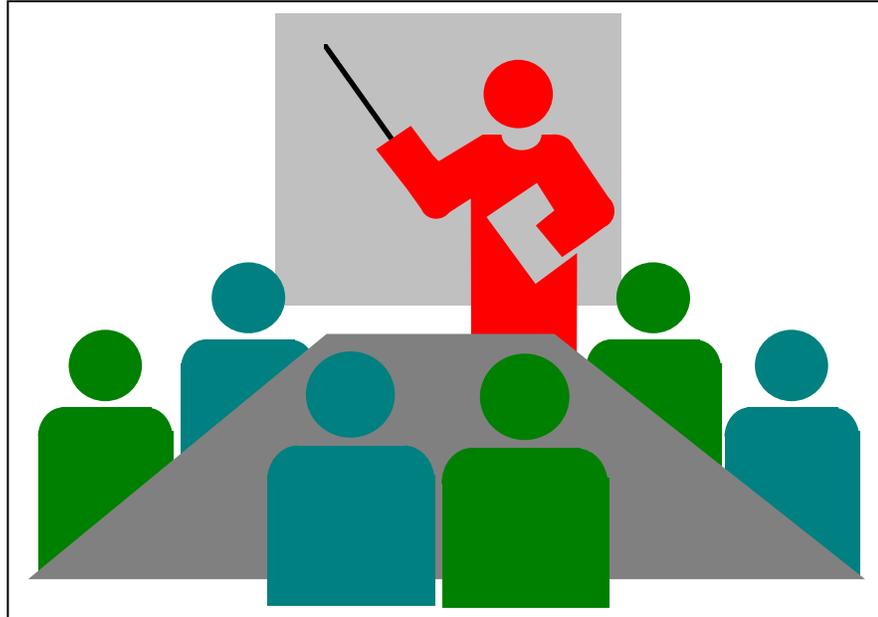




SALMON TROUT ENHANCEMENT PROGRAM



SALMON TROUT ENHANCEMENT PROGRAM ANNUAL PROGRESS REPORT for 1998

Edited by: *Charlie Corrarino*
Evelyn Walton

Oregon Department of Fish and Wildlife
2501 SW First
PO Box 59
Portland, OR 97207

This project was partially financed with funds obtained through the Federal Aid in Sport Fish Restoration Program.

CONTENTS

	Page
EXECUTIVE SUMMARY by <i>Charlie Corrarino</i>	1
Appendix Table 1. Summary of STEP Participation	14
Appendix Table 2. STEP Biologist List	15
Appendix Figure 2. STEP District Map	16
<u>Northwest Region Annual Salmon Trout Enhancement Program Report</u>	
North Willamette District - <i>Dick Caldwell</i>	
Mid Willamette District - <i>Gary Galovich</i>	
Upper Willamette District – <i>Dawn Kori Nearing</i>	
North Coast District - <i>John L. Casteel</i>	
Mid Coast District (Salmon River to Alsea River) - <i>Tony Stein</i>	
Mid Coast District (Siuslaw River) - <i>George Westfall</i>	
<u>Southwest Region Annual Salmon Trout Enhancement Program Report</u>	
Umpqua District – <i>Laura S. Jackson</i>	
Tenmile, Coos and Coquille District - <i>Thomas J. Rumreich</i>	
South Coast District - <i>Clayton F. Barber</i>	
Upper Rogue District - <i>Charles A. Fustish</i>	
<u>Northeast and High Desert Region Annual Salmon Trout Enhancement Program Report</u>	
Eastern Oregon District - <i>Ken Cannon</i>	

EXECUTIVE SUMMARY

We report on the activities and accomplishments achieved from October 1, 1997, through September 30, 1998, during the implementation of the Salmon Trout Enhancement Program (STEP). The Salmon Trout Enhancement Program involved citizens in activities that enhanced salmon, trout and other fish resources of the state. Trained volunteers worked with Oregon Department of Fish and Wildlife (ODFW) personnel on projects to rehabilitate and enhance salmon, trout and other fish populations and their habitat. Projects also served as education opportunities to increase understanding by the public 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. 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 enhance populations of naturally produced salmon and trout.

The Salmon Trout Enhancement Program Public Advisory Committee (STAC) recognized eight key issues directed towards STAC involvement. Those are: outreach to industry, local government and other agencies, funding, roles and responsibilities of STAC, structural organization of STAC, recruitment of STAC, selection of STAC members, performance of STAC, and training for STAC members. Alternates were selected for 10 of the 13 STAC positions.

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 results of our work in 11 STEP districts are identified in the Summary of STEP Participation Appendix Table 1. A complete district report is available for review upon request from each district STEP biologist. Appendix Table 2. provides STEP biologist contact information and Appendix Figure 1 identifies the STEP district boundaries.

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 drainages 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's groups, and civic organizations. STEP displays, information, and materials were made available and/or set up at the Salmon and Mushroom Festival held in the town of Welches, the Tualatin River Watershed Workshop held at Pacific University in the town of Forest Grove, the Sportsmen Exposition held at the Expo Center in Portland, the Tryon Creek Watershed Fair held at Tryon State Park, the Beaver Creek Watershed Fair held in Troutdale, the Friends of Beaver Creek sponsored *Native Plant Sale*, the "Passport to Fishing" *Free Fishing Day* event held at Bonneville Fish Hatchery, the Westmoreland Park Fishing Clinic held along Crystal Springs Creek in Southeast Portland, the Oxbow Salmon Festival held at Oxbow Metro Park, and the Columbia Region Volunteer Picnic held at Sauvie Island. These ten recruitment activities generated a contact with thousands of individuals attending these special display events.

The STEP Biologists implemented the use of four 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.

Storm Drain Marking Program material was distributed upon request to the public to direct them in water quality education and protection projects. The material provides information on the development and implementation of a storm drain stenciling project. Storm drains are identified by a print of a fish and literature distributed to adjacent residences informing them of the intended function of the storm drain. A set of related teaching activities are available for educators.

The Fish Eggs to Fry manual plus the Classroom Incubation Support Activities manual are self-help programs for schools to set up classroom

incubation systems to study the life-cycle development for cold water fishes. The North Willamette STEP District involved 99 schools in egg incubation activities and one fish egg incubation and 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.

Two free fishing clinics, the "Passport to Fishing" Clinic at Bonneville Fish Hatchery and the Westmoreland Fishing Clinic sponsored by Milwaukie High School, were conducted in the Portland Metro Area. The "Passport to Fishing" Clinic at Bonneville Fish Hatchery celebrated its fifth year with 1,035 students participating and learning the proper instructions for fishing and 104 enthusiastic citizen volunteers from 11 sportsmen's clubs assisting in this well-received fishing clinic event.

Six training workshops were conducted by the STEP Biologist. Youth and education groups plus several general public groups participated in training workshops for habitat inventory, spawning fish survey, juvenile fish inventory, fish culture egg incubation, and in fish acclimation. A total of 30 volunteers received training.

Volunteers were trained in spawning fish inventory and projects were initiated in the North and South Forks of Scappoose Creek, Barlow Trail Creek, Tickle Creek, and Little Clear Creek. Ongoing spawning fish surveys continue to be conducted by students as well as citizen volunteers in District streams including; Beaver Creek, Tryon Creek, Kelly Creek, Crystal Springs Creek, and Johnson Creek.

The second year of the stream *nutrient enrichment* project was completed in the District with cooperation from the US Forest Service (USFS) Zig-Zag Ranger District. The project involved placing 400 adult coho salmon carcasses, which is intended to mimic historic run densities of spawning coho salmon in the system, in Still Creek to increase the nutrient levels for aquatic organisms. Fourteen volunteers from Corbett High School and the local area assisted and donated approximately 80 hours distributing the carcasses over a two-month period at designated locations in Still Creek. The STEP Biologist secured coho salmon carcasses from ODFW's Sandy Fish Hatchery and transferred the carcasses to the volunteers weekly. A second stream *nutrient enrichment* project was planned and set up to take place this upcoming winter in the North Fork of Eagle Creek and Bear Creek. This project will be a cooperative effort between ODFW, the Bureau of Land Management, and Eagle Creek National Fish Hatchery. Two hundred coho salmon carcasses will be distributed in the North Fork Eagle and Bear Creeks by members of the Boy Scouts of America Eagle Scout Troop #35.

Students from the River Keepers Program are currently involved with water quality analysis at the project sites in Still Creek where the *nutrient enrichment* project is taking place. Invertebrate sampling in the treatment area will be conducted by local high school students. In addition, algal sampling and analysis will be conducted by students from Portland State University.

Hobo temperature monitoring probes were placed in several tributaries of the Clackamas River by volunteers from the Clackamas River Watershed Council. This temperature analysis is intended to document summer time water temperatures in creeks within the urban area where riparian planting projects were conducted in past years.

Twelve habitat improvement projects were completed during the report period. Approximately 20 students as well as 188 adult volunteers donated 940 hours of labor and approximately \$800 towards stream habitat improvement efforts.

Two fish passage projects that were completed on the Middle Fork of Tickle Creek and Wheeler Creek required maintenance following high winter water flows.

Culvert inspection projects were conducted by volunteers from the Clackamas River Watershed Council along tributaries of the Clackamas River. These inspections were intended to identify potential passage problems both upstream and downstream for adult and juvenile fish.

Five 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. The native trees were donated to the project by the Friends of Beaver Creek group along with a grant received by the City of Troutdale Parks Department. Additional projects were conducted by volunteers on Fanno Creek by the Fans of Fanno Creek, on Beaverton Creek conducted by students from Levi Anderson School, on Wheeler Creek sponsored by the Johnson Creek Watershed Council, and on Wee Burn Creek conducted by volunteers from the Mazama's Organization and sponsored in part by the Resort at the Mountain. 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 the Tualatin River. Over 50 volunteers participated in the Beaver Creek *Earth Day* stream cleanup project and donated approximately 300 hours of volunteer time. The Stop Oregon Litter and Vandalism organization, once again, provided grant money for trash bin rental and garbage bags and the Friends of

Beaver Creek sponsored a hot dog lunch for all project participants. The other *Earth Day* stream cleanup projects were sponsored by the Fans of Fanno Creek, the Tualatin Valley River Keepers, and the Unified Sewage Agency (USA).

One Stream Enhancement Initiative project was completed along Trout Creek. This project was a cooperative effort between LongView Fibre Tree Farm and ODFW. LongView Fibre donated logs, equipment, and the equipment operator to build several instream structures to increase fish habitat diversity and slow down water velocities in Trout 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 have been reduced due to concerns for the genetic integrity of indigenous species and efforts directed into habitat restoration, acclimation, and rearing of juvenile fish. This is an attempt to increase wild fish production, reduce competition of hatchery stocks on wild fish production, improve hatchery smolt survival, reduce straying of hatchery stocks, and improve angler opportunities.

