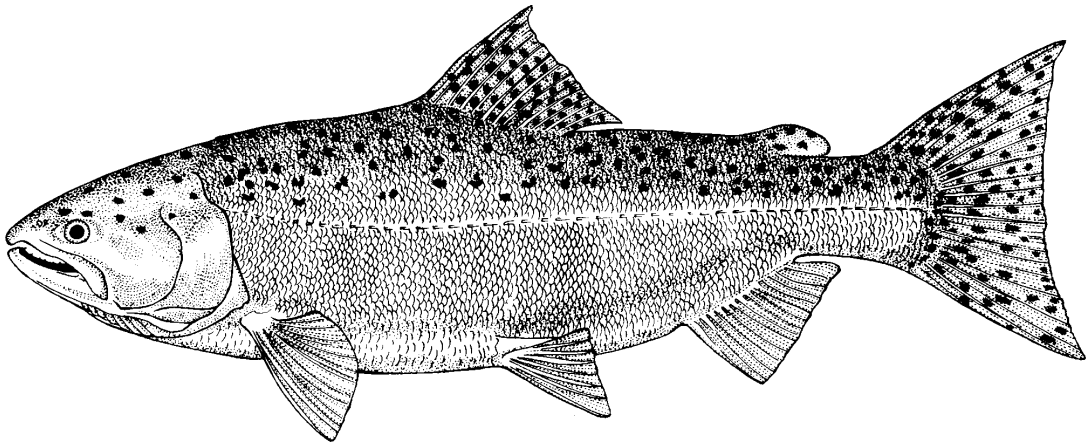
SALMON-TROUT ENHANCEMENT PROGRAM

Annual Progress Report 2000



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YOUR PURCHASE SUPPORTS SPORT FISH RESTORATION

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EXECUTIVE SUMMARY

This is a report on the activities and accomplishments of the Salmon-Trout Enhancement Program (STEP) from October 1, 1999 through September 30, 2000. The Salmon-Trout Enhancement Program involved citizens in activities that enhanced salmon, trout, and other fish resources of the state, and the fisheries dependent on these species. Trained volunteers worked with Oregon Department of Fish and Wildlife (ODFW) personnel on projects to rehabilitate and enhance salmon, trout, other fish populations, their habitat, and the fisheries dependent on these species. Projects also served as education opportunities to increase public understanding of Oregon's aquatic resources and the environment.

STEP projects focused on characterizing fish populations and their habitat in streams, improving habitat, and culturing fish to supplement natural production and augment fisheries. Citizen volunteers helped collect information on fish populations and habitat by conducting physical and biological stream surveys. They also assisted with projects to enhance fish passage, and fish spawning and rearing habitat. Finally, citizen volunteers contributed significant effort to ODFW programs to develop broodstock, incubate eggs, and rear fish to rehabilitate or supplement populations of naturally produced salmon and trout and augment fisheries with hatchery fish.

The Salmon-Trout Enhancement Program Public Advisory Committee (STAC) recognizes eight key issues their involvement will be directed towards. Those are:

- outreach to industry, local government and other agencies,
- funding,
- roles and responsibilities of STAC,
- structural organization of STAC,
- recruitment for STAC,
- selection of STAC members,
- performance of STAC, and
- training for STAC members.

The STEP biologists participated in the ODFW Volunteer Council working groups to discuss volunteer management within the STEP program and interacted with ODFW Volunteer Coordinators to discuss their program activities. This semi-annual exchange of ideas is a valuable learning experience.

The following narrative describes highlights of activities generated by volunteers in each ODFW region and STEP district. Highlights of our work in 11 STEP districts are identified in the Summary of STEP Participation (Appendix Table 1). A report for each STEP district is available upon request. Appendix Table 2 provides STEP biologist contact information. Appendix Table 3 provides STAC member information.

NORTHWEST REGION

North Willamette District

The North Willamette Fish District encompasses the Portland Metropolitan (Metro) Area which 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 drainage on the west, the crest of the Cascade Range on the east, and divides at the Molalla River in the Willamette Valley to the south.

Recruitment activities initiated during the report period included presentations to schools, Watershed Councils, sportsmen groups, and civic organizations. STEP displays, information, and materials were provided &/or setup at:

- the Salmon & Mushroom Festival held in the town of Welches;
- the Small Woodlot Owners Conference held in Tualatin;
- the Whitaker Pond Festival;
- the Friends of Beaver Creek sponsored Native Plant Sale;
- the "Passport to Fishing" Free Fishing Day event held at Bonneville Fish Hatchery;
- the Small Fry Lake Fishing Clinic for urban city kids sponsored by the Association of Northwest Steelheaders;
- the Small Fry Lake Fishing Clinic for Native American Youth sponsored by the Association of Northwest Steelheaders;
- the Oxbow Salmon Festival held at Oxbow Metro Park and;
- the 2nd Annual Johnson Creek Watershed Summitt;

These nine recruitment activities generated a contact with thousands of individuals attending these special display events.

The STEP Biologist implemented the use of three ODFW publications to encourage education of school students and citizens from the general public to information regarding watershed health, water quality protection, life-cycle development for cold water fishes, and habitat enhancement for salmonids. *The Stream Scene: Watersheds, Wildlife and People* is the direct connection for the students from the classroom to the field activity. Teachers seeking involvement with STEP activities were encouraged to review *The Stream Scene* and follow the involvement process. The *Fish Eggs To Fry* manual plus the *Classroom Incubation Support Activities* manual are self help program for schools to setup classroom incubation systems to study the live-cycle development for cold water fishes. The North Willamette STEP district involved one hundred twenty schools in fish egg incubation activities and one fish egg incubation & rearing project at Mt. Hood Community College. The *Stream Care Guide* brochure provides pertinent information to anyone interested, including landowners with property adjacent to streams, concerning protecting and enhancing streamside habitat.

Three free fishing clinics including the “Passport to Fishing” event at Bonneville Fish Hatchery and two clinics sponsored by members of the Association of Northwest Steelheaders at Small Fry Lake were conducted in the Portland Metro Area. These free fishing events, including the “Passport to Fishing” Clinic at Bonneville Fish Hatchery celebrating it’s sixth year, focused on

the participating kids learning the proper techniques & instructions for fishing with the support of volunteers from eleven sportsmen clubs assisting in this well received fishing clinic event.

Six training workshops directed toward youth/education programs and three training workshops for members of the general public were conducted. Youth & education groups plus several members of the general public participated in training workshops for projects such as; habitat inventory, spawning fish survey, fish trapping/sampling inventory, juvenile fish inventory, fish culture egg incubation, and in fish acclimation. A total of ninety-three students and fifty-three members of the general public received training.

Volunteers were trained in spawning fish inventory, and projects were initiated in the North Fork of Eagle Creek, Bear Creek, Milton Creek, Clatskanie River, Conyers Creek, Fox Creek, and Hackett Creek. Ongoing spawning fish surveys continue to be conducted by students as well as citizen volunteers in district streams including; Abernethy Creek, North Fork Scappoose Creek, Beaver Creek, Tryon Creek, Mt. Scott Creek, Kelly Creek, Crystal Springs Creek, and Johnson Creek.

Fish presence/absence surveys were conducted in Gourlay Creek and Foster Creek with the assistance of volunteers.

Two upstream migrant adult fish trapping projects continue in the fish district. 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. Volunteers also assisted in trapping and sorting fish at the Marmot Dam Fishway on the mainstem Sandy River.

The forth year of the stream nutrient enrichment project was completed with cooperation from the US Forest Service (USFS) Zig-Zag Ranger District. The project involved placing four hundred fifty adult coho salmon carcasses in Still Creek. The 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. Volunteers from the Association of Northwest Steelheaders along with students from Grant High School, Reynolds High School, David Douglas High School, assisted in the distributing of carcasses over a two-month period at designated locations in Still Creek. The STEP Biologist secured adult coho salmon carcasses from ODFW's Sandy Fish Hatchery and transferred the carcasses to the volunteers on a weekly basis.

A second stream nutrient enrichment project was completed in the North Fork of Eagle Creek and Bear Creek. This project, in its third year, was a cooperative effort between ODFW, the Bureau of Land Management (BLM), and Eagle Creek National Fish Hatchery. Two hundred fifty coho salmon carcasses were distributed in the North Fork Eagle and Bear Creeks by members of Salmon Corp.

Students from the River Keepers Program conducted water quality analysis at the project sites in Still Creek where the nutrient enrichment project took place. Invertebrate sampling in the treatment area as well as algal sampling and analysis was conducted by students from Portland State University.

Seventeen habitat improvement projects were completed during the report period. Approximately 74 students and 202 adult volunteers donated 1,439 hours of labor and approximately eight hundred dollars towards stream habitat improvement efforts.

Two fish passage projects were completed on the Tualatin River both of which required maintenance following high winter water flows. Members of the Oregon Hunters & Anglers Association volunteered in restoring fish passage.

Ongoing culvert inspection projects were conducted by volunteers from the Clackamas River Watershed Council along tributaries of the Clackamas River. These inspections identified potential passage problems, both upstream and downstream, for adult & juvenile fish.

Six riparian planting projects were initiated in the Portland Metro Area. A continuing project was conducted along Beaver Creek by members of the Friends of Beaver Creek, local school students, scouts and members of the City Parks Department. Native trees and a volunteer lunch were donated to the project by the Friends of Beaver Creek group. Additional projects were conducted on Fanno Creek by the Fans of Fanno Creek, on Deep Creek by members of the Clackamas River Watershed Council, on Crystal Springs Creek sponsored by the Johnson Creek Watershed Council, on Mt. Scott Creek sponsored by Clackamas County Water Environmental Services along with the assistance of the Friends of Trees & the Friends of Mt. Scott/Kellogg Creeks, and on Wee Burn Creek conducted by volunteers from the Riverkeepers Organization. These projects were conducted to stabilize stream bank soils and to provide shading for the streams.

Three Earth Day stream cleanup projects were conducted by students, scouts, and local citizen volunteers along Beaver Creek, Fanno Creek, and Mt. Scott Creek. Over sixty volunteers participated in the Beaver Creek Earth Day stream cleanup project and donated approximately two hundred hours of volunteer time. The Stop Oregon Litter and Vandalism organization (SOLV), once again, provided grant money for a trash bin rental and garbage bags.

Clackamas County Water Environmental Services (WES) initiated three instream habitat enhancement projects. The STEP biologist designed the instream structures for Mt. Scott, Deer, and Phillips Creeks and assisted in project implementation. Another instream habitat enhancement project was completed along Gourlay Creek. This project was a cooperative effort between the City of Scappoose, the Scappoose Bay Watershed Council (SBWC), the Bureau of land Management (BLM) and ODFW. The BLM donated the logs and the equipment operator was contracted through a grant received by the SBWC. The instream structures were designed and built to increase fish habitat diversity and slow down water velocities in Gourlay Creek.

The efforts to rehabilitate and restore natural habitat, implementation of the Wild Fish Management Policy, basin plan development, and STEP administrative rule limitations has redirected the focus of STEP volunteer fish culture activities in the North Willamette Fish District.

Unfed fry releases from streamside hatchboxes of all fish species were reduced due to concerns for the genetic integrity of indigenous species. Efforts were re-directed into habitat restoration and acclimation of juvenile fish. This is an attempt to increase wild fish production, reduce competition of hatchery stocks with wild fish, improve hatchery smolt survival and reduce straying of hatchery stocks thereby improving angler opportunities.

One hundred twenty school classroom incubation projects plus six individual hatchbox projects incubated and released over 95,500 unfed salmon and trout fry into sixteen lakes, ponds, & streams within the Portland Metro Area. Classroom egg incubation projects have an educational purpose rather than a fish production purpose and are intended to add interest to 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 $5,000 this past year) and the delivery of the fish eggs to the individual schools participating in these classroom incubation education projects.

The STEP biologist and volunteers were involved with seven fish acclimation projects conducted during the fall & spring of 1999/2000 throughout the North Willamette Fish District to augment fisheries while limiting risks of hatchery fish impacts on wild fish. One hundred and nineteen students and local volunteers generated 424 hours of time in completing these acclimation projects. In addition, private landowners operated and assisted with acclimation projects on their private property including; the Cassidy Acclimation Pond, the net-pen acclimation project at Larson's Marina & the Oregon Museum of Science and Industry (OMSI) project. ODFW and Federal hatcheries transferred 335,000 salmon and steelhead smolts to these seven acclimation projects in the district. The acclimation projects were located in several sites including; the Portland Harbor Net-Pen Project in the Willamette River located at the OMSI dock near the Submarine (VO 3494), the Clackamette Cove Net-Pen Project located near the mouth of the Clackamas River upstream from Clackamette County Park (VO 3498), Larry Cassidy's Acclimation Pond which is located on private property adjacent to the Clackamas River near Barton County Park (VO 3495), the Duane Larson Net-Pen Project located at Larson's Marina in Multnomah Channel (VO 3492), and the Marmot Acclimation Pond located adjacent to the Sandy River below Marmot Dam (VO 3493).

Portland Metro Area volunteers were recruited to assist in the Volunteers Fish Stocking Program for catch-able trout in the North Willamette Fish District. Eight volunteers accompanied fish liberation truck drivers on twenty trips and donated approximately 232 hours and $145 assisting stock catch-able trout in lakes and ponds around the Fish District.

Mt. Hood Community College continued their fish spawning, rearing, and education research project raising 10,000 rainbow trout from egg stage to adults at the college campus Fish Hatchery. The rainbow trout raised at the Hatchery are stocked into the college campus pond and contribute to the public urban fishery.

Volunteers from the Oregon Bass and Panfish Club have been valuable partners in helping to establish a warmwater fishing site, Wahkeena Pond, in the North Willamette Fish District. Club members also have assisted capture several species of warmwater fish for the fish identification exhibit at the Bonneville Fishing Clinic event.

High Cascade Lake angler creel surveys were initiated in the North Willamette Fish District with the assistance of volunteers. Three volunteers collected creel survey data and donated forty-two hours and $68 collecting information. Also, a Boy Scout Eagle Badge project which consisted of placing angler creel survey boxes at six high lake trailheads was completed.

