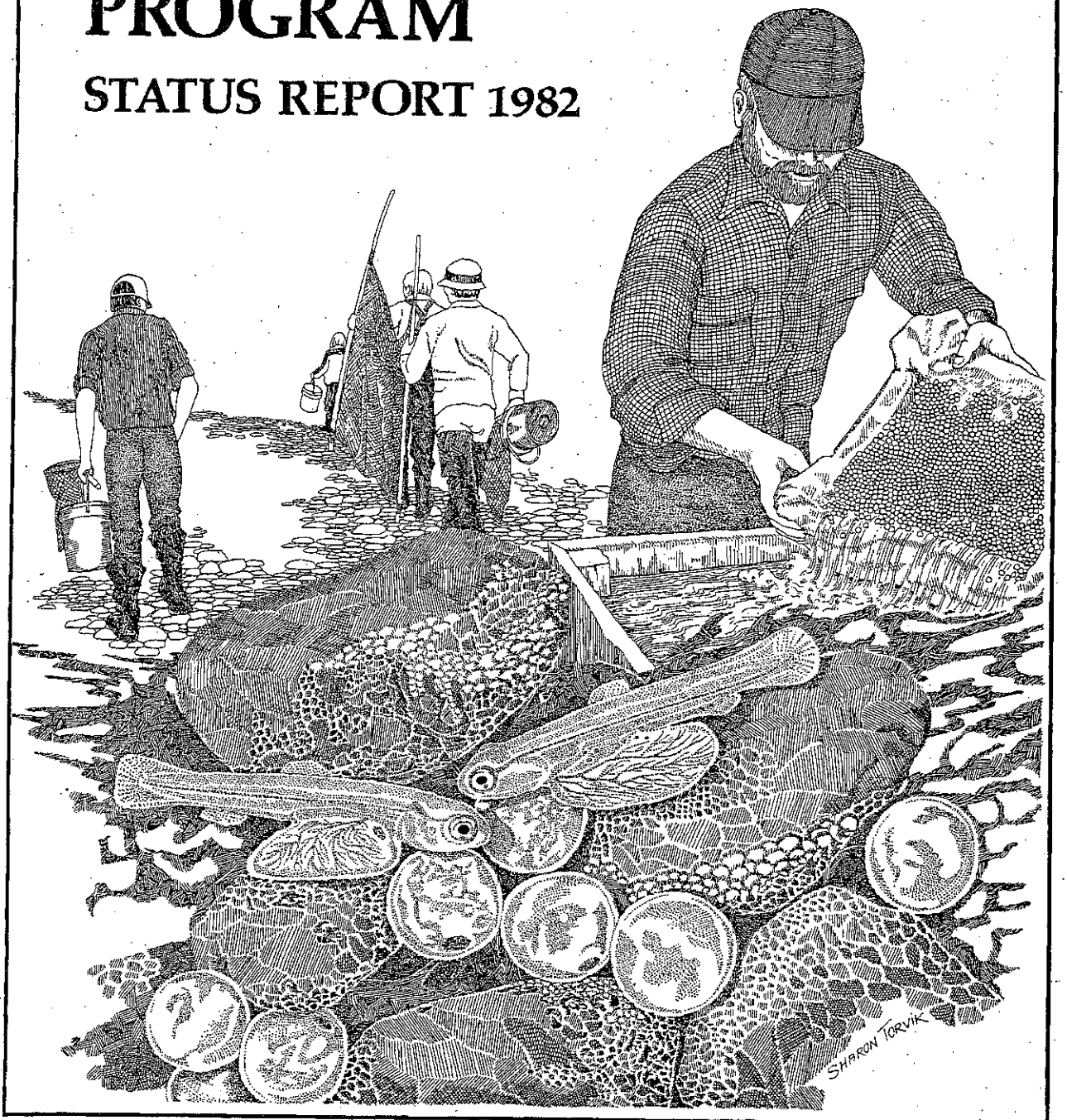
SALMON and TROUT ENHANCEMENT PROGRAM

STATUS REPORT 1982



OREGON DEPARTMENT OF FISH & WILDLIFE
506 S.W. Mill Street, P.O. Box 3503, Portland, Oregon 97208

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PREFACE

The abundance of salmonids in Oregon is dependent on the availability of good habitat to locally adapted stocks. In Oregon's earlier days, the salmon and trout resources were shared by a relatively small population. With increasing population and technology, the continuing impacts brought about by humankind changed essential habitat of salmonids—for the worse. The harvest of fish from the waters in early days was great and in some cases excessive, with many types of gear being used. This early overharvest, plus decrease in amount and quality of habitat, reduced the salmon and trout resources to only a portion of their former abundance. Fewer fish must now be divided amongst many harvesters and still regulations on the harvest must be stringent enough to allow adequate numbers of fish to escape to spawn and perpetuate their numbers.

The people of Oregon have shown an increasing interest in environmental quality, as evidenced by passage of such legislation as the Water Pollution Control statutes, the Forest Practices Act, the Waterway Fill and Removal law, Pesticide Use Controls and Riparian Habitat Protection law, to name a few.

This report is designed to inform Oregonians of the Salmon and Trout Enhancement Program (STEP). STEP is a new Department of Fish and Wildlife program guiding activities carried out by volunteer citizens interested in helping to restore and protect our streams and the fish they are capable of producing. It is but small recognition to those who share in such dedication and enthusiasm for that high purpose, and who are willing to devote a most precious personal resource — their time.