Ninety-nine school classroom incubation projects plus five individual hatchbox projects incubated and released over 103,000 unfed salmon, trout and steelhead fry into 16 lakes, ponds, and streams within the Portland Metro Area. Classroom egg incubation projects have a solely educational purpose and are intended to supplement the 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 Steelheaders' commitment to the schools includes the purchase of the incubation equipment, approximately \$10,000 this past year, plus 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 eight acclimation projects, conducted during the fall and spring of 1997-98, throughout the North Willamette Fish District. One hundred and eight volunteers generated 514 hours of time in completing these acclimation projects. The hours and dollars donated includes the volunteer efforts to rebuild the Marmot Acclimation Pond which was damaged by the floods of 1996-97. The Sandy Chapter of ANWST took the lead in coordinating engineers, contractors, volunteers from several sports groups, students, and personnel from Portland General Electric in the successful rebuilding of the acclimation pond. In addition, private landowners operated and assisted with acclimation projects

on their private property including: the Cassidy Acclimation Pond and the net-pen acclimation projects at Larson's Marina and at the Oregon Museum of Science and Industry (OMSI). Over 340,000 hatchery salmon and steelhead smolts, transferred from ODFW and federal fish hatcheries, were acclimated in eight District projects. 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 also recruited to assist in the Volunteers Fish Stocking Program for catchable trout in the North Willamette Fish District. Fourteen volunteers accompanied fish liberation truck drivers on 53 trips while donating approximately 260 hours assisting stock catchable trout in lakes and ponds around the Fish District.

Mt. Hood Community College continued their aquaculture 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 pond, Wahkeena Pond, in the North Willamette Fish District. Club members have donated labor and dollars towards building a floating fishing dock, improving pond fish habitat, and stocking the pond with warmwater fish.

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 Willamette Falls at Oregon City. Within this area, five major stream systems flow from the western slopes of the Cascades into the Willamette (Molalla, Pudding, North and South Santiam, and Calapooia). Another six (North and South Yamhill, 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. Communities in the northern portion lie along the southern edge of the expanding Portland metropolitan area.

Further south along the "I-5 corridor" Salem, Corvallis, Albany and Eugene are also experiencing rapid growth. A number of smaller cities, towns and rural communities are interspersed throughout. The natural resource concerns that have accompanied the area's historical land uses of timber harvest and agriculture have been complicated by the challenges posed by urbanization.

Information is also provided through presentations, displays, and increasingly to participants in field or project tours. Audiences during 1997-98 included individuals and groups of all ages and from a variety of interests and backgrounds. Within the District, close to 50 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 400 school children and over 900 adults.

Some highlights this past year included:

Tours of STEP habitat projects given at workshops hosted by county Soil and Water Conservation Districts and Watershed Councils, and during field trips offered to participants in the Corvallis Stormwater Master Planning process.

Presentations detailing fish resources, management concerns and ODFW volunteer opportunities at Watershed Council 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 nine 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.

A presentation highlighting the District's efforts towards urban stream management in the Willamette Valley and volunteer involvement with those efforts was given at a Regional stormwater conference in Portland. Attendees were of technical and engineering backgrounds and represented public works departments throughout the Northwest.

Participation in ODFW/STEP interactive displays at the Oregon State Fair in Salem, the North Santiam Watershed Fair held in Stayton, the annual fair of the Oregon Chapter Federation of Flyfishermen, the annual meeting of the Long Tom Basin Council, and the inaugural Willamette Confluence. The number of visitors to the displays at each of these events was estimated to be in the hundreds.

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

Position for the fourth consecutive year on the Oregon Trout Salmon Watch program Corvallis steering committee, assistance with the program's teacher training program and presentations during area Salmon Watch field trips.

In addition, STEP participated in three teacher-training workshops attended by instructors from both within and outside Oregon. These workshops were hosted by a diversity of organizations including Oregon Trout, the Northwest Center for Sustainable Resources and Oregon Public Schools. During the workshops teachers were provided field experience with study materials that focus upon watersheds, riparian areas, water quality, stream habitat, aquatic biology, and fish management. Forty-eight teachers participated in the three workshops and are expected to involve their classes in stream study and monitoring efforts during the 1998-99 school year.

Also in terms of youth education, 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 three interns from Oregon State University, Willamette University and Linnfield College, hosted six job shadows for high school students, and served in the role of "mentor" for seven 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 1997-98 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 4,000 individuals participated in 242 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 subbasins within the District. Sixty adults participated in 36 surveys covering just over 31 miles of stream. Approximately 1,250 volunteer hours were donated with the majority of effort expended by individuals independently monitoring District fish traps or assisting District personnel with fish inventory efforts.

Some highlights of this year's survey efforts include:

Continued volunteer involvement with the construction and operation of fish traps. Traps were maintained and operated by landowners, high school students, Watershed Council volunteers, and members of both the Albany Chapter and Chehalem Valley Chapter Association 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.

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

For the second year, continued spawning surveys for kokanee in tributaries to Green Peter 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 determine status of native trout populations 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, 15 surveys involving close to 220 students were conducted on approximately four miles of stream or involved fish trapping or inventory efforts. Most of these surveys focused upon streams near to the participating school and were often in urban areas. Students donated approximately 930 hours during these efforts.

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 1997-98 contract year, **22 habitat projects** addressing both instream and riparian concerns were conducted in eight of the District's subbasins. With implementation of the Oregon Plan in the Willamette Valley, many projects that take place on commercial timberlands are now coordinated by an ODFW Habitat Biologist funded specifically to work with the timber industry. As a result, STEP has had less involvement this year than in the past in these areas. Instead, additional habitat enhancement effort has been focused upon waters in agricultural and urban areas.

Most notable were:

Continued cooperative efforts with The Campbell Group on lands owned by John Hancock Corporation along Wiley Creek in the South Santiam basin. Effort this year was directed towards replacing older culvert crossings that created fish passage problems or presented a high risk of failure during storm events and stabilization of hillslope roads and landings that have been the source of catastrophic slides.

Urban stream enhancement efforts in Salem, Corvallis, and Wilsonville that have included significant educational components.

Several fish ladder projects constructed to resolve passage concerns on private lands. Many of these focused upon small streams in valley floor or foothill areas where the species of primary concern are native cutthroat trout.

Of the 22 habitat projects, three involved area schools with over 60 students participating. The remaining 19 projects were conducted with volunteer assistance from 47 adults.

The increasing emphasis placed upon the conservation of wild fish resources in the Mid Willamette area, particularly in light of decreasing run sizes and potential 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 to fish production goals. During 1997-98, schools from both rural and urban areas participated in 92 egg incubation projects raising rainbow trout and spring chinook salmon. The rainbow trout were released by schools at a number of selected locations scattered throughout the valley including many local, isolated ponds. Spring chinook fry were released primarily into the lower Molalla and Santiam basins. As a means of fostering further public involvement with ODFW's educational efforts along urban streams, Salem schools released their spring chinook fry into Mill.

Classroom egg incubation projects are extremely popular among area schools and the growth experienced by the program since 1992 can be expected to continue. Because the STEP District does not actively promote 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 has worked hard 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 as well as 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 thus allowing all participating schools to continue to receive personal attention.

Individual volunteers, volunteers from the Senior Fishing Buddies, and members of the Chehalem Valley, 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 2,000 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.

Upper Willamette District

This STEP District includes the Upper Willamette from the McKenzie River to the headwaters of the Coast and Middle Forks, and the Siuslaw River from Swisshome east, including the Lake Creek Watershed.

General public participants gave project presentations, led and participated in tours and training to expand the new knowledge gained from inventory and fish culture activities throughout the year. Local television, radio and newspaper coverage showing volunteer activities and projects also enabled local residents to see what was being undertaken in their communities and become involved themselves in the natural resources projects that were of interest to them.

Thirty-six survey training classes were taught with a total of 657 attendees. A total of 33 surveys were completed as a result. Fifteen training classes were offered to students and 17 surveys were completed. Training classes cover data collection techniques and safety while surveying.

This year the majority of surveys were evaluations of culverts throughout greater Lane County, Oregon, in conjunction with metropolitan centers. Students from three high schools, conducted culvert inspections as part of their Certificate of Advanced Mastery (CAM) requirements. Instream habitat surveys were also conducted by students to meet their Natural Resource CAM requirements and to collect data for comparison with data collected by students the previous year.

An eagle scout candidate undertook, with his team of 12, inspections of the Quartz Creek mainline, tributary to the McKenzie River. Culverts were measured, determination of fish passage assessed and photos taken to document current condition. This information was provided to landowner, Rosboro Lumber Company, for their database and road repair crew. The

STEP Biologist used the information to design structures for an instream habitat project that took place during the summer. Through coordination of volunteer projects and upcoming projects, current data elements often provide additional information to make a project more complete. By identifying limiting factors ahead of time and working with landowners to gather more materials, this project was expanded to eliminate fish passage, rearing and spawning concerns.

Forty-two STEP habitat projects were undertaken this fiscal year in Lane County, which involved 249 individuals, 3,347 hours, and \$42,703 in donations for materials and mileage. ODFW funded an additional \$3,695 towards these projects. It was the STEP Biologist's responsibility to work with landowners, gain permission, secure funding by writing grants, and secure a work force which involved training and supervision.

This past year the STEP Biologist worked with Eagle Scout candidates on stream bank stabilization projects on two streams. Lost Creek, tributary of Middle Fork Willamette in Elijah Bristow State Park was a continuation of a project started the previous year by the Cascade Family Flyfishers. Additional instream work was completed by the park staff and Pleasant Hill High School Forestry students. Plantings along the stream bank were completed by an intern from the University of Oregon. The second stream, Hills Creek, is also a tributary of the Middle Fork Willamette River. Trees were drilled and secured along one-eighth mile of stream to stop bank erosion and settle out sediments to build up the bank. Trees secured to the bank have since been grown through by grasses and willow cuttings placed beneath the Christmas trees.

Most habitat projects involve students working with retired volunteers and landowners to plan and complete projects. Having people of diverse ages work together allows all participants to learn from one another.

Fish culture activities for STEP volunteers this past year included hatching, rearing and marking of fish to enhance native stocks or supplement stocks when deemed necessary by basin plans and Fish District managers. There are currently three types of projects underway in this area which include: classroom incubators/hatchbox, development of native stocks and fish rearing. Two thousand five hundred and fifty-one participants donated 10,761 hours, \$26,155 in materials and mileage, while ODFW donated \$2,273 to undertake 72 projects. These projects are ongoing and will be expanded in some areas for additional rearing needs that have been identified in the Fish Districts. This year 62 teachers are participating in the classroom incubator program, with more lined up for next year. Spring chinook were raised in the Willamette basin.

