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Contents

Introduction. . . . . 1

Job 1. Program Development of the Salmon and Trout Enhancement Program

    Objectives. . . . . 1

    Accomplishments . . . . . 1

Job 2. Collect Physical and Biological Stream Survey Information

    Objectives. . . . . 5

    Accomplishments . . . . . 5

Job 3. Enhance Fish Passage and Rearing Habitat

    Objectives. . . . . 6

    Accomplishments . . . . . 6

Job 4. Enhance Populations of Naturally Produced Salmon and Trout to Meet Management Objectives.

    Objectives. . . . . 7

    Accomplishments . . . . . 7

Appendix 1 . . . . . 10

## INTRODUCTION

The Salmonid Enhancement and Restoration Program is designed to enhance and restore self-sustaining populations of salmon and trout by undertaking habitat improvement projects and supplemental fish stocking programs. Work is conducted by Oregon Department of Fish and Wildlife (ODFW) personnel and by trained volunteers. A major component of the program is training citizens to undertake projects such as stream surveys, habitat enhancement and fish rearing through the Salmon and Trout Enhancement Program, commonly referred to as STEP. STEP is a program whereby citizens volunteer their labor to enhance the fishery resources of the state.

The department's management programs call, in part, for the collection of physical and biological stream survey information, habitat enhancement work, and fully seeding fish rearing areas. Funding through this contract has allowed us to increase our efforts in these areas.

Job 1. Program development of the Salmon and Trout Enhancement Program.

### Objectives:

1. Meet with Salmon and Trout Enhancement Advisory Committee bimonthly to review STEP activities for consistency with ODFW management programs and policies.
2. Make presentations on STEP to citizen groups, schools, and local and state governments. Distribute informational brochures explaining the STEP program.
3. Develop training brochures on how to do various types of stream surveys (juvenile, spawning fish, habitat) and how to incubate eggs in a streamside incubator.
4. Conduct an Annual STEP Volunteer Workshop bringing together STEP participants from throughout the state to exchange information and ideas on STEP projects.
5. Publish a STEP Volunteer Newsletter on a quarterly basis informing the public of STEP activities. Over 2,500 copies will be distributed.

### Accomplishments:

The objective was to increase public participation in, and develop guidelines for, the Salmon and Trout Enhancement Program (STEP). The objective was accomplished by meetings of the STEP Advisory Committee; presentations to sport groups, schools, and

government entities; developing instructional materials; and the distribution of a STEP Volunteer Newsletter.

Objective 1. Six meetings of the STEP Advisory Committee were held and attended.

The 12 member STEP Advisory Committee, appointed by the Governor, reviews department policies and programs affecting STEP. Meetings were held at various locations within the state to allow volunteer groups to discuss their work with the Committee.

Major areas of concern addressed by the Committee were: review of STEP Guidelines; STEP budget, increased school participation in STEP, project record keeping, and STEP rearing programs. The committee successfully supported state legislation that waived water right requirements for STEP fish rearing projects.

Objective 2. STEP biologists made 97 presentations to citizen groups, schools, and other governmental agencies. STEP displays were presented at local sports shows and county fairs. Over 3,000 brochures on STEP were distributed. A new permanent educational display was built for the State Fair.

Objective 3. Four existing brochures were updated and reprinted. A training video was developed to teach volunteers how to sample aquatic invertebrates.

STEP continued to assist the department's Office of Public Affairs in developing an educational activity guide for secondary teachers and youth leaders. The Stream Scene - Watersheds, Wildlife and People is now being tested by over 50 teachers. Two teacher workshops were held to review the document and provide "hands on" training for fifty teachers. Emphasis of the guide is to incorporate STEP into classroom activities. During the last year workshop teachers involved 1,300 students in watershed awareness activities.

Objective 4. The 1989 STEP Volunteer Conference was held in Corvallis, Oregon on March 4 - 5, 1989. Over 250 volunteers attended. The program included sessions on trout restoration, aquatic education, marine mammals, international fisheries, and safety. Volunteers from California, Washington, and British Columbia also attended to learn more about Oregon's program. A mini conference was also held in Coos Bay. There were about 50 participants. Regional training was emphasized.

Objective 5. Three issues of the STEP Volunteer were published. The newsletter alerts volunteers of statewide STEP activities, techniques for habitat enhancement or egg incubation, and activities in other states. Over 2,000 copies of each issue were distributed.