For the second year, volunteers from the Oregon Bass and Panfish Club assisted in transplanting juvenile white sturgeon trapped at the Bonneville Dam pool to the reservoirs above The Dalles and John Day Dams. The volunteer work involved capturing the juvenile fish in nets from a barge in the Columbia River, marking the fish, and transferring the fish to fish liberation trucks.

The US Coast Guard assisted the fish district in a helicopter video survey of the Sandy River. The intent of this flight was to capture the Sandy River on videotape prior to the removal of

Marmot Dam. This video flight of pre-dam removal condition resulted in a flight time & flight crew donation of approximately $6,048.

Mid Willamette District

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 transects the southern and northern boundaries of the District as it travels the length of the valley from its confluence with the McKenzie River near Eugene 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 also represents 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 urban growth.

Information is provided through presentations, displays, and increasingly to participants in field or project tours. Audiences during 1999-2000 included individuals and groups of all ages and from a variety of interests and backgrounds. Within the District, 33 indoor and field presentations were made to schools, sportsmen's groups, environmental groups, Watershed Councils, landowner groups and civic/social, business, and professional organizations. Topics included fish biology, ODFW fish management, STEP activities, and examples of public or landowner involvement with STEP. These presentations reached approximately 500 school children and over 1300 adults.

Some highlights this past year included:

- Presentations detailing fish resources, management concerns and ODFW volunteer opportunities at Watershed Council and sub-basin landowner meetings. With implementation of the Oregon Plan and increasing emphasis placed upon the involvement of Watershed Councils, this arena has demanded more time of STEP. The District works with eleven Watershed Councils in a variety of roles including providing general information, providing technical expertise to habitat and inventory projects, assisting with volunteer training, and assisting with the watershed assessment process.

- Presentations to the cities of Corvallis, Salem and Albany regarding fish issues in urban streams and urban stream management. The cities and the resource management agencies have traditionally put a low priority on natural aquatic resources and potential for restoration in urban areas. Awareness of the problems that urbanization poses to fisheries and interest in the potential for restoration in urban waters has increased not only among residents but also city and state agencies.

- Presentations and field tours given by volunteers to schools participating in the Classroom Incubator Program as well as at outdoor schools held annually in the Willamette Valley.

- The STEP Biologist held, for the sixth consecutive year, a position on the Oregon Trout Salmon Watch program Corvallis steering committee. STEP assisted with the program's teacher training program and conducted presentations during local Salmon Watch field trips.

- Two classes and one field tour were conducted by the STEP Biologist for Oregon State University Extension Service's Master Watershed Stewardship Program. Attendees gain credit for completing this course, which provides exposure to several disciplines of natural resource management in a watershed context. Students represent a variety of backgrounds including watershed councils, private landowners, private industry, environmental organizations, conservation groups and other government agencies. The STEP Biologist was the instructor for classes in Salmon Biology and Stream Habitat, and led a one-day tour of fish issues in the North Santiam Basin.

Changes in both K-12 and college curriculum requirements have resulted in increased student requests for volunteer, internship, or mentoring opportunities with ODFW. STEP has been an excellent program within ODFW to direct this interest. During this past contract year, the Mid Willamette STEP position supervised interns from Oregon State University and the University of Oregon, hosted three job shadows for high school students, and served in the role of "mentor" for six additional high school students and their field projects.

Public participation with STEP also occurs via "hands-on" volunteer involvement with ODFW research and management projects. Although STEP projects can be proposed by the public, the majority of adult volunteers seeking involvement with the Mid Willamette STEP District during the 1999-2000 contract year requested participation with on-going ODFW projects. Project plans were developed through consultation with District and Region personnel and, when necessary, proposals were routed through Research or other Fish Division staff. Over 3,000 individuals participated in 97 STEP activities in the Mid Willamette STEP District during the past year.

Physical and/or biological surveys were conducted in almost all of the major sub-basins within the District. Forty-four adults participated in 22 surveys with the majority of this effort going toward annual index surveys and the operation of fish traps. Almost 1,700 volunteer hours were donated. Some highlights of this year's survey efforts include:

- Continued volunteer involvement with the construction and operation of fish monitoring traps. Traps were maintained and operated by landowners, high school students, Watershed Council volunteers, and members of the Albany Chapter of Northwest Steelheaders (ANWST). As additional needs arose, Albany ANWST volunteers constructed additional traps allowing for expanded inventory efforts. The primary intent has been to document the presence of salmonids in waters where little or no fish data currently exist. The effort has also yielded valuable life history information such as the timing of migrations or identifying areas used by spring chinook salmon or wild steelhead for rearing. Most traps have been located in valley floor or foothill streams that flow through agricultural or urban lands, areas that have not traditionally been sampled for fish by management agencies.

- Volunteers assisted with expanded efforts to operate fish monitoring traps on the North Santiam River at Stayton Island. The traps located on Upper and Lower Bennett

Dams have allowed the district to better quantify the returns of wild winter steelhead, hatchery summer steelhead, and wild and hatchery spring chinook salmon to the North Santiam basin.

- Continued volunteer assistance with annual ODFW surveys of spawning winter steelhead and spring chinook salmon in Coast Range and Cascade river basins.

- For the fourth consecutive year, spawning surveys for kokanee in tributaries to Green Peter Reservoir to determine success of natural production. The spawning surveys have proven to be more reliable indicators of year class strength in the naturally producing kokanee population than gill net surveys conducted in the reservoir.

- Volunteer assistance with snorkel surveys for adult spring chinook salmon, summer steelhead and juvenile winter steelhead.

- Continued volunteer assistance with seining efforts used to monitor status of native trout populations in the mainstem Willamette River. A great deal of new information has also been gathered regarding the rearing of juvenile chinook salmon in the mainstem Willamette River.

- Expanded volunteer assistance with sampling of small streams to determine the upper reaches of wild trout distribution. Much of the need arose from an intensive effort to locate and resolve fish passage problems created by artificial barriers.

As school projects, 11 surveys involving over 50 students were conducted. Most of these surveys focused upon streams near to the participating school and were often in rural or urban areas on the valley floor. Students donated close to 1500 hours during these efforts with the vast majority of that going toward trap operation and maintenance.

To further facilitate the involvement of schools, STEP offers *The Stream Scene* curriculum package. STEP provided presentations and/or training workshops on *The Stream Scene* to educators attending the Oregon Forestry Institute and the annual meeting of the Environmental Education Association of Oregon and assisted with the Creeks and Kids workshop held this summer in Newport.

STEP also participated in school survey efforts sponsored by organizations or agencies other than ODFW. STEP serves an advisory and training role in the Adopt-A-Stream Program coordinated by the City of Salem Public Works Department in which ten schools are currently participating. STEP also works closely with an adopt-a-stream effort coordinated by Oregon Watersheds involving schools from several communities along the North Santiam River, and the Marys River monitoring project operating within the Marys River Watershed Council. Schools participating in these programs assist ODFW efforts by collecting information on water quality, habitat, and biological resources while monitoring these conditions on an annual basis. Many of these projects also take the subsequent step of involving their local communities in stream enhancement or protection efforts.

During the 1999-2000 contract year, 17 habitat projects addressing both instream and riparian concerns were conducted in ten of the District's sub-basins. With implementation of the Oregon Plan in the Willamette Valley, many projects are now coordinated by an ODFW Habitat Biologist funded specifically to work on stream restoration efforts and particularly those in forested areas.

As a result, STEP has turned the focus of its habitat efforts toward waters on agricultural and urban lands. Most notable were:

- Urban stream enhancement efforts in Eugene, Salem, Corvallis, Albany and Sweet Home that have included significant educational components.

- Fish passage projects constructed to resolve passage concerns on private lands. Several of these focused upon small streams in valley floor or foothill areas where the species of primary concern are native cutthroat trout but also included were two projects improving access on streams important to wild steelhead production.

- Four riparian and floodplain restoration projects conducted on agricultural lands. The importance of these valley floor streams for the seasonal rearing of cutthroat trout, juvenile chinook salmon and juvenile steelhead has been well documented by STEP inventory efforts.

Of the 17 habitat projects, four involved area schools with over 30 students participating. The remaining 13 projects were conducted with volunteer assistance from 39 adults.

The increasing emphasis placed upon the conservation of wild fish resources in the Mid Willamette area, particularly in light of low run sizes and federal listings for wild spring chinook salmon and winter steelhead under the Endangered Species Act, has led to significant changes in the District's fish culture program. Concern surrounding the potential impacts of introduced fry upon native populations and the primary need for habitat enhancement in those streams identified as deficient in natural production have changed the focus of the program's efforts.

Currently, all egg incubation projects within the District are for educational purposes only and are not intended to contribute significantly to fish production goals. During 1999-2000, schools from both rural and urban areas participated in 63 egg incubation projects raising rainbow trout and spring chinook salmon. Rainbow trout reared by the schools were released at a number of selected locations scattered throughout the valley including many local, isolated ponds. Spring chinook fry were released primarily into the lower Santiam and Calapooia River basins. As a means of fostering further public involvement with ODFW educational efforts along urban streams, Salem schools released their spring chinook fry into Mill Creek.

The popularity of the Classroom Egg Incubation Program is expected to continue. Because the STEP District does not actively recruit for the program, recruitment of new schools results primarily from communication within the educational community. Participating teachers express an overwhelming enthusiasm for the opportunity to bring such a unique experience into the classroom and to design curriculum that will support the project. Several of this past year’s projects have even established web sites through which they both inform and involve the public in their fish rearing efforts.

The STEP District attempts to maintain close contact with each of the participating schools. Eggs have been delivered to each classroom where a brief presentation or question/answer period helps to prepare the students for the project and convey the importance of their effort. The presence of an ODFW Fish Biologist in the classroom allows the students to make the connection between the fish and those entrusted with their protection and provides ODFW invaluable exposure. Unfortunately, demand for the program has exceeded the STEP District’s

ability to work directly with each school. Area STEP volunteers have risen to the challenge allowing all participating schools to continue to receive personal attention.

Individual volunteers, volunteers from the Senior Fishing Buddies, and members of the Salem and Albany Chapters of the Association of Northwest Steelheaders now assist with the classroom egg incubation program. These volunteers have recruited and "adopted" a number of schools in their local areas. To these schools they provide general information, incubation equipment, and technical expertise. They deliver eggs to the school, give presentations on egg development and fish life history, and participate in field trips to the release sites.

It is conservatively estimated that the classroom incubator program reached well over 1,500 students in the STEP District this past year. This estimate is based upon the average class size for participating schools in the Willamette Valley. It is likely that the actual number even exceeds this as many projects involve multiple classes or, in the case of smaller communities, the entire school. Many of these projects have benefited from significant donations of equipment, or funds to buy equipment, from numerous groups and individuals within the local communities or from sponsoring groups, thus furthering STEP's outreach efforts.

Finally, as a broader volunteer program for ODFW fish management efforts, STEP can also involve the public with a variety of projects seemingly outside of the traditional STEP mold. The level of commitment displayed by people to the program sometimes places them in the position of "employee" rather than volunteer. Several of this year's projects deserve special recognition:

- Repair and modification of a boat slide allowing for access at Upper Bennett Dam on the North Santiam River. The slide is a major passage point for boat anglers fishing the river above and below Stayton Island for winter steelhead, trout and spring chinook salmon. Negotiating the dam has long been recognized as dangerous for both boaters and equipment. With the assistance of a STAC Mini-Grant, volunteers constructed a new ramp and additions that allow for safe and easy passage.

- Posting of angling regulation notice signs along the North Santiam, South Santiam and Willamette River. Due to ESA and conservation concerns, salmon and steelhead angling regulations in the Santiam Basin for 2000 changed significantly from previous years. Regulations on the Willamette River were, as in past years, subject to quota management. Volunteers took on the responsibility of posting and updating angling regulation signs at numerous access sites thereby providing anglers timely notification of regulation changes.

- Placement of over 1200 spring chinook salmon carcasses in the upper South Santiam River and its tributaries. This was the first or trial year of an effort to provide nutrient enrichment in streams important to the natural production of spring chinook salmon. Carcasses obtained from the spawning of brood fish at South Santiam Hatchery were placed in densities that would have resulted from historic run sizes. As an initial effort it was necessary for volunteers to scout appropriate sites, coordinate closely with the hatchery's spawning schedule and develop a protocol that would allow for the efficient and effective placement. This project amounted to a "full time job" for the few volunteers committed to the two-week effort. In October, a similar effort was also planned for the North Santiam basin.

- Volunteer assistance with the investigation of chemical spills and the resulting fish kills. At least several times each year, ODFW is notified of a release of toxic materials into this area's waters. Spills require an immediate response by ODFW to ensure an accurate assessment of damage to fish and wildlife resources as well as the status or potential for recovery. Volunteers assist district staff with post-spill assessment and the longer-term monitoring of system recovery.

South Willamette District

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.

The STEP biologist position within the fish district management team in Springfield was vacant October-January (30%) of this reporting period. The district fish biologist and existing staff completed the duties of the STEP biologist from May 1999 in the previous reporting period through January of this reporting period. A new biologist began work full time in February of this reporting period.

In the Springfield Field Office, the district fish biologist is still 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. This organizational structure also ensures that more projects of high quality and effectiveness are completed.

Full STEP staffing levels facilitated participation in a variety of educational and outreach opportunities. Information was provided through presentations, displays, field tours and "on the ground" projects. For instance, direct public interaction was fostered in meetings with sporting groups such as the Northwest Steelheaders and the McKenzie Flyfishers. Two biologists attended the annual STEP conference, held in Bend during the reporting period.

Watershed councils are an excellent source of help for Oregon's salmon and trout. The District maintained contact with five local watershed councils. Information was shared, and outreach to the general public was coordinated with individual councils. The councils provide an additional partner for the implementation of projects, and a potential for source of individual volunteers for STEP projects.

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. The District participated as a member of the steering committee and presented a training session on salmon biology for teachers. The District also participated in the field trips with individual schools.