Letz Creek volunteers successfully spawned, hatched, reared, finclipped and released a group of winter steelhead smolts in April 1998 that were from wild stock collected in the lower river tributaries.

Winter steelhead were collected in the lower Siuslaw River this year and spawned, hatched, finclipped and reared to smolt at Letz Creek. Winter steelhead currently at Letz Creek are growing and on schedule for release in March/April 1999. The Northwest Steelheaders are once again doing an excellent job of rearing these fish. Four hundred and thirty-three volunteers have spent over 10,699 hours, have personally donated in mileage, and received grants in excess of \$24,463; ODFW has also contributed over \$1,935 to this project, which does not include the

time of ODFW personnel. The native winter steelhead program at Letz Creek has been extended for another five years, with the addition of a native coho program.

North Coast District

Program development is an integral part of the implementation of the STEP program in the North Coast District. As volunteers become involved in projects, they are introduced to the full range of volunteer activities. Presentations to schools and other groups frequently include examples of the wide variety of people involved in the STEP program and introduce them to the types of projects and activities that volunteers are conducting. The Biologist also responded to a constant flow of telephone calls and walk-in traffic requesting information on the STEP program. STEP informational and training materials were provided to a wide variety of individuals. In addition the following ODFW publications were distributed free of charge to several schools in the District; The Stream Scene, Watersheds, Wildlife and People, Storm Drain Marking Program, Eggs to Fry, Helping Kids Raise Fish, Stream Care brochure, Why Wild (Fish Genetics), Guide to Oregon's Rocky Intertidal Areas, and Naturescaping. The Biologist also supplied posters, handouts, and other educational materials to interested schools. Classroom incubators were placed in ten schools and curriculum materials were supplied to the teachers.

The Oregon Department of Forestry is working with Tillamook Junior High School to develop a curriculum based on the Tillamook State Forest. The goal is to have a curriculum that addresses the new State School Guidelines. The Biologist assisted developing an aquatic component for the curriculum.

The District added to its lending library of videotapes that were made available to schools, sportsmen'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 the Biologist maintains a file of relevant articles, publications and reports that are made available to the public.

The Step Biologist maintained regular communication with District, Region and Portland staff to ensure that all activities were consistent with ODFW 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 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.

Volunteers conducted several spawning surveys. A major effort was conducted by Oregon Trout to survey steelhead and fall chinook in the Salmonberry River. This involved over 60 volunteers and hundreds of hours. Watershed Councils are also initiating spawning surveys and other watershed evaluations.

The Pals of Patterson Creek placed downstream migrant traps in Patterson and Jacoby Creeks, which drain into Tillamook Bay. They have also conducted water quality monitoring in conjunction with the Tillamook Bay National Estuary Project. Volunteers in the Tillamook area have also tied into the Tillamook Bay National Estuary Program for assistance and guidance on various projects. An additional downstream migrant trap was placed in Bear Creek in the Nehalem system.

Oregon Trout is studying oxygen concentrations in the gravel in the Salmonberry River; they are concerned about the potential impacts of siltation on the system. Oregon Trout has also conducted macroinvertebrate sampling in the Salmonberry River. They also maintained a series of recording thermographs in the river.

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

Habitat improvement projects continue to be a component of the activities in the District. The projects vary from small (i.e., single landowner) to large complex projects with volunteer involvement. Habitat restoration work will continue to increase and grow in complexity to address the declining nature of several salmon stocks.

The Oregon Department of Forestry is becoming increasingly involved in habitat improvement projects to benefit fish populations. These are usually contracted projects, but often volunteers assist in anchoring or securing instream structures. A major project this last summer was the "Tillamook Stump Dump." Oregon Department of Forestry (ODF) personnel arranged for funding to conduct this project. Several hundred conifer rootwads from land clearing projects were hauled to staging areas in the Tillamook State Forest. Volunteers from the Association of Northwest Steelheaders placed cable chokers on the rootwads. In addition ODF uprooted some whole trees, and chokers were placed on these also. ODF contracted with two helicopters, one able to lift 4,000 pounds and capable of lifting 10,000 pounds. The helicopters placed the trees and rootwads into streams in the upper Trask River system. Volunteers assisted in cabling together some of the wood complexes and salvaging some of the cable.

A new project that was initiated last year was a stream enrichment using salmon carcasses from ODFW Hatcheries distributed into streams by volunteers. Fish were placed into two basins on the North Coast. Spring chinook (112 carcasses) and winter steelhead (400 carcasses) were placed into three streams in the Nestucca system. Coho (901 carcasses) and Winter steelhead (126) were placed into five streams in the Nehalem system.

The operation of Whiskey Creek Hatchery is still a major commitment for local volunteers. Whiskey Creek Hatchery released ~112,000 spring chinook presmolts and smolts into the Wilson and Trask Rivers.

The increasing interest and commitment to acclimation have resulted in a variety of projects. Net-pens for acclimation of spring chinook were used in the lower Trask and Wilson Rivers. An above-ground portable raceway was used for steelhead (winter and summer) and spring chinook acclimation on the lower Wilson River. An additional in-ground acclimation pond was repaired and commissioned on the lower Wilson River during the summer. This pond was used for acclimating spring chinook, hatchery winter and summer steelhead, and a portion of the wild winter steelhead from the broodstock project.

The operation of hatchboxes 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 1997, 55 wild steelhead were collected for the project of which 43 were collected by volunteer anglers. In 1998, 36,338 wild winter steelhead smolts from the initial broodstock collection were released into the Wilson River. Of those fish 25,900 were acclimated in facilities operated by volunteers. In 1998, 69 steelhead were collected for the project of which 66 were collected by volunteers. A total of 44,450 eggs were collected from these fish and are currently in a rearing program scheduled for release in the spring of 1999. Volunteers will again be involved in collecting adults for this program.

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

Mid Coast District (Salmon River to Alsea River)

The Newport Step District participated in seven **information and extension** activities with youth groups and 43 with the general public. A total of 390 individuals were

reached in youth and educational programs and 1,055 persons were contacted in the public sector.

Seven formal adult training workshops were given during the period. A total of 70 volunteers in the communities of Newport, Yachats, Lincoln City, Waldport, and Alsea 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 were delivered to projects as required. A total of 282 individuals participated in eight youth training workshops.

Training in stream ecology and fishery management techniques was provided to the participants of the "Hire the Fisher" community development program.

Newport STEP also assisted the Lane and Lincoln County Road Departments to identify fish passage problems in mid-coast roads and assisted with correction measures. STEP also provided training on erosion control measures at bridge and road construction and maintenance sites.

Presentations on fish sampling and species identification were given to participants in the Governor's Watershed Workshop held at Lake Creek Camp in Eastern Oregon. A cooperative educational/interpretive sign project describing watersheds and habitat restoration was completed with the Oregon Parks and Recreation Department (OPRD) at Beverly Beach State Park. The interpretive signs were developed with STEP input on text and drawings and will be placed at OPRD state parks and other restoration sites statewide to reach out to an estimated 300,000 park visitors annually. Newport STEP also gave presentations on salmon and watersheds at the annual Oregon Trout "Salmon Watch" program for local high schools on the Yaquina River. Newport STEP attended the STEP Conference in Eugene and provided training on juvenile fish identification.

STEP continued to work with mid-coast educators, natural resource agencies, local government and timber companies to promote a Coast Range Natural Resource Education Organization. The organization 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 to operate its steelhead aquarium exhibit at the Alsea Bay Interpretive Center in Waldport. Information on coastal salmonids and their life histories accompanied the display and reached an estimated audience of 20,000 visitors. Students from the Waldport Elementary School incubated the steelhead eggs and released the smolts for the project.

Newport STEP participated in the development of the Oregon Plan "Oregon Aquatic Restoration and Enhancement Guide" which provided guidance for instream restoration practices to agencies, Watershed Councils and landowners. STEP also participated in the Governor's Watershed Enhancement Board grant review and selection process for proposed watershed restoration projects.

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 220 individuals.

One hundred adult and youth volunteers conducted a total of eight **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 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.

Spawning surveys for coho salmon were conducted by Depoe Bay SEC volunteers on North and South Depoe Bay Creeks. The Yachats River was also surveyed by local Yachats area volunteers for fall chinook escapement and spawning distribution.

Volunteers assisted ODFW staff conduct estuarine seining for juvenile chinook in the Siletz, Alsea and Yaquina Rivers. Chinook smolts were sampled for size, condition, timing and abundance. Newport area volunteers also assisted ODFW in the collection of adult chinook broodstock from the Yaquina River.

Mid-Coast Salmonid **Restoration Projects** were completed at Buck Creek, North Fork and South Fork Yachats, Five Rivers, Fendall Creek, Eddy Creek, McLeod Creek, and Camp Creek. STEP and landowners cooperated in design and lay-out for 1998 projects and preparations for 1999 instream projects in the Siletz, Alsea, Yaquina and Yachats basins.

Two hundred conifers were planted along the riparian area of Tenmile Creek by volunteers from the Tenmile Association, Audubon Society, Angel Job Corps, and other local volunteers. This cooperative private, state, and federal project is one component of a largescale watershed restoration project in the Tenmile Basin.

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

Newport STEP worked cooperatively with the Mid-Coast Watershed Council and 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.

During this period, a total of 90 adult volunteers contributed 631 hours and \$825 to **broodstock collection, incubation, rearing, release, and acclimation projects.**

The Central Coast Northwest Steelheaders, Georgia-Pacific employees and Newport area volunteers assisted ODFW with the operation of a steelhead acclimation pond on the Siletz River. Newport area volunteers also assisted ODFW with the capture of chinook broodstock for the Yaquina Bay Hatchery.

The Depoe Bay Salmon Enhancement Commission also continued a coho supplementation project on North Depoe Creek.

Fourteen schools participated in 14 steelhead 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)

Public education and the distribution of information and materials related to salmon and trout are key components of accomplishing Oregon Department of Fish and Wildlife's (ODFW) management goals. The Newport STEP District at Florence 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 Region. 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 educate and inform volunteers on natural resource and management issues and to recruit and coordinate STEP projects.

The Newport Step District at Florence participated in 13 information and extension activities with youth groups and 35 with the general public. A total of

392 individuals were reached in youth and educational programs and 448 persons were contacted in the public sector.

Two formal adult training 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 were 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 upgraded with the help of the volunteers.