STEP projects are an ideal setting for ODFW biologists to discuss fish enhancement with user groups.

WHAT IS STEP?

STEP is a program involving private citizens, groups and businesses in salmon and trout enhancement activities. The program was conceived to produce a maximum of effort for a minimum amount of cash outlay through use of volunteer labor and donated — and sometimes purchased — materials. This enables the state to stretch the salmonid improvement program far beyond the limited tax revenue funds available.

Rewards for the individuals are in knowing they have completed activities that will make a better home or rearing space for fish, improved access to spawning areas or released fish they have reared from the egg stage.

HOW DID IT BEGIN?

A French monk, Dom Pinchon, is acclaimed as being the first to plant fertilized trout eggs in a stream. In the 15th Century he placed eggs in a wooden box with wicker work ends which contained sand and gravel and submerged the entire box in a gently flowing stream during incubation.

Over the years other workers in Germany, France, Scotland, and countries in the western hemisphere have advanced salmonid culture techniques with instream and streamside incubators.

The late Harley Foland was a Tillamook County pioneer born in 1881. He saw the small streams of that area when they were full of salmon. After seeing the fish numbers dwindle over the years, he decided to do something about it. Mr. Foland and a couple of good friends, Frand Richman and Leland Bester, convinced the Oregon Fish Commission to let them hatch salmon eggs in 1973 using a streamside incubator. With the assistance of Representative Paul Hanneman, these men worked out a program in 1977 to expand their ideas with other interested individuals into the Tillamook Landowner Program. This egg hatching program is an example of many fish enhancement programs that preceded STEP.

Other examples of public involvement include efforts of the Klamath Flycasters in habitat enhancement on the Williamson River where they have had a continuing program started in the 1960's of fencing riparian areas, gabion construction and spawning gravel placement.

The Sunriver Anglers have had projects that introduced spawning gravel into Spring River. They also have been experimenting with egg planting using the Whitlock-Vibert Box.

The Dalles Rod and Gun Club and Northwest Steelheaders were responsible for a considerable portion of the riparian recovery program on Fifteenmile Creek near The Dalles.

Rogue Flyfishers have worked on habitat and fish passage problems in the Rogue River Basin. They received a conservation award from the American Fisheries Society for their efforts in laddering a small dam on the Rogue River.

Harley Foland was the pioneer behind the Tillamook Landowner Program, a forerunner to STEP.

Several coastal educators have been the pacesetters in teaching salmonid enhancement and stream resources for several years. Neil Maine has had classes in Seaside that concentrate on natural resource awareness. His classes have been doing field surveys for spawning salmon as well as studies of juvenile salmon in the estuary. Another north coast teacher, Eldon Korpela, has had classes at Astoria High School and Warrenton High School doing field projects dealing with fish culture for many years. They have built ponds on school property to raise salmon, and annually are involved in salmon spawning activities at Department hatcheries.

On the south coast, George Tinker, Marshfield High School, and Mickey Hurley, Bandon High School, have ongoing programs that include streamside incubators for salmonid eggs, stream habitat enhancement and salmon spawning activities.

The 1979 Oregon Legislature acted to create a Salmon Advisory Committee (SAC) composed of five citizen appointees to present views about salmon management in the state. One of their first recommendations was to explore a citizen involvement program in enhancement efforts. The committee noted successes of a public involvement program in British Columbia entitled Salmonid Enhancement Program (SEP). They suggested inviting a representative of that program to Oregon to discuss ideas.

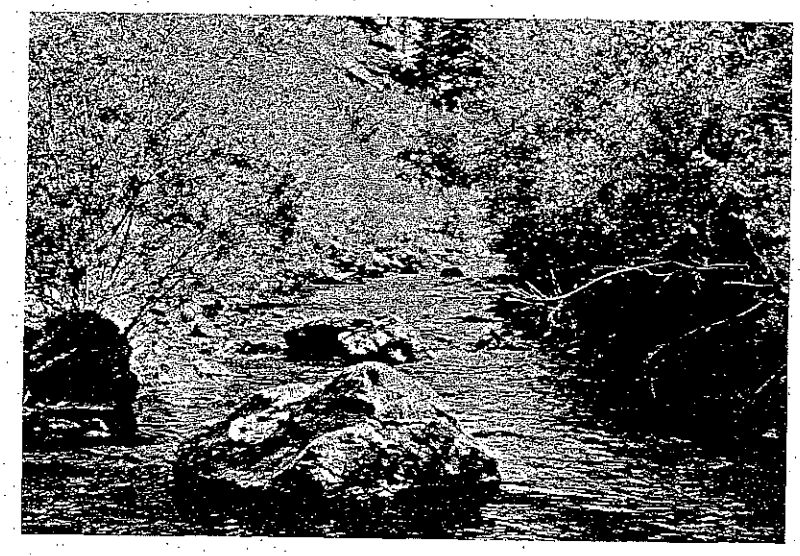
As a result of this and other contacts, in February 1980 Jack Donaldson, Director of the Department of Fish and Wildlife, presented ideas for a Salmon and Trout Enhancement Program to the Oregon Fish and Wildlife Commission. The Commission encouraged Donaldson to proceed with development of detailed plans. That same month, James Boland and David Barrett of the British Columbia Salmonid Enhancement Program were invited to discuss their Public Involvement Program in SEP. Ideas presented were greeted with enthusiasm at public meetings in Tillamook, Newport, and Coos Bay.