For the 5th consecutive year the District sponsored a student in the ASE (Apprenticeships in Science and Engineering) program. This year's apprentice, Corey Lewellen, had volunteered the previous summer, and volunteered 40 hours beyond the term of his apprenticeship this year. Corey assisted in a wide variety of research activities for bull trout, including spawning surveys, juvenile surveys, and habitat surveys. Corey analyzed tapes of fish passing over Leaburg Dam

to determine if spring chinook salmon exhibited daily migration patterns. Spring chinook moved primarily in the early morning, with smaller peaks at noon and the early evening.

Highlights of other work with students included participation in Forest Field Day. The Field Day, sponsored by the timber industry, was attended to add fish concerns, watershed health and the STEP program to the presentation for approximately 100 local middle school children. Additional talks and presentations were made to local youth groups such as the Boy Scouts and an outdoor school. The district also hosted two job shadows.

Program development gained momentum throughout the reporting period, including attention to the physical and biological survey needs for the area. Two biologists attended a habitat survey training session for STEP volunteers and watershed council members, to prepare for future surveys.

One of the primary survey efforts targeted fish presence in spot checks along Lost Creek (Middle Fork Willamette). The Lost Creek watershed has been the site of several STEP projects and is the location of a newly formed watershed group. Work this year was intended to guide future projects.

The District reviewed previous surveys on Lost Creek, presented the findings at a monthly meeting of the Lost Creek Watershed Group, and provided copies of the data to the group. Electrofishing surveys found good cutthroat trout numbers in the upper portions of Lost Creek, with some cutthroat trout and rainbow trout being found in low numbers in the lower creek in Elijah Bristow State Park. High summer temperatures are a problem in Lost Creek. The District identified several potential measures of success for restoration efforts on Lost Creek, and is working with the watershed group to mail information to all landowners in the area, including a request to consider future STEP projects.

Culvert surveys were again a significant part of the District volunteer survey effort. Students from Willamette High School completed surveys in the Mohawk watershed and on Hills Creek (Middle Fork Willamette). A student from Cottage Grove High School completed surveys of culverts along Silk Creek (Coast Fork Willamette) to meet graduation requirements. The survey data were entered into an Access database. The District will continue working with landowners to fix problem culverts.

Many habitat projects that take place on commercial timberlands are now coordinated by an ODFW habitat biologist funded specifically to work with the timber industry through the Oregon Plan, rather than through the STEP biologist. With full STEP staffing levels later in the reporting period, an effort was made to evaluate past STEP habitat projects before proceeding with additional work. Structures on Little Fall Creek, Lost Creek and Anthony Creek (Lost Creek) were reviewed. A Christmas tree revetment is still present on lower Lost Creek, although exotic Himalayan blackberries have taken over the riparian vegetation at the site. Log and boulder structures cabled down as habitat construction projects have not survived well on Anthony Creek, but many persist on Little Fall Creek. Additional evaluation and potential maintenance work on structures and plantings will be conducted in the next year.

Classroom egg incubators remain a popular program in local schools. Approximately 6,000 spring chinook eggs were incubated in 60 classroom incubators during the reporting period. Volunteers helped construct displays showing the development of salmon from eggs to fry to help students understand what they are seeing. The fish were liberated as fry at various sites in

the upper Willamette where no impacts on wild fish would be expected; the intent of this program is education, not fish production.

STEP fish culture activities managed by the Springfield Office are centered at the Letz Creek rearing facility operated by STEP volunteers from the Emerald Chapter of the Northwest Steelheaders. The Letz Creek facility is located near Lorane in the Siuslaw watershed, and is dedicated to native broodstock development for fishery augmentation of winter steelhead angling, while limiting risks of hatchery fish impacts on wild fish, on the Siuslaw River. Springfield STEP provides assistance to the Letz Creek volunteers. The North Coast Fish District manages the Siuslaw Basin, however.

The volunteer effort at Letz Creek is the largest single STEP program locally. Volunteer site manager Cindy Heller and crew put in long hours in support of Oregon's fish resources. The program raises steelhead smolts released into the Siuslaw River, and exposes volunteers to important resource issues. Volunteers contributed over 2,600 hours to finclip and rear the fish. A predation problem has developed in the few years at Letz Creek, however, limiting the numbers at release. Planning continues on methods to limit or avoid losses in the future.

An additional project evaluated natural production by excess adult spring chinook from McKenzie Hatchery released into the Mohawk River. Seining, electrofishing and snorkeling were used to search for juvenile chinook above Marcola. Problems using seines and an older electrofisher during late spring water flows precluded effective sampling. Two adults and two students assisted district staff with the surveys that will be attempted again next year.

North Coast District

The Freshwater Fish Enhancement and Restoration Program provides funds for the development and implementation of the Salmon-Trout Enhancement Program (STEP), a program that enables and encourages citizen involvement in activities that enhance the fishery resources of the state. Trained volunteers work with Oregon Department of Fish and Wildlife (ODFW) personnel on projects to rehabilitate and enhance the states' fish populations and their habitat. Projects also serve as education opportunities to increase understanding by the public of Oregon's aquatic resources and the environment. STEP biologists also serve as technical advisors for other government agencies on fishery related projects and activities. In addition they are often involved in fishery related activities that do not result in specific STEP projects.

STEP projects focus on characterizing fish populations and their habitat in streams, improving habitat, and culturing fish to rehabilitate or supplement natural production, or augment fisheries. Citizen volunteers help collect information on fish populations and their habitat by conducting physical and biological stream surveys. They also assist with projects to enhance fish passage, and fish spawning and rearing habitat. Citizen volunteers contributed significant effort to ODFW programs to develop broodstock, incubate eggs, and rear fish to rehabilitate or supplement populations of naturally produced salmon and trout or augment fisheries. Volunteers also play a significant role in helping to educate the public about fish biology and fishery related subjects.

Volunteers are often introduced to the STEP program through interest in specific projects. As they become involved they are exposed to the full range of volunteer activities. This frequently leads to involvement in other projects. Presentations to schools and various groups include examples of the wide variety of people involved in the STEP program. These also serve to introduce them to the types of projects and activities that volunteers are involved with. The

STEP program frequently serves as the contact point for the public to the Department of Fish & Wildlife. The biologist also responds to a constant flow of questions requesting information on the department and the STEP program. STEP informational and training materials are provided to a wide variety of individuals. The following ODFW publications were distributed free of charge to schools in the district: *The Stream Scene: Watersheds, Wildlife And People*; *Storm Drain Marking Program*; *Eggs To Fry: Helping Kids Raise Fish*; *Stream Care*; *Why Wild (Fish Genetics)*; *Guide to Oregon's Rocky Intertidal Areas*; and *Naturescaping*. Posters, handouts, and other educational materials were provided to interested schools and individuals. Classroom incubators were placed in five schools and curriculum materials were supplied to the teachers.

The Districts' lending library of videotapes was made available to schools, sportsman's groups and other interested parties. The collection currently includes about 75 tapes. A catalog has been updated and is distributed to schools and other interested parties. Schools have been particularly heavy users of the service. Additional tapes are added to the catalog as appropriate titles are discovered. In addition, a file of relevant articles, publications and reports is made available to the public.

Regular communication was maintained with district, region and Portland staff to ensure that all activities were consistent with department management programs and policies.

Numerous Watershed Councils have formed throughout the district. The Governor has designated Watershed Councils as a prime tool to implement the Oregon Plan for Salmon and Watersheds. The plan relies heavily on volunteers to implement many aspects of the plan. The district has a Watershed Liaison position to be the primary contact with the councils. Watershed Councils are doing considerable watershed analysis on their own. STEP has been involved giving presentations to councils and providing technical advice. This involvement by volunteers and Watershed Councils will undoubtedly involve additional STEP input. The Councils are assuming many roles and functions formerly provided by the STEP Biologist.

Volunteers have assisted in numerous outreach programs. They have developed a fishing event for handicapped children at the Whiskey Creek rearing facility. Volunteers have also used an acclimation net pen to provide a fishing opportunity for kids with cancer at Camp UKANDU. District staff has also plugged into Oregon Trout's Salmon Walk program.

Presentations, meetings, informational brochures, curriculum materials, letters, and personal contact are used to help educate people about salmon and trout This also serves as an opportunity to inform them about the STEP program and how they may get involved. The district also utilizes the Tillamook County Fair and other public functions as an opportunity to contact a large segment of the local populace.

Volunteers conducted several spawning surveys that would not have been done without their help.

A new training manual, *Surveying Oregon's Streams: a Snapshot in Time*, was developed in the STEP program to train Watershed Councils and other volunteers to conduct physical surveys of streams. The district assisted in a training session for watershed council staff in using this new manual.

Volunteer anglers also continued to tag sturgeon in Tillamook Bay in a continuing study on sturgeon migration patterns.

Volunteers also provided assistance for several habitat projects in the Tillamook State Forest conducted under the auspices of the Oregon Department of Forestry.

An ever-expanding project in the area is stream enrichment using salmon carcasses from ODFW hatcheries distributed into streams by volunteers. Fish were placed into four basins on the North Coast, the Necanicum, the Nehalem, the Nestucca, and the Tillamook. This involved the placement of thousands of both fresh and frozen carcasses.

The operation of Whiskey Creek Hatchery by the Tillamook Anglers is still a major commitment for local volunteers. Whiskey Creek hatchery released ~75,000 ChS presmolts and smolts into the Wilson and Trask rivers to augment fisheries and supplement wild fish populations. The facility is also used to hold rainbow trout. These fish are used in a disabled fishing day at the hatchery. The focus in on children and several hundred disabled children attend the event. They are not only allowed to catch fish but are fed lunch and ice cream. Volunteers clean and ice down the fish.

An above-ground portable raceway was used for acclimating steelhead (winter & summer) and spring chinook on the lower Wilson River to augment angling while limiting risks of hatchery fish impacts on wild fish. Volunteers placed a new liner in this facility. An additional in-ground acclimation pond was repaired on the lower Wilson River during the summer. This pond was used for acclimating winter and summer steelhead.

The operation of hatchboxes to augment fisheries and supplement wild fish populations has stabilized at a lower level from past years and probably will not increase unless appropriate new broodstocks can be developed.

Volunteers have been especially interested in a project to develop a wild winter steelhead broodstock for the Wilson River. The intent is to capture fish by angling. The project began in 1996; however, persistent flooding caused postponing of the project for that year. During 1999/2000, 144 wild steelhead were collected for the project. Volunteer anglers collected 122 of the steelhead. In 2000, 50,254 wild winter steelhead smolts were released into the Wilson River Volunteers will continue to collect adults for this program.

Plans are being developed with volunteers to begin a wild winter steelhead broodstock program on the Nestucca River to augment angling while limiting risks of hatchery fish impacts on wild fish.

A new program began on the Nestucca this year. Volunteers have renovated an old Oregon Department of Fish & Wildlife facility. This facility was closed due to budget limitations. Volunteers released 96,000 fall chinook smolts to augment the fishery in the Nestucca.

Two high schools (Astoria & Warrenton) have aquaculture programs that not only serve to educate students, but also release smolts into Youngs Bay to augment fisheries. The schools produce fall chinook and coho. Tillamook High School also has a small aquaculture program.

Mid Coast District (Salmon River to China Creek)

The Newport STEP program encompasses the mid-coast area of the Oregon coast from Salmon River (Cascade Head) in the north to China Creek (Heceta Head) in the south. This geographic region extends from the coastal estuaries that meet the Pacific Ocean in the west up

to the top of the Coast Range Mountains in the east. The area includes the Salmon, Siletz, Yaquina, Alsea and Yachats River watersheds and numerous smaller coastal drainages.

Volunteers in the Newport Step District participated in seven information and extension activities with youth groups and twenty-eight with the general public. A total of 578 individuals were reached in youth and educational programs and 1,860 persons were contacted in the public sector.

Newport STEP and the Mid-Coast Watersheds Council continued a partnership advising and assisting a part-time Watershed Education Coordinator for local schools and youth groups. The education coordinator trained 33 teachers how to utilize the ODFW *Stream Scene* curriculum and learn recommended field assessment techniques. Over 1,020 students and 120 parents participated in 36 field trips collecting water quality data, macroinvertebrate and stream habitat data.

Newport STEP worked cooperatively with the Mid-Coast Watershed Council and Siuslaw Watershed Council as a council member and ODFW liaison in assessing local watershed conditions, implementing best management practices, developing projects to protect and restore fish habitat, and, informing and educating volunteer landowners and interested citizens.

Training in habitat restoration techniques, aquatic habitat inventories and spawning surveys were provided to participants of the Lincoln Soil and Water Conservation District (LCSWCD) watershed workforce. The LCSWCD with Newport STEP assistance received a grant to continue funding a watershed monitoring and restoration project on private lands originally initiated by the ODA “Hire the Fisher” Program. This project has also recruited many new STEP volunteer landowners that have expressed a desire to improve fish habitat.

Presentations on fish sampling and species identification were given to 21 participants at the “Creeks and Kids” Watershed Education Workshop held at the Marine Hatfield Science Center in Newport. 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.

A cooperative educational/interpretive display describing floods and the benefits to watersheds was shown at the Lincoln County Historical Society in Lincoln City. The interpretive display was designed and created by Newport STEP. This site received over 1200 visits by the general public. Newport STEP also gave presentations on salmon and watersheds at the annual Oregon Trout "Salmon Watch" program for local high schools at Clemons Park on the North Fork Alsea River.

STEP continued to work with mid-coast educators, natural resource agencies, local government and timber industry representatives to promote a Coast Range Natural Resource Education Organization (CRNREO). The CRNREO holds an annual “Forest Camp” for local students and regional schools and is planning to develop natural-resource-based educational programs and a natural resource center in the Alsea School District.

Oregon Parks and Recreation Department continued a partnership with the Waldport Elementary School and STEP to incubate and rear 100 steelhead smolts using an aquarium exhibit at the Alsea Bay Interpretive Center in Waldport. Students incubated the steelhead eggs with a STEP classroom incubator then transported the unfed fry to the Alsea Bay Interpretive

Center for rearing. Information on coastal salmonids and their life histories accompanied the display and reached an estimated audience of 20,000+ visitors.