Job 2. Collect physical, chemical and biological data on fish populations necessary for basin management programs.

Objectives:

1. Work with district fish biologists and other land managers to identify stream systems or areas where physical and biological stream data and information on fish populations is inadequate and develop programs to collect this information.
2. Conduct 20 training sessions to teach volunteers how to conduct physical and biological stream surveys, spawning fish surveys, and compile survey information for management use.
3. Coordinate and supervise volunteer efforts to conduct physical and biological stream surveys and spawning fish surveys on selected streams.

Accomplishments:

The objective was to obtain physical and biological data on fish populations necessary to implement basin management programs. It was accomplished by meeting with district fish biologists and other land managers to identify stream systems where information was lacking; conducting workshops to train volunteers to do surveys; and by coordinating and supervising volunteer survey projects.

Objective 1. Statewide stream survey records were reviewed and areas identified where surveys have not been conducted in recent years.

A long-term program to update the statewide surveys was developed and a funding package submitted for the 1989 Oregon legislative session to consider. The proposal calls for extensive survey programs to be conducted by ODFW, USFS and BLM.

Objective 2. Forty-nine training workshops were held to train volunteers to conduct various types of stream surveys. Over 550 volunteers were trained.

Objective 3. Volunteers conducted stream surveys in 31 stream systems (Appendix 1). Over 200 miles of stream were surveyed and the information provided to management biologists.

A major effort was undertaken in the Umpqua River drainage to develop a volunteer fish spawning survey program to evaluate coho and steelhead stocking programs. One hundred and five survey sites were established covering eighty miles of stream. One hundred and forty-five volunteers spent 452 hours walking the basin.

Job 3. Enhance fish passage and rearing habitat.

Objectives:

1. Initiate fish habitat improvement projects on streams or standing waters identified by district fish biologists in management programs or when plans call for habitat improvement. Projects will be developed and undertaken by either volunteers or through contractual services.
2. Provide on-site training to volunteers on the various methods to improve fish habitat.
3. Provide technical assistance and available materials and supplies to volunteer groups to undertake habitat improvement projects.

Accomplishments:

The objective was to enhance fish passage and rearing habitat. It was accomplished by training and supervising volunteers to undertake stream enhancement projects and providing materials for them to do the work. We also participated in cooperative projects with other federal land managers. Materials were provided to Oregon Youth Conservation Corps crews hired by the Department to improve fish habitat.

Sill logs or rock filled wire baskets (gabions) were installed in streams to improve pool/riffle ratios, create adult holding pools or juvenile rearing areas, and to trap spawning gravel. Rearing and hiding areas for juvenile fish were created by placing large boulders in the stream. Fish passage was improved by removing log jams, fixing or modifying improperly installed culverts, installing jump pools, or providing passage at impassable barriers. Streamside vegetation was improved by plantings, seeding of exposed areas or fencing to exclude livestock.

- Objective 1. Sixty-two stream enhancement projects were undertaken in 43 stream systems (Appendix 1). All of the work was conducted by volunteers. Over 803 volunteers participated in stream enhancement projects and contributed more than 7,900 hours of their time to the work. Volunteers donated \$9,000 and ODFW provided \$17,600 for projects.
- Objective 2. STEP biologists directly supervised many of the stream enhancement projects and were able to instruct the volunteers as the project was undertaken. One portion of the STEP Conference was also used to demonstrate safe enhancement techniques.
- Objective 3. STEP biologists visited each proposed project site and worked with the volunteers to design and plan the enhancement work. Materials and supplies were provided as needed.
- Job 4. Enhance populations of naturally produced salmon and trout to meet management objectives.

**Objectives:**

1. Investigate and approve volunteer requests to incubate salmonid eggs or rear fish under the STEP program. Requests will be coordinated with and approved by the ODFW district fish biologist.
2. Plan and coordinate the distribution of eggs from ODFW hatcheries to over 450 STEP volunteer projects.
3. Provide fish culture technical assistance to over 450 citizen volunteers participating in the egg incubation program.
4. Develop volunteer operated broodstock development projects (fish rearing) on selected streams.

**Accomplishments:**

The objective is to enhance populations of naturally produced salmon and trout through the release of fry or smolts. Work was accomplished by using volunteers to incubate salmon or trout eggs and releasing the resultant fish in underseeded streams. Volunteers were also involved in broodstock development programs to rear fish to presmolt or smolt size, and capture returning adults for egg broodstock.