A Department staff coordinator for the STEP program was appointed in June 1980. Dick Herrig took a position vacated by a retirement with duties shifted to allow him to spend most of his time on STEP. At the time no budget was available for the program. The first order of priority was, therefore, to develop a budget proposal to the 1981 legislative session. The budget proposal was included in Governor Victor Atiyeh's Coastal Salmon and Steelhead Enhancement Program that was presented to the legislature.

The program and budget were approved due in major part to the endorsement and help of Representatives Bill Bradbury of District 48 and Paul Hanneman of District 3.

In the fall and winter of 1980-81, some demonstration projects were started on the Oregon coast. This was before the program was designed or funded; however, public interest had developed to the point that it was important that the program get off the ground. The result was the planning and start of several stream habitat enhancement projects and distribution of 2,000,000 salmon and steelhead eggs for streamside incubators.

The 1981 legislature approved a budget of $352,000 for the biennium, a STEP Advisory Committee and four field biologists to carry out the program in their separate areas.



Boulder placement is a technique used by STEP participants to improve the pool/riffle ratio in streams.

LEGISLATIVE BASIS

"There ought to be a law" was the opinion of the public and agency people who cooperated with 23 representatives and 10 senators of the Oregon Legislature in 1981 on House Bill 2992. The new law declares that a goal of the people of the state of Oregon is to restore native stocks of salmon and trout to their former level of abundance in a cost-effective manner.

The Fish and Wildlife Commission is directed to conduct a salmon and trout enhancement program and provide opportunities for citizen volunteer participation.

The law requires the following elements:

1) Department personnel to act as advisors to citizens.
2) Technical assistance for project development.
3) Coordination of projects with Department activities and other agency programs.
4) Education and information materials to promote public awareness.
5) Supervision of citizens developing local fish brood stocks.
6) Provision of available money to citizens to carry out approved enhancement projects.

The law outlines the process by which projects are conceived and carried out. It also establishes an advisory committee appointed by the Governor which reviews the policies of the Department and makes recommendations to the Fish and Wildlife Commission on implementation of the program.

HOW DOES IT WORK?

The program is new — hence, the players are still getting acquainted with one another, the rules, and with the playing field. Gains have already been made by the fish resources.

STEP ADVISORY COMMITTEE

Through a bill introduced into the 1981 legislature by Representative Bill Bradbury, an advisory committee was to be created. In December 1981, Governor Victor Atiyeh appointed a committee of 15 members representing a variety of user and interest groups and geographic area. Progress of the STEP program has been reviewed at monthly meetings. Some of the habitat issues discussed include the Oregon Forest Practices Act, establishment and enforcement of minimum stream flows, and regulation of the use of insecticides. The committee has given its views on habitat issues to the Fish and Wildlife Commission and other state and federal agencies. The committee's primary responsibility is to develop and recommend policy to the Department and Commission.

Meetings have been held in coastal areas and committee members have visited streamside incubator sites, reviewed a public information project and toured and worked on habitat improvement structures.

Present committee members as of November 1, 1982 are:

Keith Wilkinson — Brookings
Jim Fleck — Coquille
Nick Gelbard — Cloverdale
Neil Maine — Seaside
Jerry Branch — Portland
Vicky Heintzman — Albany
James VanLoan — Idleyld Park
Jack Crider, Jr. — Pacific City
Melvin Erdman — Bandon
Harold Fredericks — Lincoln City
Steve Smith — Gold Beach
Bill Bakke — Portland
Joyce Findley — Portland
Glenn Welden — Grants Pass
Ron Phillips — Newport

The STEP Advisory Committee meets monthly to review the progress of the program and advise the Commission and Department on policy and direction.

BASICS OF OPERATION

A Department guide is available to interested parties wanting to plan enhancement projects. It explains objectives of the program, suggests types of projects and provides forms which can be submitted for consideration by the Department staff.

STREAM SURVEYS

A look at fish habitat in and alongside streams has brought good understanding of the natural and man-caused processes that provide for or limit fish production. Information gathered during planned surveys can assist in evaluating the status of fish runs and habitat and will help in planning projects which will increase fish production.