Newport STEP continued it's participation in the completion of the Oregon Plan "Oregon Aquatic Restoration and Enhancement Guide" which provides guidance for instream restoration practices to agencies, Watershed Councils and landowners. STEP also participated in the Oregon Watershed Enhancement Board grant review and selection process for proposed watershed restoration projects in the Mid and North Coast region.

Recruitment for the Newport STEP District consisted of two community-sponsored events. STEP program information and materials were displayed at the Schooner Creek Fair in Lincoln City and a Free Fishing Day event at the Salmon River Hatchery. All events reached a total estimated audience of 210 individuals.

Seven hundred and eighty adult and youth volunteers conducted a total of 27 spawning, physical, and fish population surveys throughout the Newport STEP District. The Central Coast Northwest Steelheaders 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. The Yachats Area Watershed Advisory Council (YAWRAC) initiated and implemented a water quality and macroinvertebrate survey of the Yachats River. Newport STEP advised on water temperature 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.
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The Depoe Bay Salmon Enhancement Commission (SEC) installed and operated an adult trap on North Depoe Creek to determine spawner escapement and smolt survival for an ongoing coho supplementation program. The SEC also conducted spawning surveys for coho salmon on North and South Depoe Bay Creeks.

Volunteers assisted ODFW staff to conduct estuarine seining for juvenile chinook in the Siletz, Alsea and Yaquina Rivers. Chinook smolts were sampled for size, condition, timing and abundance. The purpose of this project is to compare present survey data with historic data and begin a long-term data set.

Mid-Coast habitat restoration projects were completed at Crooked and McGlynn Creeks (Alsea River), North Fork Yachats and School Fork (Yachats River), Grateful Creek (Siletz River), Little Creek (Ocean Tributary) and several unnamed tributaries on the Yaquina River. Project activities included: instream wood placement, riparian release, tree and shrub planting, tree protection installation, fencing, riparian enclosures, culvert removal and culvert replacement to provide fish passage and also meet 100 year flow standards. Landowners cooperated in the design and layout for 1999/2000 projects and preparations for 2001/2002 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.

Newport STEP also assisted the Mid-Coast Watersheds Council, Lincoln Soil and Water Conservation District, Lane, Benton and Lincoln County Road Departments to coordinate and identify fish passage problems on mid-coast roads and advise on correction measures.

Four volunteers contributed 22 hours placing surplus hatchery coho and chinook carcasses in 25 selected streams in the Alsea River. These carcasses can provide essential nutrients and trace minerals that promote the growth of young fish in Alsea streams.

Newport STEP was actively involved in a number of fish culture activities along the Mid-Coast Region. During this period, a total of 166 adult volunteers contributed 842 hours and $750 to broodstock collection, incubation, rearing, release, and acclimation projects.

STEP volunteers assisted ODFW with the operation of a remote steelhead acclimation pond and adult return facility on the Siletz River. Volunteers cleaned pond screens, fed fish and managed data collection at the site. This facility was designed to provide an opportunity for anglers to catch hatchery winter steelhead in the Siletz River with minimal impacts to wild winter steelhead runs. Newport area volunteers and students from Oregon State University also assisted ODFW with the capture of wild adult chinook broodstock 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.

The Depoe Bay Salmon Enhancement Commission continued a coho supplementation project on North Depoe Bay Creek. Eggs are incubated and fry short term reared in circular tubs to 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.

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

Ten schools participated in 14 steelhead and coho egg incubation projects hatching and rearing steelhead to the fry stage. This program reached 390 elementary, middle and high school students with an estimated 975 hours of time donated to operate classroom incubators and release fry.

Mid Coast District (Siuslaw River)

Development of the Salmon-Trout Enhancement Program (STEP).

The purpose of this job is to formulate policy for and coordinate implementation of STEP to reestablish native salmon and trout to their historic range. Objectives were to 1) involve citizen volunteers in management programs to protect salmon and trout to restore their habitats, 2) inform peers and the public of plans, activities and accomplishments under STEP, and 3) ensure STEP activities are consistent with management programs of the Oregon Department of Fish and Wildlife.

Public education and the distribution of information and materials related to salmon and trout are a key component of accomplishing ODFW's management goals. The Florence STEP Group (FSG) reached out to schools, state and federal resource agencies, sportsman's and conservation groups, watershed councils, civic organizations, local government and the general public to involve, inform and deliver educational programs in the mid-coast area. FSG STEP used a variety of methods to communicate and

deliver information including: telephone and mail correspondence, monthly reports, program brochures, publications, curriculum materials, topical handouts, formal and informal presentations, training workshops and media events. Regular attendance at monthly and technical team meetings with the Florence STEP Group and the Siuslaw Watershed Council was maintained to inform volunteers on natural resource and management issued and to insure coordinated STEP projects.

STEP in Florence participated in 13 information and learning activities with youth and 25 with the general public. A total of 400 individuals were reached in youth and educational programs and 430 persons were contacted in the public sector.

Two formal adult t raining workshops were given during the period. A total of 42 volunteers in the communities of Florence and Mapleton received training on spawning surveys, broodstock collection, egg takes, egg incubation, fry rearing, fish identification and sampling and techniques for habitat restoration. Continuous informal, on-site and "hands on" training and technical advice was delivered to projects as required. A total of 36 individuals participated in two youth training workshops. A handbook for the Florence STEP Group was produced and revised with the help of the volunteers. Several new sections on fish genetics was included.

Step in Florence assisted the Lane County Road Department and the Oregon Department of Transportation to identify fish passage problems in mid-coast roads and assisted with some of the projects to provide fish passage at all flows.

STEP in Florence attended the STEP Conference in Bend and provided training and scholarships to four seventh-grade students.

STEP continued to work with natural resource agencies, small landowners and timber companies to promote a restoration strategy for the Siuslaw River wild coho.

Recruitment for the STEP District in Florence consisted of three community sponsored events. Florence STEP Group conducted two angling clinics and provided an information program and display for each at the local high school, on the Siuslaw River and for free fishing weekend at Cleawox Lake. All events reached a total estimated audience of 240 individuals.

Characterization of Fish Populations and Their Habitat in Streams.

The purpose of this job is to characterize fish populations and available habitat in streams to assist the development and implementation of Department management programs. Objectives were to 1) identify information needs for streams throughout the mid-coast area, and 2) work with volunteers to collect information necessary to characterize fish populations and available habitat in streams.

Thirty-six adult and youth volunteers conducted a comprehensive spawning, physical and biological and fish population survey throughout a study section on Condon Creek. Through the efforts of the Siuslaw Middle School Stream Team III, a national award winner was produced from the project. The Florence STEP Group was also awarded by Weyerhaeuser Co. with a grant of $500 which was donated to the Stream Team program. As part of the Team requirements, each student had to give a brief description of all the activities the Team was accomplishing to peer groups and public groups in the

community like the Rotary Club, Lions and others. This seventh-grade Team gave presentations to all the other classes at the middle school and high schools lecturing at least 800 students on salmon life history requirements and watershed needs. The Team also produced and starred in a 45 minute edited video on the project. This is an ongoing program for the Siuslaw Middle School. River Net and Estuary Watch programs were integrated into these classes, also.

The Mapleton seventh-grade class, Florence STEP Group and the Mapleton USFS continued a Chinook, steelhead cutthroat and coho juvenile trap operation on Knowles Creek in the lower Siuslaw River. The objective is long term monitoring of coho and steelhead populations at a large subasin scale. This the sixth year FSG provided the supervision on the project. The Mapleton seventh-grade class submitted a proposal to their school board and formed a Mapleton Stream Team. The school board has acted and five FSG members are guiding the program.

Florence area volunteers were primarily responsible for the success of the ODFW adult coho and steelhead broodstock collections from the Siuslaw River. They provided the volunteers for all spawning operations, cleaning and building and installation and repair of all the fish traps and weirs during many days of inclement weather. A new adult and juvenile fish trap on Green Creek was built to help determine the adult-to juvenile-to adult production from a coastal stream with only native salmonids.

Habitat Improvement.

The purpose of this job is to enhance fish passage, fish spawning, and rearing habitat in streams. Objectives were to 1) identify degraded or destroyed habitat for streams throughout the mid-coast area, and 2) work with volunteers to undertake projects to improve or restore passage, spawning and rearing habitat.

Six habitat restoration projects were initiated and completed during the period. A total of 45 people contributed 292 hours and donated $6600 to this effort. Volunteers were responsible for loaning equipment, servicing equipment, cabling instream structures and planting and tubing trees for many of these projects.

Mid-coast salmonid restoration projects were completed at the streams listed in Appendix A. STEP volunteers, other agency personnel and the landowners cooperated in design and layout for all 2000 projects and preparations for 2001 instream projects in the Siuslaw, Siltcoos and Tahkenitch Basins.

Volunteers planted six hundred conifers along the riparian area of Hadsall and Fiddle Creek. Several small private landowners cooperated on individual habitat improvement projects donating time, equipment and manpower to complete instream structures, bank stabilization and riparian improvement projects, but too many to list here. An 80-acre wetland was created in pasture area when volunteers cut a hole in a dyke on the north fork of the Suislaw River.

STEP in Florence worked cooperatively with the Siuslaw Watershed Council in (a) assessing local watershed conditions, (b) implementing best management practices, (c) developing projects to protect and restore fish habitat and (d) informing and educating volunteer landowners and interested citizens.

Fish Culture.

The purpose of this job is to develop broodstocks, incubate eggs and rear fish to rehabilitate or supplement populations of naturally produced salmon and trout and augment fisheries. Objectives were to 1) identify opportunities for supplementing natural production of fish in streams throughout the mid-coast area, and 2) work with volunteers to undertake projects to supplement natural production in given streams using cultured fish.

During the year a total of 42 adult volunteers contributed 1000 hours and $600 to salmon broodstock collection, egg incubation, rearing, release and acclimation projects. The Emerald Empire Association of the Northwest Steelheaders and Florence STEP Group volunteers assisted ODFW in 2000 with the annual collection of the wild Siuslaw winter steelhead and the Munsel Lake coho broodstocks. Volunteers assisted ODFW daily with the capture of steelhead and coho at one of the five traps operating in the Siuslaw. All adults were transported to Munsel Hatchery for spawning and egg incubation and or rearing to the fed fry or smolt stage.

The volunteers were very successful in the capture and spawning of the two broodstocks in 2000 . The coho production of both 50,000 fed fry to Munsel Lake and 5,000 smolts at 12 per pound were both easily met. The steelhead broodstock goal of 180,000 eggs was exceeded to ensure smolt production goals at Letz Creek (15,000) and Willamette Hatchery (85,000) were met. For a detailed report of the 2000 brood winter steelhead program refer to the 2000 Suislaw Winter Steelhead Broodstock Report.

Two schools participated in 20 classroom egg incubation projects hatching and rearing coho and steelhead to the fry stage. This program reached 120 elementary, middle and high school students with an estimated 1200 hours of time donated to operate classroom incubators, fish trapping, spawning, egg incubation and release of their fry as directed by ODFW.

During the summer of 2000 an artificial spawning channel was abandoned by the Florence STEP Group in Akerly Creek, a tributary to Munsel Lake.

SOUTHWEST REGION

Umpqua District

This year the Umpqua STEP program was involved in 85 projects and volunteers in the area donated over 20,562 hours of work. Through grants, donations, and technical expertise over $130,234 was raised for fish projects in the Umpqua District. Education-wise, over 2,000 school kids were reached during educational field events and Free Fishing Day. Umpqua STEP also worked with Project Leadership to improve the safety, aesthetic, viewing, and educational value of the Winchester Dam viewing area. This site annually attracts over 50,000 people to view fish. Over 34 service clubs, conservation organizations, businesses, and individuals worked together with the ODFW and Project Leadership to raise $90,000 to implement the improvements.

For habitat improvement, folks from Wolf Creek Job Corps, Umpqua Training and Employment, Gardiner STEP, Pinnacle Engineering, River Masters Engineering, and Douglas County Community Corrections provided their expertise and manpower to implement a Resource and Enhancement grant to improve fish passage at the Smith River Falls fishway. The project involved re-building a wall for the lower entrance pool and reinforcing the existing walls. The final product produced an improved water current to attract fish to the fishway, a resting pool at the entrance, and a deep pool so coho and steelhead could easily jump the falls if they did not pass through the fishway.

Umpqua STEP also continued it's evaluation of unfed fry survival. Volunteers from the Umpqua Fishermen's Association (UFA) helped release 217,000 otolith-marked coho fry in Brush Creek. The ODFW runs a smolt trap on Brush Creek, thus survival of the unfed fry to the smolt stage can be determined. This year, about half of the out migrating smolts sampled in Brush Creek were otolith marked fry released in 1999. Although the final analysis is not complete, it appears that the otolith marked fry migrated out at about the same size and time as their wild counterparts.

Below are some of the additional highlights of projects that occurred between October 1999 and September 2000. The highlights are organized by the categories listed in the Summary of STEP Participation (Appendix Table 1).

Youth/Education.

Habitat & Surveys

The Umpqua Training and Employment program provided funding for the ODFW to have a crew of 4 youths, and one crew leader for six weeks. This crew did a variety of projects ranging from riparian fencing and vegetation control to assisting Gardiner STEP with some construction projects, and repairing fishways. The crew was a major source of daily labor for trenching the bedrock to set the rebar for the Smith River fishway project. Wolf Creek Job Corps provided carpenters and masons for the Smith River project. The Corps came out with 17 youths and on day one erected the cement forms, day two they helped pour the cement and hand form some walls. On day three they removed the forms and finished the cement.

The Apprenticeships in Science and Engineering (Saturday Academy) program provided funding for an apprentice for 6 weeks. This student compared coho densities and aquatic inventory parameters in 3 areas with large wood restoration treatments, and one non-treated area. There was an inverse relationship between the amount of wood available in a reach and red-sided shiners. The treatment areas also tended to have more shade and spawning gravel available than the non-treated reach. Overall, salmonid densities via snorkel counts ranged from 1.17 salmonid per cubic meter to .55. Unfortunately the counts were not high enough to determine a statistical difference between sites.