Newport 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 small project correction measures.

Newport STEP in Florence attended the STEP Conference in Eugene and provided training on giving respect to speakers.

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

Recruitment for the Newport STEP District in Florence consisted of three community-sponsored events. Florence STEP Group conducted four angling clinics, providing 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.

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 II, a national award winner was produced from the project. The past president of the Florence STEP Group was also awarded by Weyerhaeuser Company, with a grant of \$1,500, which he 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 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 of the project. This is an ongoing program for the Siuslaw Middle School.

The Mapleton seventh grade class, Florence STEP Group and the Mapleton US Forest Service continued a chinook, steelhead cutthroat and coho juvenile

trap operation on Knowles Creek in the lower Siuslaw Basin. The objective is long-term monitoring of coho and steelhead populations at a large subbasin scale. This is the fifth year Florence STEP Group has provided the people for this project. The Mapleton seventh grade class submitted a proposal to their school board for formation of a Mapleton Stream Team next year. The school board has not acted on the proposal and required more information at the start of the new school year.

Florence area volunteers were primarily responsible for the huge success of the ODFW projects of adult coho and steelhead broodstock collections from the Siuslaw River tributaries. They provided the volunteers for all spawning operations, cleaning and building, installation and repair of all the fish traps and weirs during many days of inclement weather.

Nineteen very large habitat restoration and enhancement projects were initiated and completed during the period. A total of 124 people contributed 672 hours to this effort. This was a unique situation for most volunteers to be involved in such heavily funded projects. However, most of the big dollars came from the landowners and large timber corporations working in concert with direct grant dollars to ODFW in excess of \$280,000 from several grant sources. Volunteers were mostly responsible for loaning equipment, servicing equipment, cabling instream structures and planting and tubing trees for many of these projects. The scope and magnitude of all the grant requirements for the projects were not within the Florence STEP Group capabilities to comply. However, the group did take on a major project in 1997 in Hadsall Creek and completed installation of 48 structures and they have continued the restoration efforts in 1998 by surveying, documenting, planting and complexing one and one-half miles of their work.

During the year a total of 50 adult volunteers contributed 3,120 hours to salmon **broodstock collection, egg incubation, rearing, release, and acclimation projects**. The Emerald Empire Association of Northwest Steelheaders and Florence STEP Group volunteers assisted ODFW in 1998 with the annual operation and 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 1998. 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 and/or fry was slightly exceeded to ensure smolt production goals at Letz Creek (15,000) and Willamette Hatchery (85,000) were met. For a detailed report of the 1998 brood winter steelhead program refer to the 1998 Siuslaw 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 180 elementary, middle and high school students with an estimated 1,800 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 1998 an artificial spawning channel was constructed by the Florence STEP Group in Akerly Creek, a tributary to Munsel Lake. This project will test whether naturally spawning coho adults could seed Munsel Lake. The test area is a 3 foot x 15 foot x 40 foot spawning bar formed with three-inch-minus river-run hard rock. Several tests will be conducted to determine optimum adult seeding density to maximize juvenile recruitment. More space is available to expand next year.

Southwest Region

Umpqua District

Brief project descriptions are provided for major projects within each category.

Habitat Improvement and Stream Survey Projects.

An Oregon Youth Conservation Corps crew was used to work on five habitat projects. The crew worked on culvert outlet basins to improve fish passage and riparian fencing to protect riparian areas. They were funded by the Umpqua Training and Employment program and essentially worked for ODFW on projects identified by fisheries personnel.

Habitat projects were done on Deer Creek and Myrtle Creek by private landowners.

Forty people helped conduct volunteer coho spawning surveys in the Umpqua Basin. These surveys were done in addition to index stream surveys and surveys coordinated out of ODFW's Corvallis office. The coho survey data is used with our Habitat Quality Index (HQI) to help the District determine underseeded areas for unfed fry release sites.

A pilot donated helicopter time so that a video could be taken of the South Umpqua subbasin to document aquatic habitat.

A volunteer with a flair for computers helped ODFW computerize all of the coho spawning survey data collected basin-wide by volunteers. The volunteer also looked at the statistical difference of doing spawning surveys every ten days versus only conducting three surveys during peak periods. No difference was noted; therefore, Biologists recommended that the volunteers maximize their time and only do three peak-period surveys.

A high school student did an internship project on cutthroat trout. The student conducted standardized snorkel surveys in three streams and covered approximately six miles. The data is

being used to estimate cutthroat trout populations. Cutthroat in the Umpqua Basin are presently listed as endangered.

The Umpqua District received money this year to conduct a mark-recapture population estimate on fall chinook in the South Umpqua. Volunteers assisted chinook trapping during their broodstock collection efforts and helped look for carcasses.

Fish Culture.

To incubate eggs, at least three classroom and seven general hatchbox projects were operated in addition to the Gardiner STEP facility. Approximately 25 students per classroom helped incubate the eggs. The Gardiner facility is a volunteer hatchery that has about 20 members who regularly attend the weekly work days, and a larger membership that occasionally attend activities.

Four major broodstock collecting sites were used in 1998. Volunteers from the Umpqua Fishermen's Association (UFA) collected fish at the Happy Valley site on the South Umpqua. Various members also helped ODFW collect fish at the Galesville ladder. The Gardiner STEP program collected most of its chinook from the Smith River falls fishway in 1997 and all of them at the falls in 1998. Gill-netting was used to collect some fish in 1997 but no fish were collected by gill-netting in 1998. Coho, which are released voluntarily from the STEP facility, return and are trapped on-site in a raceway with a finger weir.

The Gardiner facility has the capability of rearing fish. Both coho and fall chinook are reared on-site.

The UFA coordinated a major project to build acclimation ponds on Canyon Creek south of Canyonville. The UFA helped push paper work for donating the property to ODFW and provided personnel to help build the ponds. The cement raceway "ponds" will be used to acclimate steelhead to the South Umpqua. The UFA also operated net-pens at the base of Galesville Reservoir for coho acclimation.

The Gardiner STEP program acclimates fall chinook to the Umpqua estuary via net-pens in Winchester Bay. This fall chinook fishing was so good in the bay that ODFW received a call from the Harbor Master complimenting the program.

The UFA assists ODFW's Rock Creek Hatchery weekly throughout the fall with spawning while Gardiner spawns coho and fall chinook on-site during the fall.

The Gardiner STEP program worked hard throughout the past year to improve various aspects of its fish culture program. Two raceways were fenced and sectioned to provide more options for containing broodstock and to provide the fish with a larger holding area. The water intake system was also changed to reduce sedimentation.

Information and Education.

Three presentations were given to students. One presentation was an hourly program on salmon life history given to a series of schools as they rotated through different stations during a spring “field day” event. Over 180 students were reached during the three-day event.

Two public presentations were given to adult audiences.

A volunteer filmed and edited a video on spawning surveys, fall chinook, and various creeks.

Volunteers assisted ODFW with Free Fishing Day and helped teach children how to fish. Approximately 700 students and 300 adults attended the event.

Miscellaneous.

The Youth Conservation Corps did several miscellaneous projects such as helping with repairs at Winchester Dam, cleaning the Smith River ladder, repairing the Rock Creek diversion, and construction projects at the ODFW office.

The high lakes stocking program continued to be popular with horse owners. Sixty-one volunteers used horses (mules, mountain bikes or wheelbarrows) to stock brook trout in 15 mountain lakes. Two volunteers returned during the fall to measure the condition factor of fish in two of the stocked lakes.

The North Umpqua Foundation donated funds to pay per diem for volunteers to conduct the “Fish Watch” program to prevent poaching at important summer holding pools. The program successfully curtailed poaching again this summer.

A volunteer helped run the Plat I trap to transport fish downstream from the Plat I Reservoir. The signs were also made for the site.

Volunteers aided the District by helping dispose of salmon carcasses per our permit at various streams.

SUMMARY

Over 55 volunteer projects were conducted in the Umpqua District during 1997-98. The projects involved over 700 people who donated approximately 15,555 hours. Large donations were used by the District to fund the Youth Conservation Crew, the Fish Watch program and the Canyonville Acclimation Ponds. The Umpqua Fishermen’s Association, Gardiner STEP Program and Oregon Equestrian Trailriders were a major source of volunteers to assist projects.

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. A total of 166 volunteer projects were conducted in the District using volunteers. A total of 5,750 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. This media coverage provides the greatest possible educational opportunity to the public. This year a report on the twelve-year review of the District rearing programs has been continued. This report will review and evaluate all District rearing programs. The purpose of the review is to maximize the effectiveness of future citizen as well as agency involvement in rearing programs in the District. The report will be completed in late 1998.

One of the largest citizen involvement projects since the program began continued during the contract period: the construction of the fishway over a series of falls on Fall Creek a tributary of the South Fork Coos River. A final concrete pour was made to stabilize the fishway and to control erosion around the structure. The lower falls in the series had additional blasting work conducted on rocks that controlled flow into a fish bypass. An access deck and a stairway were constructed to the upper portion of the fishway to facilitate cleaning and monitoring of the structure exit.

A second series of falls was modified this past summer on Fall Creek. This second falls is located about four miles upstream from the concrete fishway. The falls was determined to be a partial barrier to salmon and steelhead migration in that only a few fish were observed spawning above this falls. Volunteers drilled and blasted a channel through the falls. Then the blasted rock was removed by hand by volunteers.

Five boulder weirs were constructed in lower Fall Creek below the fishway. The boulder placement was a joint project with the Coos Watershed Association. A total of 70 cubic yards of gravel were placed by hand above the weirs to attempt to quickly create spawning habitat. Volunteers and inmates placed the washed gravel above the boulder weirs. The need for additional spawning habitat was documented last season when numerous adult chinook were observed attempting to spawn in very poor habitat below the fishway. Hundreds of Coos County residents have been interested in this project because of the high quality stream above these barriers.

ODFW volunteers continue to work on the construction of Millicoma Interpretive Center. A new pond and service dock was constructed at the facility this past spring. The new pond was needed to replace the acclimation pond that was destroyed during the flood of 1996. A wood shed and model stream were constructed at the facility as well. The model stream was constructed as a teaching tool to demonstrate how stream habitat structures function and how to design them. The model stream has been a great addition to the educational program at the facility. Flood repairs still continued at the writing of this report. Most of the repairs have been completed, however.

The Millicoma Interpretive Center continues to be a popular place for student groups to come and learn more about our important salmon and steelhead resources. Hundreds of students a month come from all over the state of Oregon to participate at the facility. The incubation room that was recently constructed at the center has been a great addition. Visitors can now view a variety of eggs at different developmental stages throughout most of the winter months.