STREAMSIDE VEGETATION RESTORATION

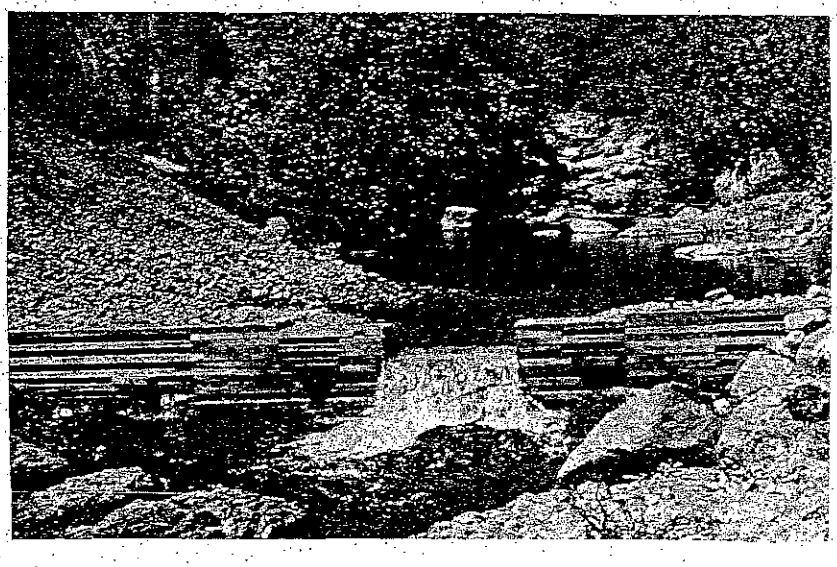
The condition of streambanks is important to production of fish. Shade provided during the hot summer months can decrease temperatures that otherwise may limit or destroy the value of stream habitat for salmon and trout. Erosion is controlled by root systems limiting silt in the stream that would clog gravel, smother eggs, and reduce production of water insects that are vital as a food source for fish. Fish need the three essential basics to all life: food, cover, and rearing area. Vegetation along streams can help provide hiding cover as well as food and clean gravel breeding areas. Projects can involve sloping banks, planting or reseeding and fencing disturbed streamside areas.

INSTREAM HABITAT RESTORATION

Quality of the physical stream habitat can be limiting. Fish need a balance of spawning and rearing area with some riffles and some pools in a given stream reach. Addition of structures can in some cases improve the ability of a stream to produce fish. This has been accomplished in a number of areas by placement of sill logs anchored on the stream bottom. Gravel collects behind the log, providing spawning area above the structure and a rearing pool on the downstream side gives cover and living area for larger fish. Rock filled wire baskets called gabions are easily placed and provide for water control at a fraction of the cost of concrete or wooden structures. Although somewhat vulnerable to damage from drifting logs, these structures have created resting areas, low cost fishways and erosion control on many Oregon streams.

Boulders placed in stream areas can provide a balance between the amount or ratio of riffles to pools. They are most often used where there is too much riffle but limited pool and hiding area. Although heavy equipment is usually required for placement, these natural instream structures provide good habitat in many otherwise limited areas.

Nature's supply of spawning gravel of the proper size can be added by placement of gravel from outside the stream. Water force will distribute this added gravel into downstream areas, giving more food-growing area and spawning areas. Several projects have utilized this approach.



A wooden sill used to collect spawning gravel.

BARRIER REMOVAL

The homing instinct of salmon is well known, with the adult fish returning from the sea to struggle upstream to suitable spawning areas. Logjams, roadway culverts, natural falls, dams or velocity barriers may impede or block upstream migration. The area of suitable habitat above each barrier must be evaluated and cost and labor involved in providing passage balanced against the gain. Logjams can be sawed, dragged or blasted away, and structures of concrete, wood or gabions can be added to give easier passage to upstream migrating fish.

SCALE COLLECTION

Groups or individuals can assist in collecting scale samples from salmon or steelhead caught in a fishery to assist the Department in evaluating contribution of hatchery and naturally reared fish stocks. Better management decisions will be possible because of efforts of involved citizens.

EDUCATION

Education is a primary objective in the legislation that created STEP. This aspect of the program is recognized for the potential benefit of increasing awareness and understanding of all citizens of Oregon. The educational benefits of STEP are expected to span both adults involved in enhancement projects and the younger generation in classrooms and field activities.

STREAM STOCKING

Development of a stream's fish population can be assisted by the planting of locally adapted stocks which will populate spawning and rearing areas. Streamside egg incubator boxes for salmonid eggs have been placed in many areas of the state. A reliable water supply of the proper quality and temperature must be available to assure good hatching conditions. Fry are released into the stream after the hatching process is complete.

ADOPT-A-STREAM

A group may decide to concentrate efforts on a nearby or favorite stream and carry out any or all of the previously listed types of projects.

An excellent approach is to take a good look at the stream and attempt to define "limiting factors" before deciding what enhancement efforts will be undertaken.

WHAT HAS STEP DONE SO FAR?

The area STEP biologists joined the program late in 1981 to find a rapidly expanding public involvement program and a multitude of eager participants. Projects were in all phases of development in the egg program, habitat enhancement, education program and a steelhead scale collection program. A most pressing demand for their time was the egg program which was at hand. Project proposals, site inspections and egg distribution for coho and chinook salmon, and steelhead and cutthroat trout were the order of the day.

Were there problems? Yes, you bet — like any new program, the bugs must be ironed out before it runs smoothly. So it has been with STEP. First consider the human aspect. Every project starts with an idea that must be proposed, discussed, reviewed, decided upon, perhaps changed, approved and then coordinated in the field with any number of people. It has been a learning experience, both for the public participants and those in the Department.

Nature also plays a hand in complicating some issues (or could it be Murphy's law at work?) Worse than normal flooding brought special problems to STEP in the fall and winter of 1981. Silt collected in incubation boxes, drifting leaves and other materials clogged water intakes and in some cases, the high water completely removed the boxes and water intakes. The result was less than hoped for overall survival to the fry stage for the total program.

Coho salmon eggs received the largest loss since they were the first to be used, and were in the boxes when the storms hit. Later, when the steelhead trout eggs went in the boxes, there were not only less storms, but the experience learned earlier on egg stocking densities, box and intake placement, and box design, paid off with improved survival rates.