Training Classes

Umpqua STEP participates in the Tsalila Field days which reaches all of the 8th graders in the Reedsport school district. Students rotate between stations to learn about subjects ranging from water quality and macroinvertebrates, to aquatic inventories and tribal culture. The ODFW also participates in the Glide Forest Tour, which has a similar format

but is targeted for the 4th graders in the Roseburg/Glide school district. These events involve multiple days but reach about 450 students. The STEP program was also active in coordinating Free Fishing Days events at BiMart, Cooper Creek Reservoir, Herbert's Pond, and Diamond Lake. Despite the questionable weather this year, the events attracted nearly 2,000 participants. New this year at Diamond Lake and Cooper Creek we had kiddy fishing pools for children under 5 years old. These were immensely popular with both kids and parents.

Umpqua STEP was active in providing intern, job shadow, and career days assistance to several local schools. Interns helped with broodstock collection, data entry, and acclimation projects. Over 20 high school girls participated in a career day to learn about opportunities for women in the fish and wildlife field.

Egg Incubation

Twenty classrooms participated in the classroom incubator program. Winter steelhead were used to avoid having developing fish during spring break. Student ages ranged from kindergarten to high school. Two schools, Eastwood Elementary and Glendale High School have large fish rearing capacity. They help the ODFW raise several thousand coho, fall chinook, and winter steelhead as part of the regular STEP egg allocation for hatchboxes. These schools have also developed active monitoring programs and water quality programs.

Broodstock Collection/Acclimation/Stocking

As previously mentioned, interns and job shadow youths assisted broodstock collection, measurements for acclimation releases, fin clipping and releasing the otolith marked unfed coho fry.

Information & Education:

Most of the educational programs were geared toward specific skills such as biological measurements or angling, so were covered in the Training section.

General Public.

Habitat & Surveys

Gardiner STEP continued to placed spawned salmon carcasses up the North Fork of Smith River per our permit with DEQ. Oregon Equestrian Trails members continued to note the presence/absence of herps at the various lakes during the time the lakes were being stocked with brook trout. The STEP program also worked with the ODFW wildlife program to have a volunteer systematically look at fish and herp presence at some of our high lakes. The STEP program also worked with the district to assist the evaluation of tui chub in Diamond Lake.

The largest habitat project was the Smith River Falls fishway. Professional mason and carpentry instructors for the Wolf Creek Job Corps contributed their time to assist the project. Gardiner STEP helped with the sandbagging necessary to divert the flow of the river and Douglas County Corrections helped remove the 700 sandbags.

The Cow Creek Band of the Umpqua Tribe of Indians provided funds to help make the fishway at South Umpqua Falls more "poacher-proof." The ODFW is presently working with the USFS on the improvements.

Training Classes & Information

In cooperation with the Umpqua Basin Watershed Council Education Committee, a training session was offered to local professionals and teachers on how the use the ODFW Aquatic Inventory GIS system. This was taught by the ODFW Corvallis staff lead by Kim Jones. The STEP program also hosted several BBQ meetings which thanked volunteers for their assistance and had an agenda to discuss topics of interest to the group.

For information and education, the STEP program worked with Project Leadership to refurbish and improve the viewing area at Winchester Dam. Enough money was raised to install new viewing windows, re-do the parking lot and wall surrounding the lot, plus install a new fish count and interpretive signs. Tom Pappas, who did some of the creative cement work at Disney Land, shared his expertise to help make the viewing area look like an underwater world.

Egg Incubation & Rearing

UFA members operated about 55 hatchboxes and incubated 421,262 coho, 312,370 fall chinook, and 54,364 winter steelhead this year to augment fisheries and supplement wild fish populations. The UFA paid to coded-wire tag (CWT) 31,722 fall chinook which were released in Canyon Creek on the South Umpqua. The remainder of the chinook were released in the Calapooya system as presmolts. UFA coho were also released in the Calapooya basin in various tributaries, which are currently underseeded. These fish went out as unfed fry. Egg-to-fry survival for the hatchbox-raised fish was over 92%.

Gardiner STEP discontinued their coho program and did not spawn any coho in 1999 or 2000. They did release 6,947 coho reared from the 1998 broodyear. The fall chinook collected during the 1999 broodyear produced 105,915 eggs. After the payback releases and despite red mouth disease, Gardiner STEP was able to CWT 87,220 fall chinook and place these in the netpens at Winchester Bay to augment fisheries while limiting risks of hatchery fish impacts on wild fish. The presmolts were successfully released at Ocean Fest which attracted numerous people to view the release.

Broodstock Collection

The floating weir at Happy Valley was used for collecting fall chinook broodstock for the UFA. A variety of volunteers helped place and staff the trap. The newest addition to the site was volunteer hosts to provide 24-hour security for the fish and the equipment. The hosts stayed on site for the duration of the project and greatly reduced the coordination and staff time necessary to operate the site.

Gardiner received a Derby grant to build a trap for broodstock collection. They devised a box trap with an internal V-notch and side wings to collect chinook. They placed the trap in Winchester Creek and caught 108 chinook by the end of September. Most of these were marked fish from Gardiner's terminal fishery program. Angling in the Winchester

Bay area was rated very good from both the water and the bank for fall chinook largely due to the high ocean survival and return of Gardiner's netpenned chinook. Gardiner built 2 box traps so in future years traps can be simultaneously operated on Winchester Creek and another creek.

To collect winter steelhead broodstock, seven guides/volunteers again donated their hook and line expertise. The guides and participants of the Umpqua Fisheries Enhancement Derby caught 70% brood collected for the South Umpqua program. After capturing the fish the guides worked with another volunteer to transport the fish to the Canyonville Acclimation Pond. During the time period that broodstock were present at Canyonville, volunteers watched the site overnight, and throughout most of the day. Due to the efforts of the volunteers, and through good communication with the local water department and community, the site was never bothered, and enjoyed good local support.

Individual volunteers also helped collect broodstock at a variety of sites such as Canyon Creek, Galesville, and the South Umpqua Falls.

Acclimation

The STEP program was able to acclimate 76,847 of the 87,089 winter steelhead smolts released in the South Umpqua this year. This was a dramatic increase from previous years. The Canyonville Acclimation site was used to acclimate 14,715 two-year and 40,051 one-year old winter steelhead. UFA members and local volunteers staffed the site 24-hours a day during the acclimation period. They also funded electricity to the site. Below Galesville Reservoir, UFA members acclimated 22,868 winter steelhead and 43,144 coho in netpens. To improve the safety of the netpens, they added a deck around the pontoons.

The Cow Creek Band of the Umpqua Tribe of Indians began investing the possibility of adding an acclimation site to their property. This would be in the Canyonville vicinity and help our goal of acclimating all of the winter steelhead. Presently they plan to use a Modutank which would be an above ground raceway that could handle about 4,500 steelhead smolts.

Miscellaneous

A variety of groups, individuals, businesses and schools continued to support the steelhead radio telemetry program. Over 300 steelhead have been "adopted" for radio tagging. In addition to the survival, behavior, movement, and distribution data gained on the North Umpqua, a STAC grant and Gardiner STEP donation supported tagging 14 winter steelhead in the Smith River basin. A volunteer also continued to offer his computer expertise to help biologists analyze the massive amount of data being collected.

Spawn/Fin Clip/Stock

The UFA aided Rock Creek Hatchery with spawning activities nearly every Tuesday from September through December. Gardiner conducted their own spawning and continued to improve their techniques with matrix spawning, formalin treatment, and improved egg counting. Gardiner also fin clipped and released their last group of coho.

Both Gardiner and the UFA solicited donations to pay for coded-wire-tags for fall chinook.

Stocking was successful for both Gardiner and the UFA. Gardiner released coho smolts on site. They released some presmolts in the Smith River above the falls, and the rest as part of their terminal fishery at Winchester Bay. The UFA released coho fry in the Calapooya basin in Hinkle, Gassy, Coon, and upper Calapooya. They also helped release 217,000 otolith marked unfed coho fry in Brush Creek. The otolith program also received a grant from the Derby to pay for laboratory expenses. This part of a cooperative study with the UFA, Rock Creek Hatchery, ODFW Corvallis Research, Washington Department of Fish and Wildlife, and USFWS to evaluate the survival of unfed fry to the smolt stage.

Oregon Equestrian Trails members and additional volunteers stocked 21,113 brook trout in 12 of the district's high mountain lakes. Pepsi permanently donated over 25 canisters for transporting the fish. We continued to stage the fish out of Rock Creek Hatchery which is logistically easier than traveling to Fall Creek Hatchery near La Pine. This year in addition to the ice used in every canister we added Oxytabs to canisters that would be holding fish for 2 or more hours. This allowed us to horseback into Maidu Lake from Kelsay Valley instead of Miller Lake. Although it made the ride longer, it made staging easier and more enjoyable for the riders since there is a horse camp at Kelsey Valley. The Oxytabs were successful, and overall, transport mortality was less than 1%.

Acknowledgments.

The support for the Umpqua STEP program has been tremendous! I would like to thank all of the groups, individuals, plus ODFW Umpqua fish staff members and Rock Creek Hatchery staff that contributed their time and expertise to the program. We received outstanding support from: the Cow Creek Band of the Umpqua Tribe of Indians, Douglas County, Gardiner STEP, North Roseburg Rotary, Oregon Equestrian Trails, Pepsi, Pinnacle Engineering, Project Leadership, Umpqua Basin Watershed Council, Umpqua Fishermen's Association, Umpqua Fishery Enhancement Derby, Umpqua Training and Employment, Winter Steelhead Guides/Canyonville, and Wolf Creek Job Corps.

Tenmile, Coos and Coquille District

Development of the Salmon and Trout Enhancement Program.

The primary method of program development is that of obtaining direct citizen involvement in management programs to protect and enhance salmon and trout populations and fisheries dependent upon these species. A total of 171 volunteer projects were conducted in the District using volunteers. A total of 4,114 volunteers were involved in these projects. Volunteers were not only from the general public but were from school and youth programs as well. School groups and youth organizations provide the bulk of the volunteers used in District programs.

A wide variety of projects were conducted. These projects can be classified into four categories. These categories are habitat rehabilitation, stream surveys, fish culture, and information and education projects. The volunteers that have been involved in the District management programs not only have been contributors to protection and

enhancement of our salmonid resources but also have gained insight into fisheries management issues that come as a result of direct involvement.

In addition to direct involvement, presentations and tours of enhancement sites provide a vehicle for dissemination of information about the requirements of salmon and trout populations. Presentations to local service clubs or other interest groups are instrumental in promoting conservation awareness and inspiring citizens to become involved in the STEP program. Tours are also valuable in that they provide an opportunity for the public to see a variety of enhancement projects.

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.

A total of 25,158 volunteer hours were donated working in the District during the report period. A single volunteer hour is valued at $ 14.30. Based on this hourly figure the contribution to the resource from the District volunteers during the report period is $359,759. In addition to the contribution of time, volunteers also donated $32,040 for support of projects. The total contribution to the District programs during the year was $391,799.

Information and Education.

One of the newest outreach projects that have been taken on by volunteers in the district, was the construction of an aquarium on the Coos Bay Boardwalk docks. This project has been planned for several years and under construction for the past two. The Mayor of Coos Bay dedicated the aquarium as part of the annual Bay Area Fun Festival. The dedication was one of the featured events for the two-day festival. The aquarium gives visitors to the Boardwalk a “fish eye view” of salmon and other marine fishes. The aquarium was funded through a grant from the Bay Area Sportsman Association. This project has received great support and endorsement from the community.

For the 10th year ODFW volunteers continue to work on the construction of Millicoma Interpretive Center. This year the major projects taken on by volunteers were the construction of a host site pad and covered area. The preliminary construction of a observation deck and an interpretive trail. These are exciting new projects that have already received considerable financial support. The Menasha Corporation, the Oregon Wildlife Heritage Foundation, and the Northwest Steelheaders have all committed funds for these projects. A wheelchair angling access area is also planned for the facility in the near future. Three boy scouts will work on different elements of these projects as part of their “Eagle Scout” project.

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 has received a considerable amount of media attention in the past year. Newspaper articles have featured the facility in local and regional coverage. The Oregon Wildlife Magazine also featured the educational opportunity at the center.

The 4,114 volunteers that were involved in the program were involved in a wide variety of projects. As with many projects, students make up the bulk of the volunteers.

Volunteers and Department staff devote a tremendous amount of effort each year providing educational opportunities for youths. These educational programs involving STEP volunteers have occurred for nearly 19 years and continue to a primary focus of the program.

Fish Culture.

Large numbers of volunteers continue to be involved in the extensive fish cultural programs in the District that are intended to augment fisheries and rehabilitate or supplement wild populations. There are 10 broodstock development, 4 spawning, 20 egg incubation, 7 rearing, and 20 acclimation projects in the District. The fish cultural operations in the District involve the largest number of volunteers in recent years. A new broodstock development project this year was 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 .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. Two more years of broodstock conversion are needed to make this conversion complete.

Broodstock collection and development programs in the District continue to be a success overall. These projects are very labor-intensive. A significant amount of time is donated by volunteers to collect naturally produced salmon and steelhead for incorporation into hatchery programs. For the past 13 years a significant proportion of the steelhead have been acquired through angler donations. On the South Fork of the Coquille River, most of the steelhead taken for broodstock have been obtained through angler donations. Angler donation is a slow, time-consuming, process that involves many volunteers.

STEP Biologists received 21 requests from individuals or groups to participate in the STEP egg incubation program. Region and Division staff reviewed, and approved or rejected, proposals based on management applications. This past year above-normal interest was again generated among the volunteers to increase the number of eggs in streamside incubators or hatchboxes. The limitation to these projects was the lack of streams that needed juvenile salmonids stocked into them.

The District STEP Biologist coordinated the collection and distribution of salmon and trout eggs from ODFW hatcheries or STEP incubation facilities to volunteers. As a result, 267,584 fry and 2,223,848 pre-smolts and smolts were released from the 1999 brood year. For yearling salmon and steelhead a total of 147,074 smolts of the 1998 brood year were released as well.

The Fish Culture Division of ODFW tracked the distribution of eggs and required the necessary egg disposition records to be entered into the ODFW hatchery record system. The tracking of such a large fish cultural program is very time consuming for volunteers and agency staff. About 265 hatchery records were completed and submitted. These records tracked adult, egg, and fry disposition. A volunteer key punches all of these records into the Hatchery Information Management System. This is a very time consuming project for a single volunteer to accomplish.