Large numbers of volunteers continue to be involved in the extensive fish cultural programs in the District. There are eight broodstock development, four spawning, 14 egg incubation, seven rearing, and 18 acclimation projects in the District. The fish cultural operations in the District involve the largest number of volunteers in most years. Egg incubation and finmarking of the reared fish demand the largest number of participants. A total of 2,183 volunteers were involved during the report period. As with many projects, students make up the bulk of the volunteers.

Collect Physical and Biological Stream Survey Information

Stream surveys were conducted on eight streams during the report period. Stream surveys for adults 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 cultural programs. The fourth purpose of the adult spawning surveys was to provide base line information about reaches of streams so when subsequent proposed enhancement is conducted the change in abundance can be potentially documented. Adult spawning ground

surveys were reduced from the previous two years. Supervising volunteers to conduct stream surveys took more time than was available.

Most of the new surveys were developed to evaluate spawning habitat restoration projects. Some surveys were developed to evaluate hatchery programs. One new survey that was begun this past fall was spawning surveys on Fall Creek both above and below the new fishway. Other spawning surveys were conducted in an attempt to evaluate the release of unfed chinook fry into tributaries of Coos Bay. The surveys of adult coho spawning in Blossom Gulch Creek near city center of Coos Bay continued. Coho continued to be observed in the stream. The jacks that are returning this year are from adults that had to swim through 2,700 feet of culvert under the city of Coos Bay to reach the open part of the stream. This project still is generating a great deal of interest from the volunteers and the community.

The objective of the juvenile 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 habitat limiting factor was determined, then in some instances plans were instigated to correct the problem or seed the stream with hatchbox fry.

Stream surveys that identify the seeding levels of coho fry in District streams still remain a primary focus of surveys. Full or optimum seeding for coho juveniles in pools is one coho per square meter of pool. This stream will receive a full life cycle (three years) of coho fry stocking. Before the adult coho return to this stream the culvert will be corrected and the returning adults will be able to establish a self-sustaining population of coho in the stream.

Juvenile surveys were also conducted as base-line surveys to document the change in the abundance of juveniles in a stream before and after habitat restoration or fish cultural treatment. These surveys are needed to better evaluate both habitat restoration and fish cultural projects.

The number of juvenile stream surveys conducted by volunteers increased dramatically over the past year because of renewed interest to identify stream habitat that was not utilized by juvenile salmon or steelhead. Two stream survey training classes were conducted. The purpose of these classes was to instruct additional volunteers to conduct needed stream surveys. Twelve streams were surveyed to attempt to ascertain whether the stream needed stocking of fry to seed the stream habitat. All of the streams surveyed had suspected habitat limitations such as impassable culverts that reduced or eliminated the natural colonization by salmonids.

Other surveys were conducted in the Coos and Coquille River estuaries to determine the mean-fork-length of juvenile fall chinook at ocean entrance. These surveys are important as a monitoring tool to determine abundance and carrying capacity in those estuaries. Mean-fork-length is the indication of abundance and carrying capacity. Research has determined that if the average size of juvenile fall chinook is 13 cm or larger, then the estuary is not seeded to its capacity and there is the ability to release additional juveniles to rear in the estuary. If the average size of the chinook is below 13 cm then stocking of juveniles is unwarranted.

The fall chinook juvenile sampling in the Coquille River estuary was conducted again this year with the assistance of students from Coquille High School. The mean-fork-length of chinook did not vary much from the previous year. The previous year's average length was 13.9.

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 not only to evaluate the effect of the hatchery program on the river but also to document population size. Below is the table exhibiting the counts during the survey years.

Year	Forest Service Pool	Johnson Mt. Pool	Orchard Park Pool	Total
1990	9	16	8	33
1991	0	10	4	14
1992	12	35	16	63
1993	15	67	8	90
1994	6	14	0	20
1995	8	10	3	21
1996	8	8	2	18
1997	0	10	3	13
1998	4	9	1	14

Two formal training workshops were conducted in the District during the contract period. Individual stream surveyors were instructed to conduct specific surveys. A total of 112 volunteers were individually trained during the contract period

Habitat Improvement

A total of six stream enhancement projects were undertaken on five streams. A total of 175 volunteers and students worked on the projects. A total of \$21,600 were donated to these projects. The six projects included in-stream structure placement for juvenile rearing, spawning gravel enhancement, riparian vegetation restoration and the fish passage project that was discussed in the first section of this report.

Egg Incubation and Broodstock Development Program

STEP Biologists received requests from 30 to 100 individuals or groups to participate in the STEP egg incubation program. The proposal review and approval process included contacting applicants, determining if requests met management needs and, if needed, investigating proposed sites. Region and Division staff reviewed, and approved or rejected, proposals based on management applications. This past year above-normal interest was generated among the volunteers to increase the number of eggs in streamside incubators. 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, nearly 1.6 million fry, presmolts, and smolts were released from the 1996 brood year for yearling salmon and 1997 brood year for steelhead and subyearling salmon for a wide variety of programs.

The STEP Biologist provided fish cultural assistance to volunteers at 14 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.

A total of 25 rearing or acclimation projects were operated by volunteers during the report period. Two new steelhead acclimation sites were constructed and will receive steelhead smolts in the spring of 1999. Both new ponds were constructed in the Coquille River basin. One was constructed on the North and South Fork of the Coquille River. These are important additions to the existing steelhead management program in the Coquille River basin. These new ponds will significantly increase angling opportunity from bank anglers in the future.

The acclimation of steelhead smolts is important to bring these hatchery programs into compliance with ODFW's Wild Fish Management Policy. The purpose of these acclimation sites is to obtain a spacial separation between hatchery and wild steelhead populations. Separating hatchery and wild steelhead is valuable because to reduce the potential impacts of the hatchery programs is an important program goal. Volunteers will now operate ten steelhead acclimation ponds in the District that release a total of 226,000 steelhead smolts annually.

A total of 1,585 volunteers have been involved in rearing programs in the District. Most of the volunteers' involvement has been provided during fin-marking projects. Nearly 71,000 salmon and steelhead were again marked this year in an effort to evaluate the success or impact of the various release groups.

Broodstock collection and development programs in the District continue to be a success. Large numbers of volunteers have been involved in the eight collection

operations. These projects are very involved and a significant amount of time is dedicated by the volunteers to collect naturally produced salmon and steelhead for broodstock. The collection of naturally produced salmonids is important to maintain the genetic health of the hatchery populations. The collection of naturally produced salmonids is always very labor intensive. For the past twelve years a significant proportion of the steelhead have been acquired through angler donations. Angler donation is a slow time-consuming process.

The fall chinook broodstock development programs in the Coos River basin are synonymous with the augmentation program conducted in the drainage. Substantial new salmon fisheries have been developed over the past eleven years. Prior to the end of the report period, the angler effort expended in the Coos Bay estuary was at an all-time high. A significant portion of the angler days was being expended targeting on chinook returning to ODFW STEP facilities.

Monitoring and Evaluation.

Since the program began in the District, attempts have been made to evaluate the various components of the program. One of the most asked questions has been about the success or failure of the unfed fry that are a product of streamside incubators. While conclusive evidence is difficult to acquire, the Fall Creek enhancement project does seem to be one example of success. Since the 1982 brood, both steelhead and coho fry were placed above the falls. For several years documentation of seeding levels of pools demonstrated that the pools were never fully seeded using unfed hatchery fry as the stocked fish. Unfed fry did not achieve the target stocking density, but good numbers of juveniles were present in the stream. Juveniles were produced from the stocking and adults were observed at the base of the falls, but the number of adults produced was never able to be documented. Once the fishway was constructed in the summer of 1997, spawning ground surveys were conducted above the falls. The entire available spawning area was surveyed on a single day. A total of 37 redds were observed above the new fishway. This was a significant observation in that this was the second highest density of coho in the basin. Seeding levels of coho juveniles the summer of 1998 documented that juvenile numbers were good in most pools. The conclusion was that the unfed fry did produce adults that were successful spawners themselves.

Attempts were also made to determine if a self-sustaining coho population has been established in Coalbank Creek. When the STEP program began in the District, Coalbank Creek had no coho spawning in it. A trash rack at the tidegate prevented the passage of coho into the stream. Several years of unfed coho fry releases seem to have established a naturally produced coho population in the stream. No coho fry were stocked into the stream from the 1997 brood. In the summer of 1998, coho fry were documented in the stream which could only have been produced naturally.

Stream surveys continue to be an important part of evaluating and monitoring not only releases of fry, fingerlings, and smolts, but also important in assessing habitat improvement projects. Twelve stream surveys were conducted by volunteers in an attempt to evaluate habitat improvement projects or to identify new streams that need stocking and an associated habitat limitation that needs to be addressed.

Stream surveys were again conducted on Blossom Gulch Creek a small tributary of Coos Bay. Both adult spawning ground and juvenile surveys were conducted to assess the success of the reestablishment of a coho population into the stream. Blossom Gulch Creek runs 2,700 feet through a culvert under the city of Coos Bay. This project has generated a great deal of excitement in the community. Both spawners and naturally produced coho juveniles have been observed in the stream. Releases of coho fry into the stream have been suspended with the 1995 brood. The efforts to establish a population into Blossom Gulch Creek appear to be successful at this time. Coho have been absent from Blossom Gulch Creek since about 1970.

The health and abundance of the chinook populations in the Coquille and Coos River basins are monitored each fall when the juveniles move from the estuary into the ocean. Students from Coquille High School this year were the work force that seined the Coquille estuary to monitor not only the abundance but 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 as well.

In the past several years volunteers have attempted to conduct angler counts in Isthmus Slough to enumerate the anglers. Up to 91 anglers have been counted at one time in the upper portion of the slough. The fall of 1998 ODFW hired a creel surveyor to conduct a statistical survey of angling effort in Isthmus Slough and the rest of the estuary. Of particular interest will be the documentation of angling effort and harvest of chinook and coho that are returning to ODFW's STEP facility at the upper end of the slough.

More creel work is needed in the future to assess the impact that the District's fish cultural programs have on angling opportunity in the District. Significant angling effort has been concentrated near acclimation sites for salmon and steelhead. These acclimation sites appear to be successful in concentrating anglers and perhaps increasing harvest. These questions need additional evaluation in the future.

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 focusing on broodstock collection of fall chinook. The resulting eggs are incorporated into smolt programs for rehabilitation of populations in lower Rogue tributaries and supplementation of the fall chinook population in the Chetco. The hatchbox program has been reduced substantially in recent years. Smolt projects on Pistol River and Hunter Creek have been completed. Releases of steelhead fry were eliminated after the 1993 brood and only two hatchbox sites were permitted this year for coho in the New River/Floras Basin using eggs from Elk River Hatchery. Several habitat projects designed to improve rearing habitat for fall chinook steelhead and cutthroat trout were completed.