Much was learned from these experiences and the program will benefit from the inventiveness that volunteers have shown in overcoming minor setbacks.

It is not possible in this report to give credit to all the individuals that have been involved in STEP over the past year. The list would include some thousands of people and well over 10,000 hours of labor. Some of their accomplishments include:

EDUCATION PROGRAM

Several of the coastal educators that have been teaching salmonid enhancement for several years were discussed earlier in this report. Additional programs have been started in the past year. The STEP biologists have been active in spreading the word about the program by visiting with teachers and their classes.

Eddyville High School has a class under the tutelage of Linda Serbus that was doing stream surveys and stocking salmon fry in the Yaquina River system this past year. They are now planning to expand the program in the next school year.

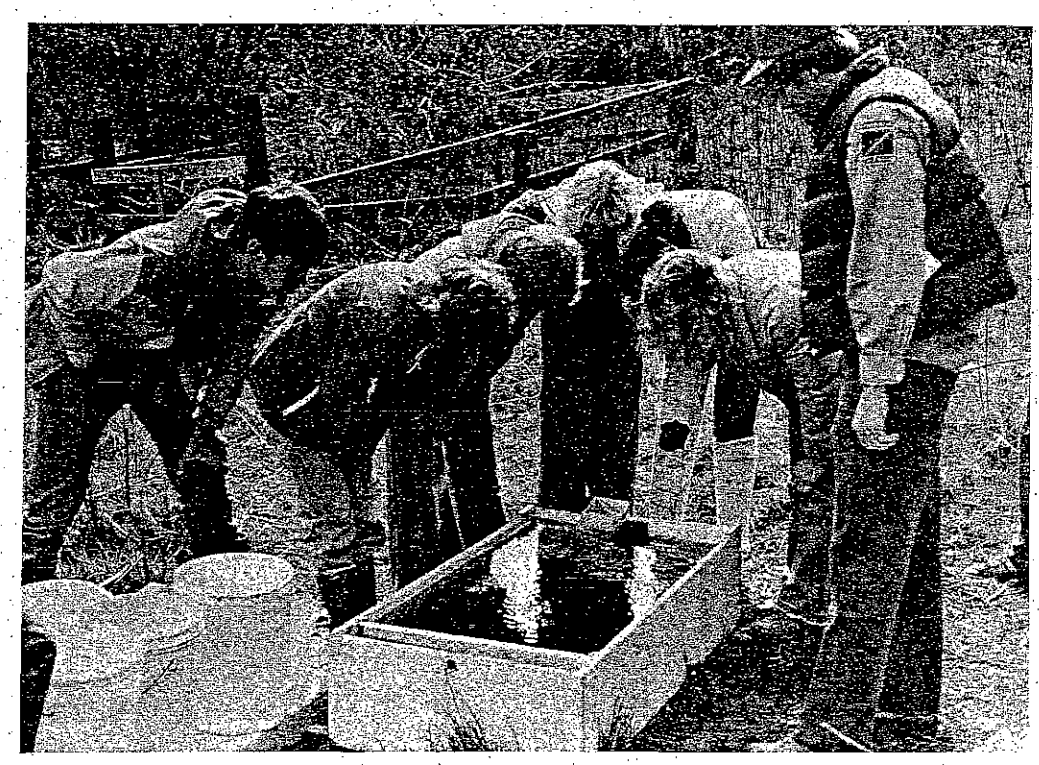
Jon Brown and students at Neah-Kah-Nie High School are planning a logjam removal project on Jetty Creek (Nehalem Bay). Students are also participating in the egg incubation program.

The forestry class at Sam Barlow High School (Gresham) is doing stream surveys on Beaver Creek (Clackamas River). They are planning projects for the present school year.

Tom Powell is a teacher at Camp Adams (an environmental education camp for the Portland area 6th graders). Camp Adams incubated and released 10,000 chinook salmon eggs and 35,000 steelhead trout eggs in Milk Creek (Molalla River). An estimated 1,600 students participated in keeping records of water temperatures and egg and fry mortality.

Marshfield High School students were active this past summer in a program to salvage coho salmon fry from small tributaries of the Tenmile Lake system. The fry were removed from potholes that were drying up and transplanted to ponds. Over 16,000 salmon were rescued in the project.

A workshop designed to help classroom teachers take advantage of the educational potential of STEP has been set for October 1982. The program will be conducted at the Marine Science Center in Newport. Neil Maine, Seaside Educator, and Vicki Osis, Marine Extension Program, have developed the program to train the participants as resource people for their local districts. With this background they can help other educators take advantage of the program in their area and work with the STEP biologist to broaden the base of the program's educational opportunities.

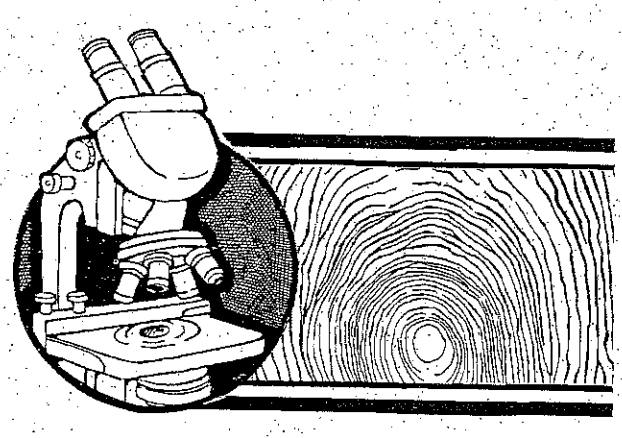


Students observe salmon fry that are the result of a streamside egg incubator.