The STEP Biologist provided fish cultural assistance to volunteers at 20 incubation sites. This fish cultural assistance is demanding because of the complexity and magnitude of the incubation programs in the District. Many of the cooperators incubating eggs are new each year and need special attention. Egg incubation is a complicated process. During the report period, one incubation site for the second year in a row incubated over one million fall chinook eggs at a time.

This year the number of classroom egg incubation projects also increased in the district. Two new classroom aquaria were purchased for area schools. The combined cost of these aquaria was $5,800. This investment was well worth it in that these aquaria were well received by the schools. Blossom Gulch Elementary School placed their aquarium next to their main office. The entire school was thrilled watching the development of salmon and steelhead.

New hatchbox sites were also set up as new streams were identified as being devoid of salmon and steelhead. Volunteer stream surveys identified these streams. In all cases the streams had habitat deficiencies that have been or will be corrected in the future. Many of the new streams had culverts that blocked fish passage. These hatchbox plantings will continue to be conducted for a complete life cycle.

The Coos River fall chinook fishery augmentation program has also continued to be a success. A statistical creel survey that was conducted in 1998 determined that about 42 % of the chinook harvested in the Coos River Basin originate at one of the three STEP rearing stations. While the contribution of hatchery chinook to the fishery is very high the incidence of hatchery chinook straying to wild chinook spawning areas is relatively low. The Department's Research and Development Section has been utilizing the STEP trap on the South Fork Coos River to conduct a population estimate of chinook in that river. Through their research, they have determined that less than 5% of the chinook that spawn in that river are hatchery strays. This has been important to document a very good contribution of chinook to a fishery, but have few hatchery fish spawning with wild chinook.

A total of 400 volunteers have been involved in rearing programs in the District. Fin-marking of the reared fish demands the largest number of participants of any volunteer project. Nearly 41,203 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.

Volunteers operated a total of 25 rearing or acclimation projects during the report period. Acclimation sites continue to be improved with each passing year. Sunset Middle School has adopted one of the acclimation ponds on the East Fork Millicoma as one of their projects. The two new acclimation ponds that were constructed in the Coquille River basin continued to be worked on during the contract period. The new pond on the North Fork Coquille has been problematic in that this pond was a new design. Volunteers have had a difficult time getting the pond to hold water. Most other acclimation ponds are constructed out of concrete. The pond on the North Fork was

constructed out of wood. Many volunteer hours as well as student hours have been dedicated to repairing this pond. The new pond on the North Fork and the new pond recently constructed on the South Fork should increase angling opportunity in the basin.

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 11 steelhead acclimation ponds in the District that release a total of 256,000 steelhead smolts annually.

Collect Physical and Biological Stream Survey Information.

Stream surveys were conducted on 10 streams during the report period. Stream surveys for adult salmonids were conducted for three purposes. The most common surveys were intended to inventory adult populations. Other adult surveys were conducted to evaluate habitat structures or fish culture programs. The third purpose of the adult spawning surveys was to provide base line information about reaches of streams so that, when subsequent proposed enhancement is conducted, the change in abundance can be potentially documented. There are many additional adult spawning ground surveys that need to be conducted. More volunteers are needed to conduct these surveys. The problem is that it takes a great deal of time to supervise these surveyors. Ongoing efforts continue to train lead volunteers to supervise and coordinate other volunteers to conduct these surveys.

Five formal training workshops were conducted in the District during the contract period. Individual stream surveyors were trained to conduct specific surveys. A total of 41 volunteers were individually trained during the contract period.

Most of the new surveys were developed to evaluate spawning habitat restoration projects. Some surveys were developed to evaluate hatchery programs. Surveys continued this year in an attempt to evaluate the release of unfed chinook fry into tributaries of Coos Bay. In addition to juvenile surveys adult netting was conducted to also evaluate these releases.

The objective of the juvenile salmonid surveys was to inventory juvenile populations. An inventory of juvenile populations is necessary to determine distribution and abundance. Distribution and abundance data are important in that these are indications of habitat or seeding deficiencies. If a stream was determined to be underutilized by coho or steelhead juveniles then the habitat deficiency or the lack of adult spawners was investigated. If the limiting factor was determined, then in some instances, plans were instigated to correct the problem or seed the stream with hatchbox fry.

Spring chinook adults were counted in their resting pools on the South Fork Coquille River again this year. This survey has been conducted each year since 1990 in an effort to evaluate the effect of the hatchery program on the river and to document population size. Below is the table exhibiting the counts during the survey years.

The health and abundance of chinook populations in the Coquille and Coos River basins are monitored each fall when the juveniles migrate from the estuary to the ocean. Students from Coquille High School assisted in seining the Coquille estuary to monitor not only the abundance, but also the length of the chinook prior to ocean entrance. The

size of juvenile fall chinook prior to ocean entrance is an indication of the population size in the basin. A similar survey was also conducted in the Coos River estuary.

Habitat Restoration

Habitat restoration projects are also an important component of the volunteer projects in the district. Seven habitat projects were conducted by volunteers during the contract period. One of the largest habitat projects to be completed in recent years has been the construction of the fishway over a series of falls on Fall Creek a tributary of the South Fork Coos River. This project has continued to be a success. For the past two years the Department's Research and Development Section has monitored the fishway as well as out-migrating smolts in an effort to study how the population above the falls expands over time. About 100 coho and steelhead were trapped in the top step of the fishway. The area above the falls was well colonized by juvenile coho and steelhead based on stream surveys. Research will continue to monitor the project for many years to come.

Another fish passage project that was accomplished by volunteers during the contract period was the improvement of fish passage over a falls on Elk Creek. This is a classic project where stream surveys identified a change in juvenile fish abundance above and below this suspected passage problem. Members of the Steelheaders Chapter drilled and dynamited the falls to improve passage at a wider range of stream flows. This was an important falls to improve fish passage in that this partial barrier is located a short distance upstream from the very large fishway on Elk Creek. The habitat above both of these projects is some of the best habitat in the district.

South Coast District

The Freshwater Fish Enhancement and Restoration Program provides funds for the development and implementation of the Salmon-Trout Enhancement Program (STEP). STEP was created to enhance salmon and trout resources of the state, while providing an opportunity for citizen involvement in fish enhancement programs. Over the past several years a clear direction for conducting fish enhancement activities has evolved in the South Coast District. That strategy is delineated in the two basin management plans that encompass the District, the South Coast Basin Management Plan (draft) and the Rogue Basin Management Plan (draft). The focus of fish enhancement activities in the South Coast District has been, and continues to be, the protection and rehabilitation of depressed chinook stocks.

STEP projects on the south coast are primarily focused upon broodstock collection and rearing of fall chinook. The resulting eggs are incorporated into smolt programs for rehabilitation of populations in lower Rogue tributaries and augmentation of the fall chinook fishery in the Chetco. The hatchbox program has been reduced substantially in recent years. Smolt projects on Pistol River and Hunter Creek have been completed. Only two hatchbox sites were permitted this year for chinook salmon. One hatchbox on Euchre Creek is part of an educational project, while the hatchbox at Santa Anita Lodge on the Rogue is associated with the production at Indian Creek Hatchery. The only hatchbox in the district using coho salmon eggs collected from local brood was retired this season. This hatchbox located in the New River/Floras Basin was discontinued this year after the completion of one life cycle of releases (4 years). The hatchbox has been operated by a local landowner in cooperation with the Curry Anadromous Fishermen. Several habitat projects designed to improve rearing habitat for fall chinook steelhead and cutthroat trout were completed.

The help of citizen volunteers was critical in achieving management goals for protection and enhancement of salmon and trout. Volunteers helped to complete juvenile chinook monitoring programs on the Chetco River, Winchuck River, Pistol River, and Hunter Creek. Volunteers were involved in rehabilitation programs using lower Rogue River fall chinook stocks and supplementation of Chetco River fall chinook and winter steelhead.

Presentations were made at 12 meetings of Curry Anadromous Fishermen and 22 meetings of Oregon South Coast Fishermen, Incorporated. Topics discussed were primarily Wild Fish Management Policy, STEP Guidelines, progress of District management programs, habitat problems and solutions, angling regulations, communications between Oregon Department of Fish and Wildlife (ODFW) and angler groups, Restoration and Enhancement funding process, National Marine Fisheries Service listing process and local species affected.

South Coast District STEP put on a display booth at the Curry County Student Science Symposium, a one-day event celebrating student accomplishments in the field of biological science and ecology.

Numerous presentations were given to five newly created Watershed Councils. The purpose of the presentations was to provide information to the public regarding STEP activities and accomplishments. Other information such as physical and biological survey data and ODFW restoration priorities were also provided.

There were 42 presentations given to classes at nine area schools. Topics included District activities, fish culture, genetics, life history, fish anatomy, and habitat protection and restoration. Many of these presentations included field trip activities such as releasing salmon fry into local area streams, learning about land uses and local government relationships with salmon habitat, exploring watersheds, etc.

Volunteers conducted approximately 30 hatchery tours for the general public. Approximately 227 people visited the Indian Creek Hatchery to attend these public tours.

The following workshops and conferences were attended by the STEP Biologist to provide additional training used to better inform peers and the public of plans, activities, and accomplishments under STEP:

- *Stream Scene* Workshop (five days).
- AQI Training Workshop for STEP volunteers
- STEP conference in Bend OR.
- Monthly office safety meetings.
- Annual Fish Biologist meeting.
- Restoration and Enhancement Board meeting held in Gold Beach.
- Monthly meetings with OSU extension and local Watershed Council Reps.

Presentations outlining South Coast STEP activities were given by the STEP Biologist at the following events:

- Fifth grade Fish and Wildlife Day.
- Lobster Creek 4-H summer youth camp.
- Free Fishing Day at Libby Pond.
- *Stream Scene* Workshop.

- Alternative Youth Activities Program.
- Gold Beach Boy Scout Troop work party / monthly meeting.
- Brookings Azalea Festival.

Local newspaper and newsletter articles were written by the STEP Biologist and published on the following topics:

- District position on fishing closures on local fall chinook (Curry Anadromous Fishermen Newsletter).
- Requesting additional volunteers at Indian Creek Hatchery (local newspaper and radio).
- Free Fishing Day (local newspaper and radio).
- Classroom incubator (local newspapers, multiple articles).
- Fry and smolt releases (local newspaper).
- Broodstock collection (local newspaper).
- Habitat project with Boy Scout troop (local paper).
- Fish trap on Winchuck River (local newspaper and television).
- Salmon Identification kiosk at the Port of Brookings (local newspaper and television).
- Coy Creek hatchbox operated by Alternative Youth Activity program (local newspaper).
- Brookings Azalea Festival River (local newspaper and television).
- Letter to the editor thanking local STEP contributors for $10,000 for Elk River Hatchery Steelhead broodstock spawning shed and holding tanks.

The South Coast Basin Management Plan and the Rogue Basin Management Plan set general priorities for habitat restoration. Priorities are restoration of habitat on Pistol River, Hunter Creek, lower Rogue River, Floras/New River, and Sixes River.

Our current prioritization of potential habitat projects comes from the South Coast Restoration Guide. This document identifies and summarizes current information related to potential restoration sites. There is a need for further prioritization and more detailed information for specific sites where we plan to conduct restoration efforts over the next several years.

South Coast STEP is also working closely with the Chetco, Hunter Creek, and Port Orford Watershed Councils to identify degraded or destroyed habitat in streams, as candidate sites for restoration projects.

Stream survey information in the South Coast District is rather outdated for many basins. District priorities for information are:

- Floras/New River - habitat surveys, coho, fall chinook;
- Hunter Creek - habitat surveys, fall chinook;
- Winchuck River - habitat surveys, fall chinook;
- Pistol River - fall chinook;
- Euchre Creek - fall chinook;
- Chetco River - fall chinook.

Jack Creek Cooperative Project.

Project start and completion: September 2000

Cooperators: Oregon South Coast Fishermen, South Coast Lumber, Cal Or Enhancement, South Coast Coordinating Watershed Council, Oregon Wildlife Heritage Foundation, Oregon Watershed Enhancement Board, ODFW South Coast Fish District.

Contractor: Joe Marsh, Marsh Excavation, Port Orford.

Landowner: South Coast Lumber.

Funding:			
	Cal Or Enhancement	$10,000	services
	South Coast Lumber	$5,000	services
	Oregon Wildlife Heritage Foundation	$8,306	services
	Oregon Wildlife Heritage Foundation	$19,500	materials
	S. Coast Coordinating Watershed Council	$18612	materials
	Total Project Cost	$61,408	

Scope: 33 sites, containing 97 pieces of large wood (35-70 ft), 0.7miles of stream treated. Project seeks to enhance salmonid habitat by placing 97 pieces of large wood into Jack Creek. This wood input will improve spawning habitat and contribute to habitat complexity for over-winter rearing of juvenile salmonids.

Location: The project site is on Jack Creek on South Coast property approximately two miles upstream of the confluence with the Chetco River (immediately upstream of the golf course).

Deep Creek Log Weir Maintenance.

Project start date: September 2000.

Completion date: November 2000.

Cooperators: Curry Anadromous Fishermen, South Coast Lumber, South Coast Coordinating Watershed Council, ODFW South Coast Fish District.

Contractor: Floyd Smith.

Landowner: South Coast Lumber.

Funding: Curry Anadromous Fishermen $1,200

Scope: Volunteers and contractor used an excavator to dig out and re-anchor three existing log weirs on Deep Creek.

Location: The project site is on Deep Creek on South Coast property approximately half a mile upstream of the confluence with the Pistol River.

Indian Creek Hatchery Boulder Weir Mmaintenance.

Project start and completion: September 2000.

Cooperators: Curry Anadromous Fishermen, Lower Rogue Watershed Council, ODFW South Coast Fish District.

Contractor: Dwain Rath .

Landowner: Scott Knox.

Funding: Lower Rogue Watershed Council $300

Scope: Volunteers and contractor used an excavator to reposition boulders in existing boulder weir out of large dig out and re-anchor three existing log weirs on Deep Creek.

