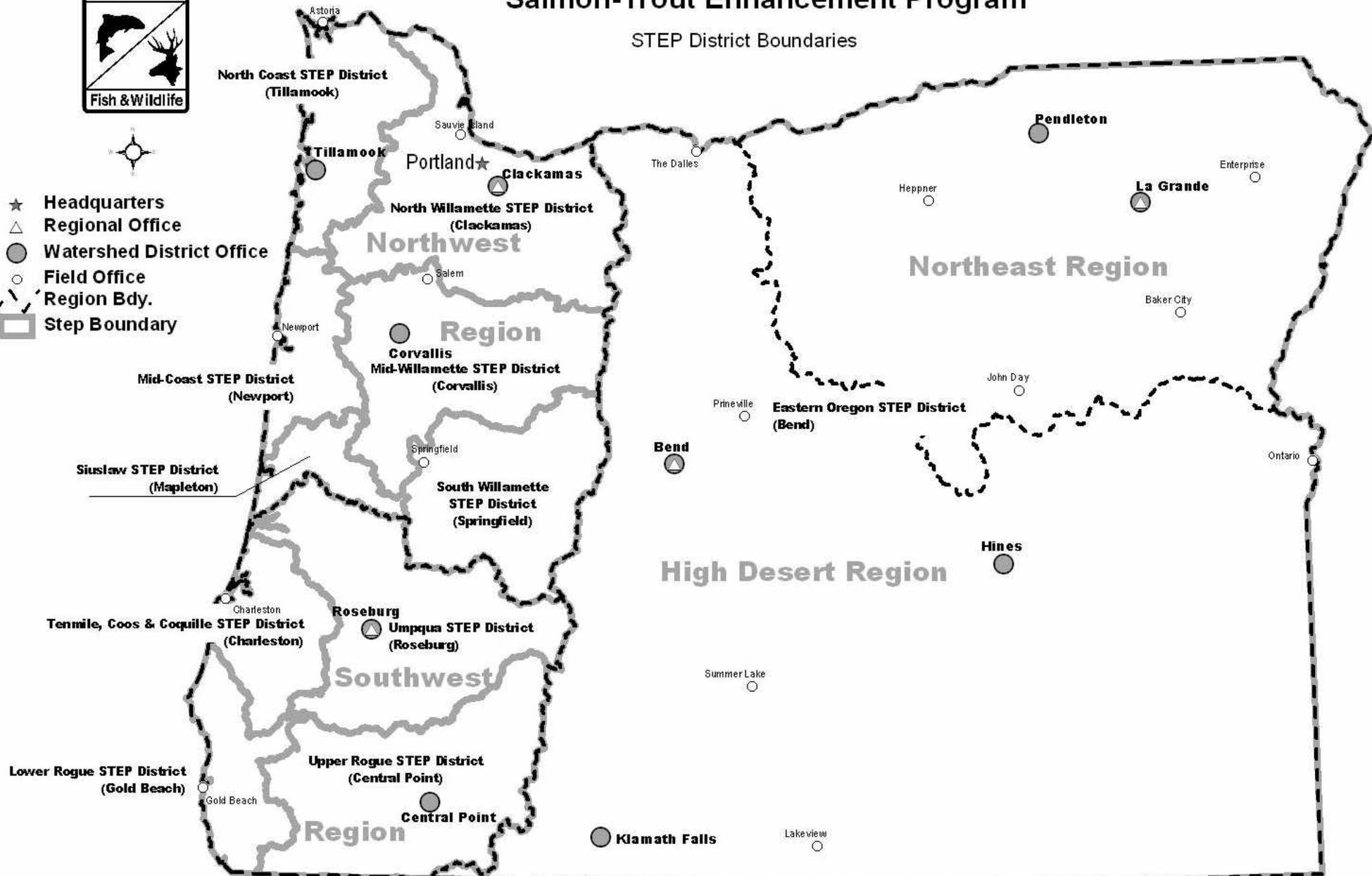
# Oregon Department of Fish & Wildlife

## Salmon-Trout Enhancement Program

STEP District Boundaries



- ★ Headquarters
- △ Regional Office
- Watershed District Office
- Field Office
- Region Bdy.
- Step Boundary





## SALMON and TROUT ENHANCEMENT PROGRAM

### Advisory Committee (STAC) Members

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LOCATION	REPRESENTATIVE	APPOINTED
Garibaldi – Pacific City	Russ Patterson	6/1/95
Lower Willamette – Portland Metro	<i>vacant</i>	
Lower Willamette – Portland Metro	Lynn Wilson-Dean	6/1/95
Lincoln City – Florence	Ron Gerber	6/1/95
Seaside – Astoria – Lower Columbia	Doug Ray	10/1/01
Mid Willamette Valley	Cindy Heller	8/1/01
Upper Willamette Valley	Ralph Perkins	6/1/97
Roseburg	Dave Grosjaques	6/1/95
Reedsport – Bandon	Dave Peters	6/1/95
Gold Beach – Brookings	Dick Sutter	2/1/01
Medford – Grants Pass	Wayne Brown	6/1/95
NE Oregon	Paul Cilvik	6/1/97
Central – SE Oregon	Dick Mayer	2/1/01

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Note: A maximum length-of-service policy of two 4-year terms was implemented in 1996.

## Partial List of Groups Involved with STEP

This list comprises groups cooperating or participating with the STEP Program in 2001. Due to the large number of STEP participants, it is possible that some groups were inadvertently left off of this list. Please contact the STEP Coordinator at 503-872-5252x5429 if your group has been overlooked. The hundreds of elementary, middle, and high schools participating in classroom incubator or other educational activities were not included in this list. Although we appreciate all of their efforts, the names of the thousands of affiliated and unaffiliated individuals volunteering with the STEP Program were also not included.