STEP VOLUNTEER SCALE PROGRAM

In December 1980, the Department and the Association of Northwest Steelheaders announced a cooperative program, the purpose of which is to obtain scale samples from angler-caught steelhead from Oregon streams. The program was expanded in 1981 to include both summer and winter steelhead from coastal and interior watershed streams. Twenty thousand scale envelopes containing a return address and several thousand brochures were printed for distribution to Oregon anglers. There were booths at the Tri-County Sportsman Show (Albany) and the Portland Sportsman Show.

The response from individuals has been overwhelming. We have received and processed 1,526 scales from the 1981-82 steelhead season, representing both coastal and Columbia tributaries. Scales being examined at the present time are used to determine hatchery/wild ratios in the catch, and will be of value to determine future management of steelhead in Oregon.



HABITAT ENHANCEMENT

The list of habitat enhancement projects undertaken in the past year is truly impressive. Development of the different projects is in various stages at the present time. Some are just now in the planning stage, others are completed. A good many are of a nature that will take an ongoing commitment of maintenance and repair. Here is a look at some of the volunteer work that is underway:

North Fork Scappoose Creek:

Jack Mullican contributed to the enhancement of habitat on the North Fork with efforts to improve adult fish passage at a logjam. Steps are also being taken to control streambank erosion by grass seeding.

Tryon Creek (Willamette River):

Marshall Park Neighborhood Organization is planning stream improvements on Tryon Creek.

Little Clear Creek:

Mike DeCristaforo has installed three gabions in Little Clear Creek to improve the pool/riffle ratio.

Henry Creek (Zig Zag River):

The Rhododendron Neighborhood Group has adopted Henry Creek. Enhancement activities include spawning surveys, egg incubation and habitat protection.

Tualatin River:

The Tualatin Chapter of Northwest Steelheaders has adopted the Tualatin River. Stream surveys have been conducted and future STEP projects are being developed.

Miami River:

The Metro Trollers Association, with Jim McPeak as the ramrod, sponsored "Operation Miami". This project had a broad base of support. Participants from Beaverton, Tigard, Portland, Tillamook, Garibaldi, and Rockaway contributed over 1,200 man hours and $2,000 to improve fish production on the Miami River. Habitat improvement projects included stream surveys, planting willows, grass seeding to control erosion, logjam removal, rescue of stranded fish in a dry river bed, rock placement to improve fish passage through a culvert, and rock and log placement to provide cover for juvenile fish.

Watseco Creek (Pacific Ocean):

Members of "Operation Miami" also improved fish passage on Watseco Creek. A logjam was opened to allow fish passage. Logs and rocks were also placed to provide rearing habitat for juvenile salmonids and to collect spawning gravel for adults.

Trask River:

The Beaverton Chapter has adopted the Trask River. Stream surveys, fish salvage of stranded juveniles, river cleanup of trash, and installation of fisherman courtesy signs have been part of their enhancement effort. Future activities include log and boulder placement as well as additional stream surveys.

West Fork Buck Creek (Siletz River):

The Corvallis Chapter of Northwest Steelheaders went to work this year to improve the salmon and steelhead populations in Buck Creek. A series of three V-shaped gabions were built in the stream to create better spawning and rearing habitat. All of the work was done by hand labor and equipment with a lot of time, money, and effort donated by many volunteers. Boise Cascade Corporation owns the land where the project was done, and was helpful in granting permission for whatever work was needed to complete the project. Georgia Pacific Corporation also assisted in this cooperative project as it donated rock from a quarry nearby for filling the gabions.

Yaquina River:

Enhancement for the entire Yaquina River drainage is the goal of a project proposed by the Toledo Elks Club. A steering committee comprised of five members has been selected to assist the STEP biologist in setting up projects for the Elks. A written plan will be formulated in the next few months to outline the methods for improving the fish populations in the Yaquina.

The initial projects proposed for the Elks Club include logjam removal, streambank stabilization, egg incubation, education and stream surveys.

Big Creek (Coos River):

The Northwest Steelheaders in Coos Bay removed a large log jam on Big Creek. This jam was the only complete barrier to upstream migration that was within the scope of the Steelheaders.

Tioga Creek (Coos River):

The Coos Bay Steelheaders have proposed to repair a damaged fish ladder on upper Tioga Creek.

Little Rock Creek (North Umpqua River):

The Steamboat Flyfishermen installed two 100-foot gabions on Little Rock Creek. The stream is a bedrock stream that has a very limited amount of gravel for spawning.

Euchre Creek (Pacific Ocean):

The Northwest Steelheaders and Commercial Fishermen Association of Gold Beach worked for the past two summers to remove downed alder trees, six logjams, and also install four log weir structures. Euchre Creek has few pools for fish to rear in so the group worked to reduce streambank erosion that can fill pools with sediment and to place log structures to dig new pools for rearing. The work is directed at restoring a fall chinook run to this system.