- Objective 1. We received requests from over 400 individuals to participate in the STEP egg incubation program. The applicant was contacted, the request evaluated for meeting a management need, and, if needed, the site investigated.
- Objective 2. We coordinated the collection and distribution of 19.5 million salmon and trout eggs from department hatcheries or STEP rearing facilities to volunteers. As a result, 11.4 million fry, presmolts and smolts were released into underutilized habitat. We worked with ODFW's Fish Culture Division to ensure all eggs were distributed, and necessary forms recording disposition of eggs were included into the ODFW Hatchery Record system.
- Objective 3. Fish culture assistance was provided to 400 egg incubation sites. With many volunteers hatching multiple fish species, eggs were being distributed and incubated from September through May and required considerable monitoring.
- Objective 4. Twenty broodstock development/rearing projects were operated by volunteers. Some projects raised fish to full term smolts as part of a broodstock development project, while the remaining sites released fish as fry and fingerlings. Almost 550 volunteers spent 12,000 hours on these projects.

Table 1. Fish Releases by STEP volunteers - 1989.

Species	Fish Released	Eggs Distributed
Chum Salmon	23,612	105,174
Coho Salmon	3,051,163	3,936,849
Spring Chinook	1,092,252	1,965,194
Fall Chinook	2,313,503	8,003,800
Summer Steelhead	376,309	403,394
Winter Steelhead	4,083,161	4,551,194
Cutthroat Trout	353,478	388,028
Brown Trout	4,747	5,151
Rainbow Trout	119,217	168,200
Total All Species	11,417,442	19,526,984

Appendix 1. Summary of activities, by major stream system, carried out under Jobs 2, 3, and 4.

	Job 2	Job 3	Job 4	
	Physical & Biological Surveys	Habitat Improvement Projects	Egg Incubation	Fish Rearing
<b>Tillamook STEP Dist.</b>				
Lewis & Clark R			X	
Walluski R			X	
Youngs R			X	
Clatskanie R	X		X	
Necanicum R	X	X	X	
Nehalem R	X	X	X	
Salmonberry R	X			
Miami R			X	
Kilchis R		X	X	
Wilson R		X	X	
Trask R	X	X	X	
Tillamook R			X	
Nestucca R		X	X	
Neskowin Cr			X	
<b>Lincoln STEP Dist.</b>				
Salmon R	X	X	X	
Siletz R	X	X	X	
Depoe Bay Cr			X	
Big Cr			X	
Yaquina R	X	X	X	
Alsea R	X	X	X	
Siuslaw R	X	X	X	X
<b>Umpqua &amp; Upper Rogue STEP Dist.</b>				
Umpqua R	X	X	X	X
Upper Rogue R		X	X	
<b>Coos STEP Dist.</b>				
Tenmile Lakes	X	X	X	X
Millicoma R		X	X	
Coos R	X	X	X	X
Coquille R		X	X	
<b>So. Coast STEP Dist.</b>				
Elk R		X		
Hubbard Cr			X	

Appendix 1 cont. Summary of activities, by major stream system, carried out under Jobs 2, 3, and 4.

	Job 2	Job 3	Job 4
	Physical & Biological Surveys	Habitat Improvement Projects	Egg Incubation Fish Rearing
<b>So. Coast STEP Dist. (continued)</b>			
Euchre Cr			X
Lwr Rogue R		X	X
Hunter Cr		X	X
Pistol R		X	X
Chetco R	X	X	X
Winchuck R	X	X	X
<b>Lwr Willamette STEP Dist.</b>			
Scappoose Cr		X	X
Lwr Willamette Tribs	X	X	X
Sandy R	X	X	X
Tualatin R	X	X	X
Clackamas R		X	X
<b>Mid &amp; Upper Willamette STEP Dist.</b>			
Mollala R	X		X
Yamhill R	X	X	X
Mill Cr		X	X
Rickreall Cr	X	X	X
Luckiamute R	X	X	X
Santiam R		X	X
Calapooia R	X		
Mary's R	X	X	X
McKenzie R	X		X
MF Willamette R		X	X
<b>Mid-Columbia STEP Dist.</b>			
Hood R	X		X
Deschutes R	X	X	X
Klamath R		X	
Walla Walla R	X	X	X
Silvies R			X
Blitzen R		X	
John Day R	X	X	
Crooked R	X		X