### ORGANIZATIONS and COMPANIES

- 4-H
- Adventist Christian School
- Alsea Bay Interpretive Center
- Association of NorthWest Steelheaders (ANWS)
- ANWS - Albany Chapter
- ANWS - Beaverton Chapter
- ANWS - Emerald Empire Chapter
- ANWS - McLaughlin Chapter
- ANWS - Mid-Coast Chapter
- ANWS - Newberg Chapter
- ANWS - Salem Chapter
- ANWS - Sandy Chapter
- ANWS - South County Chapter
- ANWS - Southwest Chapter
- ANWS - Tualatin Chapter
- Audubon Society
- Backcountry Horsemen
- Bass Master
- Bay Area Sportsman's Association
- BiMart
- Boise Cascade
- Boy Scouts of America
- California-Oregon Enhancement
- Camp Kilowan
- Camp UKANDU
- Campfire Club
- Central Oregon Flyfishers
- Central Oregon Intergovernmental Council
- Central Oregon Llama Association
- CH2M Hill
- Columbia River Estuary Study Taskforce (CREST)
- Coos River STEP
- Coquille STEP Association
- Curry Anadromous Fishermen
- Depoe Bay Salmon Enhancement Commission
- Deschutes Valley Water District
- Diamond Lake Resort
- Douglas Timber Operation
- Ed Wood Engineering
- Eel STEP
- Florence STEP
- Friends of Beaver Creek
- Friends of Nice Creek
- Friends of Tyron Creek
- Gardiner-Reedsport-Winchester Bay STEP
- Girl Scouts of America
- Hatfield Marine Science Center
- Homeowners of Lower Foster Creek
- Izaak Walton League of America
- Jackson Bottom Wetland Preserve
- Jerry's Rogue Jets
- Klamath Country Flycasters
- Lions Club
- Lone Rock Timber
- McKenzie Flyfishers
- Menasha Corporation
- Miami Anglers
- Millicoma River STEP
- Mohawk Watershed Partnership
- Mt. Hood Community College
- N Santiam River Guides
- Natural Resource Conservation Service
- Nestucca Anglers
- Oregon Dental Service
- Oregon Museum of Science and Industry (OMSI)
- Oregon South Coast Fisherman
- Oregon State University
- Oregon Trout
- Oregon Watersheds
- Oregon Wildlife Heritage Foundation
- OSU Extension Service
- Pepsi
- Polk County Sportsmen
- Polk Natural Resources Group
- Rainland Flycasters
- RARE
- Riverkeepers
- Rogue Flyfishers
- Roseburg Paving

- Rotary Club
- Salemtowne
- Santiam Flycasters
- Second Chance Program
- Senior Fishing Buddies
- Simpson Timber
- Small Woodlands Association
- SMILE
- Southern Oregon Flyfishers
- Southwestern Oregon Community College
- Starker Forests
- Stop Oregon Litter and Vandalism (SOLV)
- Student Conservation Association
- Sunriver Anglers
- Tenmile STEP
- The River Conservancy
- Tillamook Anglers
- Tillamook Bay Boat Club
- Tillamook Bay NEP
- Trout Unlimited
- Trust for Public Lands
- Tualatin River Keepers
- Umpqua Community College
- Umpqua Fishermen's Association
- Umpqua Fishery Enhancement Derby
- Umpqua Navigation
- University of Oregon
- Weyerhaeuser

#### WATERSHED COUNCILS

- Calapooia Watershed Council
- Coast Fork Willamette Watershed Council
- Drift Creek Watershed Council
- Glenn/Gibson Watershed Council
- Johnson Creek Watershed Council
- Long Tom Watershed Council
- Lost Creek Watershed Group
- Mid-Coast Watersheds Council
- Middle Fork Willamette Watershed Council
- Middle Rogue Watershed Council
- Nestucca-Neskowin Watershed Council
- Nicolai-Wickiup Watershed Council
- North Santiam Watershed Council
- Rickreall Watershed Council
- Salem Area Watershed Councils
- Sandy River Basin Watershed Council
- Scappoose Bay Watershed Council
- Seven Basins Watershed Council
- Siuslaw Watershed Council
- South Coast Coordinated Watershed Councils

- Tualatin River Watershed Council
- Umpqua Basin Watershed Council
- Williams Creek Watershed Council
- Yamhill Watershed Council

#### GOVERNMENT

- Benton County
- Bureau of Land Management
- Bureau of Reclamation
- City of Albany
- City of Canyonville
- City of Dallas
- City of Depoe Bay
- City of Portland
- City of Salem
- City of Troutdale
- City of Waldport
- City of Reedsport
- Clackamas County
- Confederated Tribes of the Grande Ronde
- Corvallis Parks and Rec Dept
- Cow Creek Band of the Umpqua Tribe of Indians
- Columbia River Inter-Tribal Fish Commission
- Douglas County
- Douglas Soil and Water Conservation District
- Lincoln City
- Lincoln County
- Lincoln Soil and Water Conservation District
- Marion County
- NOAA Fisheries
- Oregon Department of Education
- Oregon Parks and Recreation Department
- Oregon State Police
- Oregon Watershed Enhancement Board
- Port of Umpqua
- Seal Rock Water Dist.
- Siletz Tribe
- US Army Corps of Engineers
- US Coast Guard Auxiliary
- US Fish and Wildlife Service
- US Forest Service