Development of the Salmon and Trout Enhancement Program

Presentations were made at 12 meetings of Curry Anadromous Fishermen and 12 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 48 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.

Approximately 80 hatchery tours were conducted by volunteers. Tours are given to the general public. Approximately 400 people visited the Hatchery to attend these public tours.

Several student speakers from local area schools registered and presented their STEP-related projects at the statewide STEP Conference.

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).
- Writing class at Southwest Oregon Community College (ten weeks).
- Southwest Region meeting.
- Monthly office safety meetings.
- Southwest Regional STEP meeting regarding fostering better communications between ODFW and STEP groups.
- District STEP meeting regarding fostering better communications between ODFW and STEP groups.
- Verbal Judo class given by Oregon State Police.
- Annual statewide American Fisheries Society Meeting.

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

- Fifth grade Fish and Wildlife Day.
- Oregon Outdoor Women's Conference.
- Genetics primer presentation at Lobster Creek 4-H summer youth camp.
- Free Fishing Day at Libby Pond.
- Stream Scene Workshop.

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

- Current STEP Activities (South Coast Watershed Council Newsletter).
- 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).
- Water quality monitoring at the Port of Gold Beach.

Characterization of Fish Populations and Their Habitat in Streams

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.

This year we are continuing to rely on information obtained through the creation of 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.

Volunteer help was utilized to conduct abundance index surveys of juvenile fall chinook in Hunter Creek, Pistol River, Chetco River, Winchuck River, and Euchre Creek.

In order to better evaluate the effectiveness of the program at Indian Creek Hatchery a 100% mark rate was imposed. This required the marking of an 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 the survival at the Hatchery can be increased by modifying the release timing of fall chinook smolts. 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.

In an effort to characterize populations of fall chinook and winter steelhead on the Chetco River, the Oregon South Coast Fishermen (OSCF) have donated funding and solicited funding from other sources to purchase a downstream migrant trap for use on tributaries of the Chetco River. Next year this trap will be operated by the OSCF. Information obtained by the operation of the trap will be utilized by the South Coast Fish District.

Funding to purchase the trap came from the following sources: \$5,000 Restoration and Enhancement Program funds, \$4,500 Winchuck Rod and Gun Club, \$3,000 Oregon South Coast Fishermen (California Oregon Enhancement).

Habitat Improvement

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

This year we are continuing to rely on information obtained through the creation of the "South Coast Restoration Guide." This document identifies and summarizes current information related to potential restoration sites.

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.

This year South Coast STEP has been working closely with the Lower Rogue Watershed Council to conduct water quality testing in the Port of Gold Beach boat basin. There has been local concern that the conditions in the boat basin may be polluted (thermal and low dissolved oxygen due to stagnant conditions). If so, this has implications for fish usage of the habitat. The Watershed Council has already secured grant money to modify the boat basin if the findings of the research warrant action. A Gold Beach grade school student is volunteering on the project. The student wishes to use the information as a research project to compete in a national science competition.

1. Jack Creek Cooperative Project (work was not completed until October 1998).
2. Jack Creek Fish Ladder and Alcove Enhancement.
3. Deep Creek Upstream V Structures Maintenance.
4. Restoration and Enhancement Fencing Project.
5. Deep Creek Christmas Tree Placement.
6. Elk River Tree Planting, Blanco State Park.

Jack Creek Cooperative Project:

(Note--The groundwork for this project was started in September 1998, work was not completed until October 1998).

- Landowner: South Coast Lumber.
- Total Project Cost: \$12,528.
- Logs: 8,000 Chetco STEP, \$2,818 South Coast Coordinating Watershed Council, \$6,000 South Coast Lumber.
- Equipment and Operator: \$1,710 South Coast Lumber.
- 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).
- Project seeks to enhance salmonid habitat by placing 12 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.

Jack Creek Fish Ladder and Alcove Enhancement:

(Note--this work adds to previous efforts at the same site.)

- Landowner: City of Brookings.
- Material Donation: Oregon South Coast Fishermen donated.
- Labor and transport of trees was accomplished by Oregon South Coast Fishermen volunteers.
- Project seeks to enhance salmonid habitat by placing eight pre-commercial thin sized trees in Jack Creek around the Jack Creek fish ladder and in an alcove upstream. This wood input will contribute to habitat complexity for over-winter rearing of juvenile salmonids.

Deep Creek Upstream V Maintenance:

- South Coast District STEP provided \$500 of project funding.
- Landowner: South Coast Lumber.
- The Curry Anadromous Fishermen paid \$500 to contract with equipment operator Floyd Smith.
- Equipment and materials: Bulldozer was provided by Floyd Smith. South Coast STEP provided hilti drills, cable, clamps, and glue.
- Labor: Operator, Floyd Smith, and Curry Anadromous Fishermen volunteers provided labor for the operation.
- Project seeks to maintain existing enhancement structures that have been installed over a period of years at this site.

Restoration and Enhancement Fencing Project Status:

- Last year these landowners were ready to fence riparian areas on their properties. Landowner relations were strained by several trespass violations by ODFW staff from Corvallis. The STEP Biologist met with landowners on Fourmile Creek on several occasions during the year. Progress has been made and there appears to be interest in fencing installation this winter.

Deep Creek Christmas Tree Placement Status:

- Working with the local boy scout troop leader, a project was outlined for a scout working on his Eagle Scout badge. The would-be Eagle Scout was to organize the local scout troop to carry out a Christmas tree placement project in Deep Creek. Christmas trees would be attached to upstream V structures that are already on site. At the scout's request the project was delayed several times. Basically the scout could not get organized to complete the project and it was not completed.

Elk River Tree Planting, Blanco State Park:

- Blanco Middle School's seventh and eighth grade classes spent a day planting trees on Elk River at Blanco State Park. Approximately 750 trees of several species were planted along with willows and native shrubs.

Fish Culture

District priorities for rehabilitation of populations are: Lower Rogue fall chinook, Floras/New River coho, and Euchre Creek fall chinook.

Supplementation 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 supplement 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 supplement 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 74,067 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 6,444 fall chinook fry were reared at Indian Creek Hatchery and released as unfed fry into Saunders Creek (lower Rogue tributary).

This year local coho broodstock were collected out of Floras Creek. Adults were held and spawned at Bandon Hatchery. The resulting 18,606 eggs were taken to a hatchbox in the Floras/New River Basin. The resulting fry were released into Floras Creek. The directive is to stock identified sites associated with barriers to fish passage, or areas that are otherwise underseeded. Identified barriers are currently in the process of being removed. STEP directives indicate that sites should be stocked for one life cycle (three years for coho). This is the first year that local brood were used for this program. The program will likely continue for at least two more years. This will complete one life cycle with local broodstock.

A total of 10,500 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 1998 (1997 brood year) were from Elk River stock.

Area schools (Blanco, Driftwood, Ophir, Riley Creek, Azalea, Kalmiopsis, Upper Chetco, and South Coast Christian School) participated in classroom incubator projects in 14 classrooms.

Monitoring and Evaluation.

(Note--information for this section may be duplicated elsewhere in this document.)

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% mark rate was imposed. This required the marking of an 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 the survival at the Hatchery can be increased by modifying the release timing of fall chinook smolts. 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.

Juvenile Trap Purchased to Monitor Chetco Tributaries:

In an effort to monitor populations of fall chinook and winter steelhead on the Chetco River, the Oregon South Coast Fishermen (OSCF) have donated funding and solicited funding from other sources to purchase a downstream migrant trap for use on tributaries of the Chetco River. Next year this trap will be operated by the OSCF. Information obtained by the operation of the trap will be utilized by the South Coast Fish District.

Funding to purchase the trap came from the following sources: \$5,000 Restoration and Enhancement Program funds, \$4,500 Winchuck Rod and Gun Club, \$3,000 Oregon South Coast Fishermen (California Oregon Enhancement).

Estuary Seining:

Volunteer help was utilized to conduct abundance index surveys of juvenile fall chinook in Hunter Creek, Pistol River, Chetco River, Winchuck River, and Euchre Creek.

Deep Creek Monitoring:

Curry Anadromous Fishermen (CAF) volunteers have a particular interest in Deep Creek (tributary to Pistol River). They monitor the instream structures on Deep Creek every winter by walking the stream after major storm events. Volunteers report any damage to structures at CAF monthly meetings. If structures wash out or sustain damage, maintenance work is usually carried out the following summer.

Water Quality Monitoring in the Port of Gold Beach Boat Basin:

This year South Coast STEP has been working closely with the Lower Rogue Watershed Council to conduct water quality testing in the Port of Gold Beach boat basin. There has been local concern that the conditions in the boat basin may be

polluted (thermal and low dissolved oxygen due to stagnant conditions). If so, this has implications for fish usage of the habitat. The Watershed Council has already secured grant money to modify the boat basin if the findings of the research warrant action. A Gold Beach grade school student is volunteering on the project. The student wishes to use the information as a research project to compete in a national science competition.

Upper Rogue District

Development of the Salmon and Trout Enhancement Program

Citizen volunteers were involved in a variety of projects to protect and enhance salmon, trout, and warmwater species in the Upper Rogue District. Volunteers participated in a habitat enhancement project at Applegate Lake. They cabled a tree in Pleasant Creek to provide shelter for coho salmon. Volunteers salvaged over 1,700 stranded coho salmon and steelhead. A volunteer maintained a fish screen during the irrigation season. A dam was notched near the mouth of Pickett Creek to improve fish passage. Volunteers were trained to survey spawning salmon and steelhead in the Illinois Valley. The last brood of hatchbox fish was reared from eyed egg to swimup fry in Limpy Creek and released in Dutcher and Galice Creeks. The hatchboxes were dismantled because the Trout Unlimited Chapter in Grants Pass had decided to put all its effort into habitat projects in the future. Spring chinook salmon, coho salmon, and steelhead eggs were distributed to classrooms in Josephine County by the Trout Unlimited Chapter in Grants Pass and classrooms in Jackson County by volunteers.

The first quarter mile near the mouth of Gilbert Creek was cleaned by a student volunteer and the local Trout Unlimited chapter cleaned a 12-mile stretch of the Rogue River.

Three volunteers poured a foundation for an office addition in the late summer.

A total of nine people volunteered to teach students for the Angler Education program.