STEP volunteers are removing salmon and trout from potholed streams and restocking in live streams.

Boulder Creek (Euchre Creek):

The Gold Beach Steelheaders and Commercial Fishermen installed gabions below a culvert that blocked fish passage. This work reduced a 6-7-foot barrier to a series of three 2-foot jumps and opened 1 mile of spawning habitat.

White Cabin Creek (Euchre Creek):

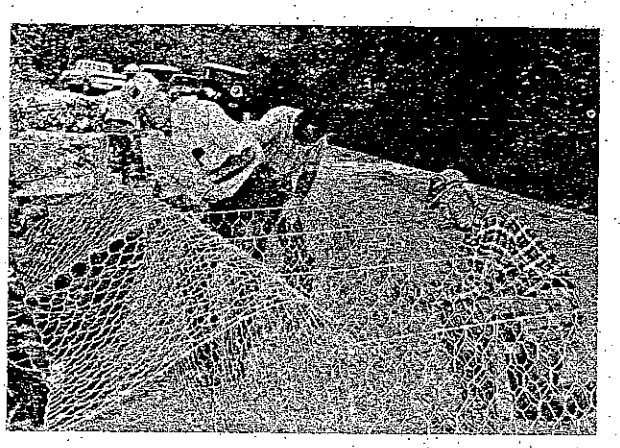
The Northwest Steelheaders of Gold Beach worked with the U.S. Forest Service to install a gabion below a culvert that blocked fish passage. The resulting jump pool opened a half mile of new spawning area.

Crew Canyon Creek (Euchre Creek):

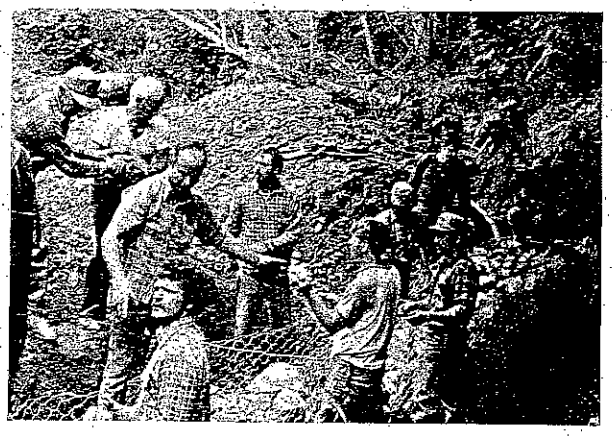
The Gold Beach Steelheaders removed a 12×20×8-foot logjam with chainsaws and winches.

Deep Creek (Pistol River):

The Northwest Steelheaders of Gold Beach, during the past two summers, have built with large boulders, cement and chainsaw blades, a 20×20-foot jump pool below a culvert that impeded fish passage. They also placed a gabion below the concrete jump pool to reduce the height of the original jump, made a salmonid resting area above the culvert from several large boulders, and constructed 14 rock weirs to accumulate gravel and create pools in 1½ miles of stream.



The start of another gabion structure in the Gold Beach area.



Volunteers fill the gabions by hand with rock donated for the project.

Saunders Creek (Rogue River):

The Curry County Road Department, with the assistance of STEP volunteers, made alterations to the spillway of a rock and concrete jump pool on a culvert at Jerry's Flat Road.

Mill Creek (Chetco River):

The Chetco Northwest Steelheaders, in cooperation with the U.S. Forest Service, placed five alder log weirs, 20 cemented boulders, and 10 gabion structures to improve the pool/riffle ratio in a 2-mile section of Mill Creek. The USFS also engineered the project.

Jacks Creek (Chetco River):

The Chetco Northwest Steelheaders removed by hand labor the old ODFW trapping facility. Several large anchor poles and 6,000 board feet of lumber were removed from the stream channel and piled for burning. Some of the wood was salvaged for future STEP projects.

Cat Creek (Winchuck River):

The Chetco Northwest Steelheaders and Brookings Harbor High School students hand placed 10 yards of riprap on the streambank to control an erosion problem. The project was done in conjunction with placement of a brood stock development trap at the site.

Star Gulch (Applegate River):

The Rogue Flyfishers worked with the Department and the Bureau of Land Management to build a jump pool structure and remove a logjam to open four miles of stream for winter steelhead. The jump pool was built at the base of a concrete diversion dam.

South Fork Little Butte Creek (Rogue River):

The Rogue Flyfishers, in conjunction with the Medford Irrigation District, constructed a two-step concrete fish ladder over a 6-foot high irrigation diversion dam to open four miles of excellent spawning habitat.

Gilbert Creek (Rogue River):

The Grants Pass Rotary Club organized a drive to clean up 2½ miles of stream in the downtown section with help from the City of Grants Pass. The club took 15 dumptruck loads of garbage from the stream.

Evans Creek (Rogue River):

A concrete fishway and ladder over a dam on Evans Creek was constructed by the Bureau of Land Management, the Department, Middle Rogue Chapter of Northwest Steelheaders, and the Rogue Flyfishers. The project opened up 8 miles of spawning grounds to three species of salmonids.

Big Butte Creek (Rogue River):

A fish ladder was completed by the Rogue Flyfishers on Big Butte Creek and helped them become the outstanding fisheries club in Oregon as recognized by the Oregon Chapter of the American Fisheries Society.