Location: The project site is on Deep Creek on South Coast property approximately half a mile upstream of the confluence with the Pistol River.

Fish Culture.

The district priority for population rehabilitation has been Lower Rogue fall chinook. This program is conducted at the Indian Creek Hatchery, which is a STEP facility.

Fishery augmentation programs include Chetco River fall chinook, Elk River fall chinook, and Chetco River winter steelhead.

Volunteers assisted with broodstock collection activities on the Chetco River, and lower Rogue River for fall chinook. Volunteers also assisted with collection of winter steelhead on the Chetco River.

Fall chinook broodstock collected from the Chetco River were transported to Elk River Hatchery to be incorporated into a smolt program to augment the local fisheries.

Winter steelhead broodstock collected from the Chetco River were transported to Elk River Hatchery to be incorporated into a smolt program to augment the Chetco River sport fishery.

Fall chinook collected in the lower Rogue were transported to Indian Creek STEP facility and the resulting offspring were incorporated into a smolt program for the purpose of rehabilitating the depressed lower Rogue stock. A total of 80,806 fall chinook were reared to smolts by volunteers and released into the Rogue River estuary. Smolts reared at Indian Creek are marked with Coded-Wire Tags to monitor ocean contribution and returns. Excess eggs collected for the smolt program are released as unfed fry. This year 25,231 fall chinook fry were reared at Indian Creek Hatchery and released as unfed fry into Saunders Creek (lower Rogue tributary). Another 25,594 chinook fry were released into Edson Creek, as well as 34,814 into Shasta Costa Creek, and 11,168 chinook fry into Foster Creek for a total of 96,807 chinook fry released from Indian Creek hatchery.

A total of 10,000 fall chinook fry were released in Euchre Creek. An existing rehabilitation plan allows the incubation and release of 10,000 fry of Elk River Stock. This program will continue until the status of Euchre Creek fall chinook is determined and a rehabilitation plan is developed. The fry released in 1999 (1998 brood year) were from Elk River stock.

Area schools (Blanco, Driftwood, Euchre, Riley Creek, Azalea, Kalmiopsis, Upper Chetco, and South Coast Christian School) participated in classroom incubator projects in 13 classrooms.

Monitoring and Evaluation.

Volunteers have been instrumental in helping meet District monitoring objectives.

Governor's Watershed Enhancement Board Monitoring.

All habitat projects within the South Coast Fish District including STEP projects are documented and reported to the Oregon Plan Watershed Restoration Inventory Program. This is a statewide inventory that is administered by the Governor's Watershed Enhancement Board.

Indian Creek Hatchery Monitoring.

In order to better evaluate the effectiveness of the program at Indian Creek Hatchery a 100 percent mark rate was imposed. This required the marking of additional 50,000 smolts using Coded-Wire Tags and adipose fin-clips. The 100% mark is scheduled to continue at the Hatchery for three to four years.

Information obtained from returns will be used to determine if modifying the release timing of fall chinook smolts can increase the survival at the Hatchery. The increased mark rate will also help the South Coast Fish District develop a better understanding of the interaction between hatchery and wild fish in the Lower Rogue. Funding for this program came from ODFW Restoration and Enhancement funds. Volunteer help was used in recovering chinook snouts and CWT tags from the Rogue Bay fishery and at Indian Creek Hatchery this year.

Winchuck Screw Trap.

In an effort to characterize populations of fall chinook on the Winchuck River, the Oregon South Coast Fishermen (OSCF) operated a downstream migrant trap just upstream of tidewater on the Winchuck River. Operation of the trap represents the continuation of a 10 year data base that has been a priority for the district. However, this year due to budget cuts that affected district staffing, the Oregon South Coast Fishermen were asked if they could continue the operation of the trap in lieu of dropping the project and discontinuing the longstanding data base. This year the trap was run by the OSCF. The South Coast Fish District will utilize information obtained from trapping operations to help manage these populations.

Upper Rogue District

Development of the Salmon and Trout Enhancement Program.

Volunteers in the 1999-2000 STEP year participated in 17 different projects to improve fish passage, enhance fish habitat, plant trees in the riparian zone, learn spawner survey methodology, survey culverts, distribute eggs to classroom incubators, remove 2 dams, maintain fish screens, and salvage fish in the Upper Rogue Watershed District. One hundred and thirty one volunteers from 4 clubs spent 1,460.8 hours of their time to complete the projects. Boise Cascade, Rogue Flyfishers, Trout Unlimited, and ODFW donated $22,603.92 in money and inkind to complete the habitat improvement projects. A total of 3,275.5 miles were driven to and from the various project sites by volunteers from Trout Unlimited, Rogue Flyfishers, and the public. Ten volunteers salvaged 515 juvenile coho salmon, and 785 juvenile steelhead from isolated pools and transferred them to flowing streams in the same stream system. An additional 3 steelhead perished during the capture process. All fish transported were released unharmed to flowing water.

Ric Thowless participated in various STEP activities at least once a week for a total of 496.6 hours donated. Carl Summers drove 555 miles and spent 67.3 hours salvaging

fish in the Illinois River basin. Fred Fleetwood and Rich Nawa undertook a similar project in Trail Creek.

Volunteers participated in 5 habitat improvement projects that included 2 fish passage improvement projects, 2 riparian tree planting projects, and one instream log structure project.

Five miles of Anderson Creek were surveyed to determine the status of culverts. Fifteen volunteers were trained to do spawner surveys for adult salmon, steelhead, trout, and lampreys. Four volunteers distributed 13,000 spring chinook eggs to classroom incubators throughout the Rogue River Valley. Two volunteers from Rogue Flyfishers attended a meeting of the Syskiyou Flyfishers, a Northern California flyfishing club for outreach and extend to them information on the status of fish and fish habitat in the Rogue River basin. Miscellaneous projects included office help, warmwater fish sampling, back seat driver, fish salvage, fish screen maintenance, river cleanup, and retrieval of angler caught snouts containing coded wire tags.

Two volunteers spent 25.5 hours and drove 322 miles maintaining fish screens.

Implementation of the Oregon Plan for Salmon and Watersheds is a high priority item for STEP. The STEP Biologist spent 10 hours/month with the Williams Creek Watershed Council attending meetings, consulting on fish passage and habitat projects, and commenting when necessary on various plans.

Characterization of Fish Populations and Their Habitat in Streams.

Since most of the District's stream survey data were collected in the 1970s, physical and biological surveys are needed to update that information. District priorities for survey data include distribution and status of coho populations throughout the Rogue Basin and habitat surveys to identify restoration opportunities for coho and summer steelhead.

ODFW management personnel applied for grants received money for seasonal positions, and matching funds and manpower from other agencies to determine distribution and abundance of salmonids in stream systems in the Rogue River basin. Volunteers will again be used when information needs exceed funded efforts.

Habitat Improvement.

General priorities for habitat restoration are established by the Rogue Basin Management Plan. District priorities are to enhance spawning and rearing habitat, particularly for coho and summer steelhead, and to improve fish passage at barriers to fish migration. Specific habitat improvement opportunities were identified by habitat surveys conducted by ODFW Aquatic Habitat Inventory Survey crews. ODFW personnel prepared a habitat restoration guide for the basin that lists the best stream reaches for habitat improvement projects. Members of the Williams Creek Watershed Council and the STEP Biologist developed a watershed assessment and an action plan for fisheries enhancement projects in the Williams Creek basin.

Volunteers from Rogue Flyfishers assisted Boise Cascade Corporation and ODFW in completing a habitat enhancement project on Flat Creek. The project was funded with $10,016.52 from Boise Cascade who donated logs, equipment, and manpower to

develop the project in conjunction with the STEP Biologist, and Rogue Flyfishers and inkind donations of $5,376.00. The purpose of the project was to provide spawning and rearing habitat for coho salmon and steelhead trout in Flat Creek. The project was planned totally in accordance with all agency permits and National Marine Fishery Service recommendations for habitat improvement structures in the habitat of the listed coho salmon. Rather than anchoring the structures with cable as in past years, manila rope was used to stabilize the 9 structures made from 47 logs donated by Boise Cascade. Rogue Flyfishers volunteered to be trained to monitor success of the project for the next five years.

Fish passage was improved at an irrigation dam on Foots Creek that had come out of compliance with Oregon Water Resources Department law. The landowner was an elderly widow with little ability to maintain the dam and had little knowledge about the existing laws or alternative irrigation techniques. The 4.85-foot high dam was knocked over and the existing intake was replaced with an electric pump. Trout Unlimited cost shared the project with ODFW. The project opened up 5 miles of habitat to coho, steelhead, and trout at all flows.

Fish Culture.

The District is committed to allow natural colonization of improved habitat and uses hatchboxes only where this does not occur naturally. District priorities for rehabilitation of naturally reproducing salmonid populations were for coho and steelhead in middle and upper Rogue River tributaries. Rehabilitation efforts are directed to streams with under-seeded habitat and are intended to be short-term (one life cycle) projects. We have not identified any under-seeded habitat since the last hatchbox project was completed in 1998.

Teachers from 28 schools received 12,750 spring chinook salmon eggs to raise in the classroom incubator program, of which 7,164 survived to be released as swimup fry into the Rogue River.

A major finding of the Lost Creek Dam Evaluation and a major complaint of fishermen was that hatchery spring chinook raced to the Hatchery while wild fish rested in the river until time to spawn. Most of the harvest came from the wild population. Fishermen were asked to return snouts from fin-clipped spring chinook salmon to determine the success of the net-pen project at delaying returns of spring chinook salmon to Cole M. Rivers Hatchery and providing more of a fishery. A report is currently being written by a graduate student from Oregon State University on the results of the project.

NORTHEAST REGION and HIGH DESERT REGION

Eastern Oregon District

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. On January 1, 1997, a second Eastern Oregon STEP position was filled through a temporary job rotation assignment. A need was identified to update program and curriculum materials and develop new materials about fish-related issues. One of the Eastern Oregon STEP Biologists has completed a number of STEP statewide program development materials as well as assisting with the day-to-day operations of the district during the summer field season. The STEP Biologist stationed in Bend coordinates projects for Klamath, Deschutes, Mid-Columbia, La Grande, and Wallowa Fish Districts. The supervising STEP Biologist works from the Southeast District office in Hines. Projects related to statewide program development, STEP projects for Southeast, John Day, and Umatilla Fish Districts are coordinated from that office. The STEP Biologists worked closely together in coordinating volunteer activities throughout Eastern Oregon.

The job rotation assignment ended April 1, 2000.

During the 1999-2000 project year, 1,195 people participated in 132 volunteer activities in the Eastern Oregon STEP District. Volunteers donated 11,840 hours and $46,662 to STEP activities. This translates to $215,974 when volunteer hours are converted to real dollar equivalencies (volunteer time is calculated at $14.30 per hour, based on national figures) and added to the donation amount.

Development of the Salmon and Trout Enhancement Program.

Presentations/Recruitment

Activities involving schools, teacher education, and general public education about fish populations and their associated habitats continue to be a high priority in this STEP District. Eastern Oregon STEP biologists and volunteers participated in many presentations to schools and organizations, plus numerous one-on-one discussions with individuals. Three club meetings (Bend, Sunriver, and Klamath Falls) were attended for recruitment purposes. Many of the presentations occurred as parts of the unique Central Oregon activity called Kokanee Karnival and are lumped in with those numbers.

Watershed Workshops

Eastern Oregon STEP participated in one watershed education workshop during this contract period. Seventeen participants from throughout the state experienced the workshop training. *The Stream Scene: Watersheds, Wildlife, and People*, STEP's curriculum package continues to serve as the basis for teaching students about fish and the habitat in which they live. Watershed education workshops have been taught since 1986. The continued high rate of participation in the program indicates a good return on workshop efforts. Teachers and watershed educators continue to request this training.

Workshop support from ODFW's Aquatic Education program is no longer available. Watershed education workshops remain a high priority for STEP education projects. Efforts are in place to develop new partners to continue this program.

Classroom Incubators

Schools completed 59 classroom incubator projects during the contract period. Rainbow trout, summer steelhead, and kokanee salmon were available in approved locations in Eastern Oregon classrooms. This program continues to gain in popularity and is manageable only because volunteers from Bend's Central Oregon Flyfishers and Klamath Falls' Klamath Chapter Trout Unlimited are willing to provide both personnel and monetary support. Three volunteers spent 5 days traveling over 1,200 miles delivering fall rainbow eggs to central and eastern Oregon schools. Other support includes set-up and monitoring of the aquariums, and release of fry. Volunteers with the Kokanee Karnival program are part of an 'adopt-a-school' support system. Assigned volunteers make regular classroom visits to monitor incubators, help with fish dissections, and provide other aquatic education instruction as needed.

Kokanee Karnival

This year's Kokanee Karnival expanded to include 12 Central Oregon elementary schools. This caps the original growth plan for the project. A part-time Coordinator helps implement the program. Funding for this position is provided through grants and sponsorship donations. Producing partners for the Kokanee Karnival include ODFW, Central Oregon Flyfishers, Sunriver Anglers, Central Oregon Llama Association and the Deschutes National Forest. The program successfully connects schools receiving eggs for classroom incubators with wild fish spawning in a stream. The program now spans a two-week period. During the first week, six schools visited the Metolius River and Wizard Falls Hatchery. Week two brought six different schools to Browns Creek and Fall River Hatchery for instruction. Both sites offer close-up viewing of spawning kokanee salmon and a variety of other native flora and fauna. Volunteer instructors use demonstrations and hands-on displays at both the stream and hatchery. Fish stocking, using llamas and helicopters is demonstrated. A Native American provided insight into their salmon heritage with story telling.

The second segment of Kokanee Karnival involves a classroom incubator project. Trout or salmon eggs are delivered to classrooms for incubation during October, November or February, depending on school request. Volunteers make arrangements with schools for aquarium set-up and equipment needs before eggs are delivered.

In April, an angler education clinic was completed with students from the Kokanee Karnival schools at Shevlin Park in Bend. The clinic included three hours of instruction on angler ethics, fishing equipment, fish biology, and angling technique. After the classroom sessions, students enjoy a barbecue lunch before fishing in nearby Shevlin Pond. Although part of STEP's Kokanee Karnival program, the volunteer hours spent in support of the Kids' Angling Clinic are reported through ODFW's Angler Education program.