Fish Transportation Permits were given to the volunteer-run fish salvage group of the Middle Rogue Steelhead Chapter of Trout Unlimited. Six volunteers in the Illinois River basin spent 84.5 hours and drove 388 miles to salvage 981 coho, 805 steelhead, 121 crayfish, and 109 sculpin.

One volunteer spent 20 hours and drove 255 miles maintaining a fish screen on Deer Creek in the Illinois Valley. Another volunteer spent one hour sandblasting a backboard for the fish counting chamber at Gold Ray Dam.

A volunteer was trained to assist in the front office and put in 13.5 hours during the fall of 1997.

A volunteer with computer skills spent 21 hours putting information into our volunteer database. Implementation of the Governor's Salmon Restoration program is a high priority item for STEP. The STEP Biologist spent 44 hours with the

Upper Rogue, Williams Creek, and Illinois Valley Watershed Councils attending meetings, consulting on fish passage and habitat projects, and commenting when necessary on various plans.

Five presentations were made to students by the STEP Biologist. Discussion topics included the federal coho salmon listing, anadromous salmonid life history, salmon physiology, ODFW intermediate habitat survey methodology, and the streamcare brochure.

Monthly updates were given to Trout Unlimited Board Members, Rogue Flyfishers, Rogue River Guides, and at the Biologist's Breakfast on STEP and Volunteer projects.

Angler Education was a major program for the local Trout Unlimited chapter in 1998. Nine instructors put in 269 hours instructing students.

The STEP Biologist participated in Fishing Derbies sponsored by the Rogue River Guide's and the Northwest Steelheaders Chapter of Trout Unlimited.

Thirteen individuals from the Illinois Valley spent 39 hours learning how to survey spawning salmonids.

The STEP Biologist spent a week participating on the staff of a stream scene workshop. Many of the teachers in the area that receive eggs for classroom incubators participated.

Bearing in mind that student exposure to professional Biologists is rare, the STEP Biologist participated in two career days. Bill Otto, Cole M. Rivers Hatchery Superintendent, also attended and a retired Oceanographer from Scripps Institute volunteered.

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.

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 were 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 Upper Rogue Watershed Council developed and completed a non-STEP fish passage project on Big Butte Creek at Big Butte Falls.

Volunteers participated in a habitat enhancement project at Applegate Lake. The project was funded partially by grants and the US Forest Service. The project targeted both warmwater and trout species in the lake. David Haight, Assistant District Fish Biologist for the upper Rogue District, coordinated the project in conjunction with personnel from the Ashland Ranger District. A storage location was found and over 18,000 Christmas trees were donated. The trees were bundled, barged to arms of the reservoir, and anchored to the bottom. Twenty-six volunteers donated 180 hours and drove 2,150 miles to complete the project.

Six volunteers spent 24 hours and drove 274 miles to cable a habitat tree in Pleasant Creek.

The Pickett Creek Project was completed in 1998. The purpose of the project was the transfer of a water right from one and one-fourth miles up a tributary stream to the Rogue River. Benefits from the project include increased flow in Pickett Creek during the critical low flow summer period, and the ability to buy water stored in Lost Creek Dam when flows are too low in Pickett Creek. In order to complete the project which started four years ago, the dam had to be notched (6 feet x 4 feet) and the irrigation ditch decommissioned.

Fish Culture

The last year of the current cycle for two hatchbox projects was completed and the hatchboxes were dismantled. Approximately 25,000 summer steelhead were released into Dutcher Creek, and 15,000 summer steelhead were released into Galice Creek. Without more extensive sampling, and marking of unfed fry releases, the District was unable to evaluate the impacts of hatchbox fry releases on wild fish or determine their survival rates. Studies indicated that the last four study streams dried up before the end of the summer. After hearing the District's concerns about habitat loss, the local Trout Unlimited chapter has dismantled all of its hatchboxes and found homes for its egg incubators and portable hauling tank and is committed to support the District's efforts to improve habitat and fish passage at man-made barriers.

Over 100 teachers spent 7,500 hours incubating chinook, coho, and steelhead eggs in the classroom as a hook to get students interested in environmental education. Because of concerns about Threatened and Endangered Species voiced by the National Marine Fisheries Service (NMFS), the District has decided to eliminate its coho and steelhead classroom incubator programs and will only offer spring chinook salmon eggs to teachers with classroom incubators in 1998-99. NMFS was concerned that unmarked hatchery STEP fry could be mistaken for wild listed fish. Only spring chinook salmon will be available from here on. If spring chinook salmon become listed, the District will then change to a trout program, with releases allowed only in ponds and standing waters of the basin. The spring chinook will be released at only two locations on 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 on findings will be written as soon as the tags from the snouts are read.

Northeast 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 Central 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. The new position is funded through September 30, 1999. A second position was established to allow for completion of program development projects. A need was identified to update program and curriculum materials and develop new materials about fish-related issues. 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 two STEP Biologists work closely together coordinating volunteer activities throughout Eastern Oregon.

During the 1997-98 project year, 2,169 people participated in 127 volunteer activities in the Eastern Oregon STEP District. Volunteers donated 9,334 hours and over \$7,280 to STEP activities. This translates to over \$119,288 when volunteer hours convert to real dollar equivalencies (volunteer time is calculated at \$12 per hour, based on national figures).

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 made 20 presentations to schools and organizations, plus numerous one-on-one discussions with individuals. Two local club meetings were attended for recruitment purposes.

Watershed Workshops:

Eastern Oregon STEP participated in two Watershed Education Project workshops during this contract period. Fifty-eight 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 program participation indicates a good return on workshop efforts. Teachers and watershed educators continue to request this level of training.

Classroom Incubators:

Schools completed 63 classroom incubator projects during the contract period. Rainbow trout, summer steelhead, and kokanee salmon were available in approved locations in Eastern Oregon for classroom rearing. This program continues to gain in popularity and is manageable only because volunteers from Central Oregon Flyfishers (Bend) and the Klamath Chapter Trout Unlimited (Klamath Falls) are willing to provide both personnel and monetary support. Two volunteers spent four days, traveling nearly 1,400 miles delivering fall rainbow eggs to central and eastern Oregon schools. Other support includes setup and monitoring of the aquariums, and release of fry.

Kokanee Karnival:

This year's Kokanee Karnival expanded to include eight Central Oregon elementary schools. The project continues to evolve to accommodate more

students and volunteers. The program was orchestrated by the Eastern Oregon STEP District, Wizard Falls Hatchery and Fall River Hatchery staff. Central Oregon Flyfishers, Sunriver Anglers, Central Oregon Llama Association, and the Deschutes National Forest continue to provide the needed teaching staff. 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 four schools visited the Metolius River and Wizard Falls Hatchery. Week two brought four 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 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 setup and equipment needs before eggs are delivered.

In April, an angler education clinic was completed with students from the eight 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 enjoyed a barbecue lunch before fishing in the nearby pond.

Schools completed a fourth segment of the Kokanee Karnival program by performing a community service project. Storm drain marking, tree planting and pond cleanup projects were completed.

Approximately 240 students and 40 adult chaperones enjoyed the streamside and hatchery experience. Ninety-six volunteers contributed 655 hours and \$1,408.80 to this event. Event sponsors donated over \$7,000.00 to ensure the success of this aquatic education project.

Kokanee Karnival continues to receive exceptional support, both from the volunteer community and STEP District 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 expand to ten schools.

Fish Dissection:

Fish dissection continues to be popular with local schools. Two hundred and four 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 spent helping students interpret the Oregon Sport Fishing Regulations.

Time constraints prevented this program from further development. Future plans include development of a script and curriculum for volunteers to take into the classroom. Many schools requested this type of instruction, but because of limited time and resources STEP was unable to fulfill all requests.

Volunteer Recognition:

Service awards and other recognition items were presented to teachers and volunteers at the Kokanee Karnival Critique/Potluck in Sunriver.

Publications/Training Materials:

Phase I of the STEP program development job rotation assignment continued during the contract period. Twenty thousand copies of *STEP . . . Into Action* were printed and distributed to STEP Biologists for use in their Districts.

Revision of the program logo was completed and program recognition items (patches, buttons, pins, bumper stickers, project signs, mugs, and hats) were ordered, received, and distributed during the contract period.

The Aquatic Habitat Inventory training packet, *Surveying Oregon's Streams: A Snapshot In Time*, is scheduled for printing by the end of 1998. The Eastern Oregon STEP Biologist and Research staff completed a field test of the materials in April at Hood River. The training packet will include two methodology levels, appropriate data sheets, volunteer management paperwork, analysis techniques, slide show and script, and other appropriate reference materials. Watershed Councils are also expressing considerable interest in the finished product.

The field-test for *Why Wild? A Fish Genetics Primer For Students* was completed by teachers throughout Oregon and several from Alaska. Input from the field test will be incorporated into the final draft with production tentatively scheduled for late summer of 1999.

The National Marine Fisheries Service released its aquatic habitat restoration guidelines during the contract period so work can again proceed on the habitat restoration brochure. Early spring is the proposed target date for this brochure.

Phase II also continued during the contract period. Most of the new material required for *The Stream Scene* update has been produced and provided to 1998 workshop participants for review. New activities and extensions are prepared. Alignment with Oregon's new education standards is moving forward with help

from local teachers. Final layout and design is scheduled for the end of March 1999.

A classroom teacher from Pilot Butte Middle School is assisting with development of the classroom incubator support material package. A second draft has been reviewed and the final draft is scheduled for May 1999. Development of teaching kits to supplement these curricular materials is also under consideration.

Initial contact has been made with volunteers interested in assisting with development of reference-quality aquatic insect collections.

A meeting to determine the focus of the fish identification materials was held in September 1998. A list of fish species to include is out for review and a mock-up of booklet pages will be available by January 1999.

STEP Conference:

Eastern Oregon STEP Biologists and volunteers attended the statewide STEP Conference in Eugene. The Eastern Oregon STEP District was well represented during this two-day event.

Six students from Vern Patrick Elementary presented information about Kokanee Karnival. The presentation was well received.

Aquatic education posters from Pilot Butte Middle School were made available for public viewing. The posters received special recognition for presenting fish and habitat concerns in such a creative way.

A nurse from Central Oregon provided safety training at the Conference.

The two Eastern Oregon STEP Biologists and a teacher from Vern Patrick Elementary made a presentation: "Kids and Fish--Close Encounters of the Right Kind." The presentation outlined steps for Biologists to take when a group (i.e., school or club) requests a presentation.

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 linked to the ODFW main page to increase visibility. The site recorded an average of five hits per day during the last six months. The pages were expanded to include general STEP information, the annual report, equipment checklist for overnight projects, thoughts on volunteer management (from the STEP Conference), and links to STEP projects in the Eastern Oregon STEP District. 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 Proposals/Reports:

One hundred twenty-seven 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 District 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."

The Eastern Oregon STEP District annual report was prepared and distributed to eight Fish Districts, nine Hatcheries, and appropriate Portland and Region staff.

News Releases/Articles:

The Eastern Oregon STEP Biologist worked closely with *The Bulletin* newspaper in Bend for media coverage on several STEP projects. The environmental reporter from *The Bulletin* participated on a project in Eastern Oregon (Silver Creek Redband Trout Inventory) to collect information and photos for an important news story about "listed" fish species. Several stories were published about Kokanee Karnival and other program-related projects.

Project information was also compiled and released to clubs and media (television and newspaper) for information and recruitment.

Project Proposals:

Fish Districts submitted project proposals to Eastern Oregon STEP Biologists based on specific District needs and management objectives. All projects were completed in harmony with accepted aquatic inventory methods. This procedure insures all STEP projects are consistent with management programs.

Volunteer Council:

Both STEP Biologists were active in ODFW's Volunteer Council. Dialogue with the Council insures consistent reporting on volunteer activity and compliance with liability issues.

Characterization of Fish Populations and Their Habitat in Streams

A major emphasis of the 1997-98 field season was to assist Districts with redband trout population trend information in the Malheur Lakes, and Umatilla River basins and to document distribution of bull trout populations in the Metolius, and Malheur Rivers.

Survey Statistics:

During the 1997-98 contract period, 20 surveys were conducted. These surveys included five spawning surveys, two physical/biological surveys, and 13 fish population surveys. Two surveys included work with warmwater fish species. One hundred and ninety-six volunteers (including students) donated 2,024 hours to gather survey data. More than 113 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.

Fish Population Survey Highlights:

The expanse and isolation of the Eastern Oregon STEP District lends to multi-day camping trips to facilitate data collection on remote streams. STEP was instrumental in organizing and participating in several of these multi-day projects to assist Districts in collecting essential fish information. These "campouts" 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.

Umatilla Forks Fish Population Sampling: Volunteers assisted District staff in collecting juvenile redband/steelhead and resident trout population density data in the upper Umatilla River. Distribution, abundance, size, and age composition information was collected. Information was used to assess impact on new angling regulations (catch and release, flies and lures only, took effect in 1996) on the resident redband trout populations in the study area.

Blitzen River Redband Trout Inventory: Volunteers assisted District staff in collecting data to determine status of redband trout for evaluating the Endangered Species Act listing proposal. This project was completed in conjunction with the annual Trout Unlimited outing. Valuable data from electro fishing and creel were collected on the South Fork Blitzen, Indian Creek, Little Blitzen, Bridge Creek, and Mud Creek.

Silver Creek Redband Trout Inventory: Population data were collected on redband trout in the Silver Creek (Malheur) drainage. Nicoll, Rough, Dairy, Sawmill and Silver Creek were sampled for distribution, size, and age

composition. Data were used to evaluate Endangered Species Act listing proposal.

In view of potential listing of eastside redband trout, more information about these isolated fish populations is essential. These population surveys provided valuable information to District Biologists in evaluating population status. Projects also give volunteers insight into the difficulties of collecting meaningful data in remote areas.

Further sampling is planned for year 1999 in the Malheur Lakes basin.

Spawning Surveys:

Volunteers assisted with bull trout spawning surveys in the Deschutes and Southeast Districts, and summer steelhead surveys in the Ochoco District. Bull trout spawning surveys (especially in the Malheur Basin) require additional information about specific timing and location of spawning activity. Although redds have been documented each year in upper Malheur streams, numbers are low and consistent key spawning areas and accurate timing have yet to be determined. Volunteers assisted with radio telemetry and screw trap operation in the North Fork Malheur River. New reaches were surveyed on the Middle Fork Malheur this year.

Salvage Projects:

For a number of years, volunteers have assisted with annual fish salvage projects in unscreened/screened diversions following dewatering of the canals by local irrigation districts. Volunteers assisted with two salvage projects during this contract period in the Ochoco and Mid-Columbia Districts. 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.

Other Surveys:

Several schools conducted stream monitoring projects. These efforts generally include water quality sampling, stream mapping, macroinvertebrate studies, and occasionally other monitoring techniques such as cross-section profiles and vegetation monitoring.

One hundred and fifty students from WyEast Middle School (Hood River) surveyed a half-mile reach of Odell Creek. Baseline data is being collected for an ongoing inventory and restoration project.

Habitat Improvement

Three habitat improvement projects were reported during the 1997-98 contract period. Sixteen volunteers spent 94 hours on these projects. One riparian planting project was completed. Also, STEP volunteers assisted the Deschutes District Habitat Biologist in placing structures in the Deschutes River to increase fish rearing areas.

Fish Culture.

With implementation of the Wild Fish Management Policy, opportunities for supplementing natural production of fish in streams throughout Eastern Oregon have decreased. Most volunteers and Fish District personnel prefer to focus STEP efforts on projects other than 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 1997-98 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 5,000 rainbow trout eggs 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:

Sixty-three classroom incubator projects were in operation during the 1997-98 contract period. A local sports club continues to assist schools in purchasing needed aquarium supplies.

Broodstock Collection:

Two volunteers assisted Deschutes District staff with rainbow spawning (upper Deschutes River). The "Cranebow" stock is being developed to replace the hatchery stock currently used to supplement upper Deschutes waterbodies.

Spawning/Finclipping/Stocking:

With implementation of the Wild Fish Management Policy, certain hatchery stocks must be recognizable in the creel. Volunteers were used to mark fish for one Central Oregon reservoir.

Fifty-seven students assisted Oak Springs Hatchery personnel with rainbow trout spawning. Ninety-nine Outward Bound clients spent 356 hours on various hatchery projects during the summer months.

Irrigon Hatchery used a volunteer to assist with grading fish and hatchery maintenance.

One hundred and sixty-five volunteers were used for fish liberation, tagging, rearing, and Hatchery maintenance activities. Six hundred and twenty-nine hours were donated to Hatcheries in the High Desert and Northeast Regions. These hours are in addition to the Hatchery Host Program, documented through the Regional Volunteer Coordinator.

Appendix Table 1.

Summary of STEP Participation
(October 1997 through September 1998)

Category/Activity	Number of Projects	Number of People	Hours Donated	Miles Surveyed	\$ Donated	\$ ODFW
Youth/Education						
Habitat Improvement	38	400	3,733	3	23,284	4,065
Stream Surveys	53	1,009	6,940	65	7,010	2,206
Training Classes	50	1,923	3,716	1	3,736	1,037
Egg Incubation	442	4,795	35,367		11,716	1,527
Broodstock Collect	5	253	2,444		800	520
Rearing	10	551	7,754		1,250	350
Acclimation	4	59	565		30	
Information Ext.	64	2,327	2,614		1,370	204
Recruitment	8	141	189		77	200
Miscellaneous	48	289	2,713		8,486	20
Spawn/Fin Clip/Stock	5	181	709		525	130
Subtotal	727	11,928	66,744	69	58,284	10,259
General Public						
Habitat Improvement	133	831	10,259	39	67,414	2,671
Stream Surveys	121	594	7,592	383	9,502	4,819
Training Classes	46	638	2,239		719	300
Egg Incubation	51	1,175	6,416		2,702	780
Broodstock Collect	23	1,240	15,436		9,450	210
Rearing	14	1,329	11,184		44,749	7,125
Acclimation	34	433	6,667		23,160	6,023
Information Ext.	372	6,388	10,187		2,846	1,530
Recruitment	37	2,271	4,690		419	
Miscellaneous	45	731	7,129		26,997	6,860
Spawn/Fin Clip/Stock	86	822	6,842		5,151	260
Subtotal	962	16,452	88,641	422	193,109	30,578
Total	1,689	28,380	155,385	491	251,393	40,837



Salmon Trout Enhancement Program STEP Biologists

Clayton Barber Phone: (541) 247-7605
STEP Biologist Fax: (541) 247-2321
PO Box 642
Gold Beach, OR 97444
E-mail: cbarber@harborside.com

***Patty Bowers** Phone: (541) 573-1703
STEP Biologist Fax: (541) 573-5306
PO Box 8
Hines, OR 97738
E-mail: w&pbowers@burnsnet.com

Dick Caldwell Phone: (503) 657-2000 x235
STEP Biologist Fax: (503) 657-6808
17330 SE Evelyn Street
Clackamas, OR 97015
E-mail: caldwell@qcsn.com

Ken Cannon Phone: (541) 388-6363
STEP Biologist Fax: (541) 388-6049
61374 Parrell Road
Bend, OR 97702
E-mail: kcannon@bendnet.com

John Casteel Phone: (503) 842-2741
STEP Biologist (503) 842-5033

4909 Third Street Fax: (503) 842-8385
Tillamook, OR 97702
E-mail: ODFW@oregoncoast.com

Chuck Fustish Phone: (541) 826-8774
STEP Biologist Fax: (541) 826-8776

1495 E. Gregory Road
Central Point, OR 97502
E-mail: None

Gary Galovich Phone: (541) 757-4184
STEP Biologist Fax: (541) 757-4252

7118 NE Vandenberg Ave
Corvallis, OR 97330-9446
E-mail: gary.m.galovich@state.or.us

Laura Jackson Phone: (541) 440-3353
STEP Biologist (541) 440-3355
4192 N. Umpqua Hwy Fax: (541) 673-0372
Roseburg, OR 97470
E-mail: odfwrsbg@rosenet.net

Dawn Kori Phone: (541) 726-2539
STEP Biologist Fax: (541) 726-2505
3150 E. Main Street
Springfield, OR 97478
E-mail: odfwspfd@efn.org

Tom Rumreich Phone: (541) 888-
5515
STEP Biologist Fax: (541) 888-6860
PO Box 5430
Charleston, OR 97420
E-mail: odfwcoos@harborside.com

Tony Stein Phone: (541) 867-
4741
STEP Biologist Fax: (541) 867-0311
2040 SE Marine Science Dr.
Newport, OR 97365
E-mail: tony.stein@hmsc.orst.edu

George Westfall Phone: (541) 867-0300
STEP Biologist Fax: (541) 867-0311
2040 SE Marine Science Dr.
Newport, OR 997365
E-mail: george.westfall@state.or.us

S

Charlie Corrarino

STEP Coordinator

PO Box 59

Portland, OR 97207

E-mail: charlie.corrarino@state.or.us

Phone: (503) 872-5252 x5431

Fax: (503) 872-5632

* Patty Bowers is on a two year special assignment to update STEP program materials. Assignment ends September 30, 1999