Schools completed a fourth segment of the Kokanee Karnival program by participating in a community stewardship project. Tree planting, storm drain marking, and a pond cleanup project were completed.

Approximately 1000 students and 50 adult chaperones enjoyed 1999-2000 Kokanee Karnival experience. One hundred thirty-six volunteers contributed

1,213 hours and $735 to this event. Event sponsors donated approximately $30,000 to ensure the success of this aquatic education project throughout the year.

Kokanee Karnival continues to receive exceptional support from both the volunteer community and our financial sponsors. The 'Karnival' is a tremendous event that pulls together volunteers, school children, public agencies, and sponsors to benefit fish and youth education. Next year the program will maintain its 12-school level. Future plans include development of a Kokanee Karnival Internet Web site.

Kokanee Karnival receives oversight from a steering committee composed of members from each of the producing partner organizations. Volunteers now run the program in its entirety, with ODFW assuming a consulting role.

Fish Biology/Dissection

Fish biology/dissection instruction continues to be popular with local schools. Approximately 100 students (plus teachers) learned the external and internal parts of a salmonid. The class included information on fish adaptation, genetics, life history, coded wire tags, and angling tips. Scales were read with a microscope to determine the age of the fish. Time was also spent helping students interpret the Oregon Sport Fishing Regulations.

A script and curriculum for volunteers has been developed for volunteers who wish to assist with this project. A training course for potential volunteers was held in January 2000. Additional training sessions are planned. Twenty-three schools have requested this activity for the 2000-01 school year.

Volunteer Recognition

Service awards and other recognition items were presented to teachers and volunteers at the Kokanee Karnival Critique/Potluck at the Environmental Center in Bend. Forty-one volunteers, teachers and agency staff attended this popular event.

A number of individual awards were presented throughout the year.

Publications/Training Materials

STEP Biologists were trained (or retrained) in the use of the Aquatic Habitat Inventory training packet, *Surveying Oregon's Streams: A Snapshot In Time*. Twenty-five participants from watershed councils received training in the use of the materials in April 2000. STEP Biologists partnered with staff from ODFW Fish Research and the Oregon Watershed Enhancement Board to conduct the training. The training packet includes: lesson plans, data collection protocols for basic and intermediate habitat surveys, riparian surveys, and photo surveys, plus a slide show and script, training tools, data sheet masters and examples, field reference sheets, quality control checking systems, landowner contact tools, data analysis and interpretation tools (including a Web site), volunteer management tools, several pages of resources (both literature and personnel), and a glossary.

ODFW's Aquatic Inventory personnel maintain and update the Web site and have recently posted the entire publication. The Web site will serve as the source of major updates.

At least two other training packets are high-priority items for development (fish sampling protocols and spawning survey protocols).

The Eastern Oregon STEP Biologist and a classroom teacher from Bend's Pilot Butte Middle School completed the *Educator's Resource Guide for Hatching Salmon and Trout in the Classroom*. A final draft is ready for ODFW's review. The document will be ready for distribution in January 2001. Development of teaching kits to supplement these curricular materials is also under consideration.

The *Fish Eggs to Fry* manual is complete. The document will be available in late December 2000. Work also continues on the fish genetics unit. Printing is scheduled for March 2001.

Additional dollars for contractor support and printing for the above publications were provided by STEP Administration.

Work on the fish identification booklet and insect reference collections is delayed because of other priorities.

The STEP Biologist assigned to the Hines office also served on the Oregon Watershed Enhancement Board's Education Advisory Committee, primarily assisting with grant application scoring and evaluation.

STEP Conference

STEP Conference 2000, STEP Into Your Watershed, was held in early May in Bend, Oregon. Approximately 150 attendees enjoyed the numerous sessions and events associated with the conference. An Internet Web site provided information to the public as program planning occurred. Approximately 40 volunteers contributed 1200 hours in support of this conference focused on watershed partnerships.

Eastern Oregon STEP Internet Web Site

Volunteer opportunities with the Eastern Oregon STEP district were posted on the Internet for recruitment and informational purposes. Numerous inquiries were received by E-mail and telephone for more project information. The Web site is now part of the ODFW main page to increase visibility. The Web site includes general STEP information, the annual report, equipment checklist for overnight projects, thoughts on volunteer management (from a STEP Conference), links to STEP projects in the Eastern Oregon STEP district and media reports that were published in the Bend Bulletin. As Internet use increases, Web pages promise to be an effective tool to involve volunteers in STEP projects and provide pertinent information to the general public. A future goal is to use volunteers to update and maintain the Web site.

Project Reports

One hundred thirty-two STEP activities were documented during this contract period. The STEP biologists worked closely with each fish district where STEP projects were completed. Reports were finished for all projects directly supervised by the Eastern Oregon STEP biologists and forwarded to appropriate fish districts and research biologists. Copies of the reports were also provided to interested volunteers.

Volunteer statistics for the Eastern Oregon STEP district were provided to the Regional Volunteer Coordinator for the 'Annual Volunteer Report'.

News Releases/Articles

The Blue Mountain Eagle in John Day provided media coverage for the Middle Fork John Day bull trout inventory project.

The Kokanee Karnival Coordinator was instrumental in making media contacts to showcase this aquatic education program. Several articles were written on Kokanee Karnival events during this reporting period.

Project information was also compiled and released to clubs for information and recruitment.

Characterization of Fish Populations and Their Habitat in Streams.

A major emphasis of the 1999-2000 field season was assisting districts with population trend information in the Malheur Lakes and John Day River basins. Additionally, volunteer projects focused on spawning distribution of bull trout in the Metolius, Walla Walla and Malheur rivers. Steelhead spawning surveys were completed on Trout Creek (Deschutes) and rainbow trout spawning surveys occurred on the Upper Deschutes River.

Survey Statistics

During the 1999-00 contract period, 31 surveys were conducted. These surveys included seven spawning surveys, one physical/biological surveys, and 22 fish population surveys. One survey included work with warm water fish species. One hundred twenty-three volunteers (including students) donated 2079 hours to gather survey data. More than 143 miles of stream were surveyed. Informal training sessions for new volunteers and safety orientations were completed when and where appropriate.

The appropriate fish district received data sheets and/or completion reports for each survey activity directly supervised by the Eastern Oregon STEP Biologist. Corvallis Research biologists assisted districts with planning and data interpretation from these projects.

Fish Population Survey Highlights

The expanse and isolation of the Eastern Oregon STEP district lends itself to multi-day camping trips to facilitate data collection on remote streams. STEP was instrumental in organizing and participating in several multi-day projects during the contract period. 'Campout' projects draw heavy volunteer participation. Many volunteers use these trips to explore 'new' areas of the state and at the same time, provide valuable assistance to fish district staff.

Middle Fork John Day River: Ten volunteers spent 352 hours helping district staff collect fish population data from several tributaries of the Middle Fork John Day River. Distribution (upper and lower limits), abundance, size, and age composition information were recorded. A key project objective was to locate bull trout in historical or suspected bull trout tributaries to the Middle Fork John Day River using the new American Fisheries Society's protocols. One bull trout was found using the new procedures.

The Malheur Watershed District staff hosted a thank-you fishing outing for the Central Oregon Flyfishers and the Sunriver Anglers on the upper Blitzen River. As part of the event, volunteers collected non-lethal genetic samples from the fish they caught. These genetic samples will continue to build the database for the Blitzen River redband trout populations. As a result of the Steens Mountain Wilderness designation, the Blitzen River is now a refuge for redband trout, making this information even more important.

Silvies River Basin Redband Trout Inventory: Fourteen volunteers donated 473 hours to collect population data from redband trout in the Silvies River drainage (Malheur Lakes). Distribution, abundance, size, and age composition information was recorded. Data was collected from approximately 50 inventory sites and 40 upper limit designations were determined. Simultaneously, spotted frog toe samples were collected throughout the basin for genetics studies. Phase II of this cooperative effort among ODFW, USFS, USFWS, the Paiute Tribe, and volunteers took place over a two-week period. Because of the large volunteer component of this project, it was completed in two years instead of the originally planned three years.

Spawning Surveys

Volunteers assisted with bull trout spawning surveys in the Deschutes, Umatilla and Southeast districts. Redds and adult fish were numerated on Metolius River tributaries, South Fork Walla Walla River and North and Middle Forks of the Malheur River and tributaries. Summer steelhead surveys were completed on Trout Creek (Deschutes) and for rainbow trout in the upper Deschutes River (Deschutes).

A record number of bull trout redds were counted in the North Fork Malheur Basin. Little Crane Creek alone had 59 redds. An experiment to determine how quickly the redds were constructed was tried. The STEP Biologist and two volunteers walked Little Crane Creek three consecutive days during the peak-spawning week. Bull trout redds occurred overnight, ranging from small tail swipes to large redds, three feet or more across. In addition, it appears a pair of

bull trout may dig more than one redd in some cases. Efforts to change timing of livestock usage on bull trout spawning streams in the basin are ongoing.

Salvage Projects

For a number of years, volunteers have assisted with annual fish salvage projects in unscreened/screened diversions following de-watering of the canals by local irrigation districts. Eighteen volunteers donated 108 hours to assist with a single salvage project during this contract period. Salvaged fish are returned to the streams from which they were diverted. Actual counts, species information, and length frequency data are gathered during these salvage projects.

Culvert Surveys

Eastern Oregon STEP Biologists did not supervise any culvert surveys during this contract period.

Habitat Improvement.

One major habitat improvement project and one habitat monitoring effort were reported during the 1999-00 contract period. Thirty-nine volunteers spent 636 hours on these projects. One riparian planting project was completed on Fifteenmile Creek (Columbia).

Fish Culture.

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.

Hatchboxes

No hatchboxes operated during the 1999-2000 contract period in the Eastern Oregon STEP District.

Rearing Project

One egg incubation/rearing project continues in the Eastern Oregon STEP District. The Deschutes Valley Water District project at Opal Springs received 5000 rainbow trout from Oak Springs Hatchery. Fish were reared to 4.5/lb before release into the Crooked River. This production mitigates fish loss from a small hydro project.

Classroom Incubators

Fifty-nine classroom incubator projects were in operation during the 1999-00 contract period. Three conservation clubs continue to assist schools in purchasing needed aquarium supplies and trouble-shooting incubation problems.

Broodstock Collection

No broodstock collection projects occurred during the 1999-2000 contract period in the Eastern Oregon STEP District.

Spawning/Finclipping/Stocking.

With implementation of the Wild Fish Management Policy, certain fish stocks must be recognizable in the creel. Thirty-nine volunteers spent 143 hours marking fish at Fall River Hatchery.

One hundred seventy-four volunteers spent 738 hours assisting Oak Springs Hatchery personnel with rainbow trout spawning and a variety of other hatchery projects.

Volunteers from the Sunriver Anglers, Central Oregon Flyfishers, Central Oregon Llama Association, and High Desert Region personnel organized and staffed the Central Oregon Sportsman's Show in Redmond in March 2000. Forty-eight volunteers contributed 282 hours and $494 in donated mileage during this four-day event.

Round Butte Hatchery staff, Trout Creek project staff, High Desert region personnel, OSP troopers and volunteers organized and staffed the fishing pond at the Jefferson County Sports Show in Madras. Several hundred adults and children enjoyed fishing, learning fish biology, knot tying and viewing wildlife displays.

Two major backcountry fish stocking projects were completed during this reporting period. Forty-three volunteers from the Central Oregon Llama Association spent 344 hours packing fish into Doris, Lucky, and Blow Lakes in the Oregon Cascades. The High Desert Trail Riders horse club (25 volunteers, 300 hours) from Klamath Falls stocked rainbow trout in two lakes in two different wilderness areas in Klamath County.

A total of 214 volunteers helped with fish liberation, tagging, rearing, hatchery maintenance activities and education projects during the 1999-2000 reporting period. Nine hundred hours were donated to High Desert and Northeast hatcheries and districts for fish culture activities (outside of classroom incubators). These hours are in addition to the Hatchery Host Program, documented through the Regional Volunteer Coordinator.

SALMON-TROUT ENHANCEMENT PROGRAM

Statewide Summary of STEP Participation

October 1999 through September 2000

Category/Activity	Number of Projects	Number of People	Hours*	Miles Surveyed	$ Donated	$ ODFW
Youth/Education						
Habitat Improvement	25	264	2,910	2	15,427	815
Stream Surveys	77	1,552	5,766	18	5,752	275
Training Classes	28	2,999	2,420	0	31,060	856
Egg Incubation	315	5,682	31,882	0	11,017	1,554
Broodstock Collect	6	163	1,852	0	1,200	425
Rearing	10	383	6,061	0	3,030	850
Acclimation	9	271	972	0	1,140	715
Information Ext.	81	2,946	4,264	0	1,850	50
Recruitment	11	319	370	0	250	75
Miscellaneous	11	87	458	0	120	150
Spawn/Fin Clip/Stock	3	37	137	0	100	50
Subtotal	576	14,703	57,092	20	70,946	5,815
General Public						
Habitat Improvement	74	685	6,131	3	117,503	15,506
Stream Surveys	115	399	5,432	227	14,291	3,071
Training Classes	27	750	2,868	5	1,831	591
Egg Incubation	42	177	6,872	0	3,730	1,605
Broodstock Collect	24	668	11,705	0	10,626	21,750
Rearing	22	930	21,228	0	62,097	27,709
Acclimation	32	291	3,658	0	4,350	7,772
Information Ext.	171	5,579	7,892	0	94,980	2,968
Recruitment	12	145	686	0	2,040	0
Miscellaneous	44	643	5,199	0	3,576	1,600
Spawn/Fin Clip/Stock	56	994	7,849	0	21,853	450
Subtotal	619	11,261	79,520	235	336,877	83,023
Total	1,195	25,964	136,612	255	407,823	88,838

* = includes hours donated by volunteers helping conduct projects and hours of participation by students and the public in STEP educational activities.

SALMON-TROUT ENHANCEMENT PROGRAM

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