Little Nestucca River:

Volunteers interested in this stream are conducting stream surveys and are planning an egg incubation program. Future goals include spawning surveys and habitat improvement projects.

Hughey Creek (Wilson River):

George Hodgdon installed three cedar logs to improve fish passage over a 6-foot high irrigation dam.

Vern Lucas reconstructed an eroded fish ladder to improve fish passage through a culvert.

Bunn Creek (Nestucca River):

Howard Brassfield placed logs, root wads, and rock to provide cover for juvenile fish and protect the streambank from erosion.

South Fork Lewis and Clark River:

Rainland Flycasters have adopted this stream. Current activities include summarizing stream survey data to plan future habitat improvement projects.

Warner Creek (Necanicum River):

Bill Boone is involved in habitat improvement projects on Warner Creek which includes log and root wad placement. Spawning surveys are also planned for this winter.

Grassy Lake Creek (North Fork Nehalem River):

Rainland Flycasters have adopted this stream. Stream surveys have been conducted and future habitat improvement projects are being developed.

Nehalem River:

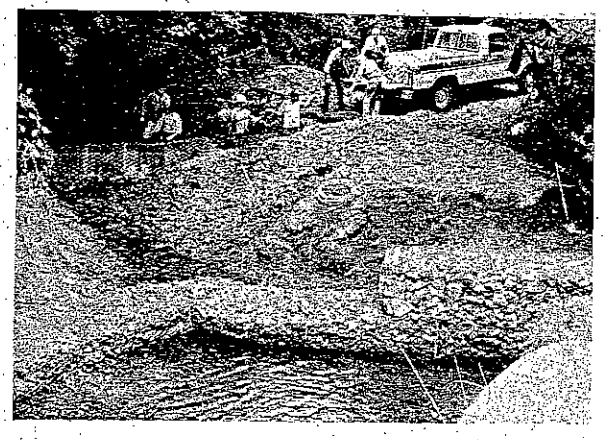
STEP participants near Wheeler have formed a non-profit group called Nehalem River Enhancement Association. Stream surveys to determine "limiting factors" have been conducted. The group has also monitored low flow in key tributaries of the Nehalem River. Although they got a late start, this group has contributed a tremendous amount of time and effort to gather data for future STEP projects.

Salmonberry River (Nehalem River):

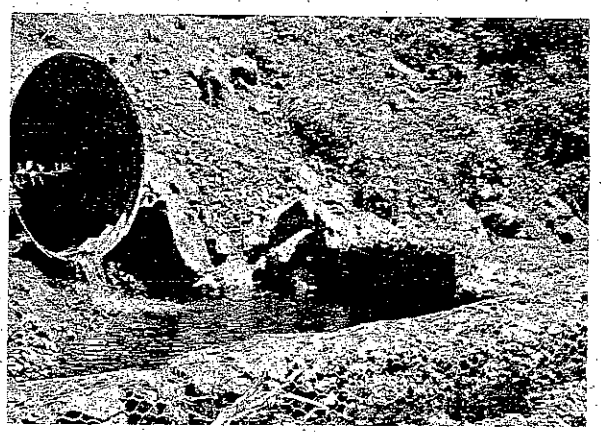
The Anglers Club of Portland has done snorkling surveys to determine areas of low utilization of juvenile salmonids. Brush bundles were then anchored to the streambank to provide cover. Later surveys showed a higher number of juvenile fish using the area. This club also assisted ODFW employees with spawning surveys. Stream surveys are currently being conducted to determine "limiting factors" to fish production.

Deer Creek (Nehalem River):

Tom Marlin has adopted Deer Creek. Tom has spent countless hours improving fish habitat on Deer Creek. Major emphasis has been directed at improving adult passage through logjams. Tom, aided by Phil Mitchell and Joe Bobzien, plan to continue their enhancement efforts. These include monitoring logging practices, partial removal of logjams, and to monitor and maintain adequate adult passage through culverts.



Gabions will provide spawning and rearing area as well as better passage at a road culvert.



When the flow increases during the fall and winter, the gabion will provide a resting pool and better passage at the culvert.

Boykin Creek (North Fork Nehalem River):

Paul McCraken and his helpers are monitoring habitat protection while implementing an active logging and reforestation project. Major emphasis is given to protecting the habitat.

Peterson Creek (Nehalem River):

Bob Leighton has been participating by conducting stream surveys to determine "limiting factors" and has been compiling records of low flows in key streams.

Walluski River (Columbia River):

Palmer Henningsen and John Christie participated in the egg incubation program. Fearing his newly planted fry were in trouble, Palmer was the driving force behind an effort to control an illegal spill of mud into the Walluski River. Media attention was focused in on a gas drilling site (which caused the spill) and the problem was corrected.

Anderson Creek (Drift Creek-Siletz):

Randy Sawyer has an Adopt-A-Stream project for Anderson Creek, a 3-mile-long tributary. He walked the entire stream to conduct a stream survey for the inventory phase of his proposal. With the assistance of the STEP biologist, Sawyer evaluated the habitat condition of the creek and plans to complete various projects to enhance the present fish populations.

Bales Creek (Yaquina River):

Russ Glascock has begun an Adopt-A-Stream project that includes stream surveys, instream habitat improvement and egg incubation. The project includes debris cleanup, logjam and beaver dam modification, and streambank stabilization.

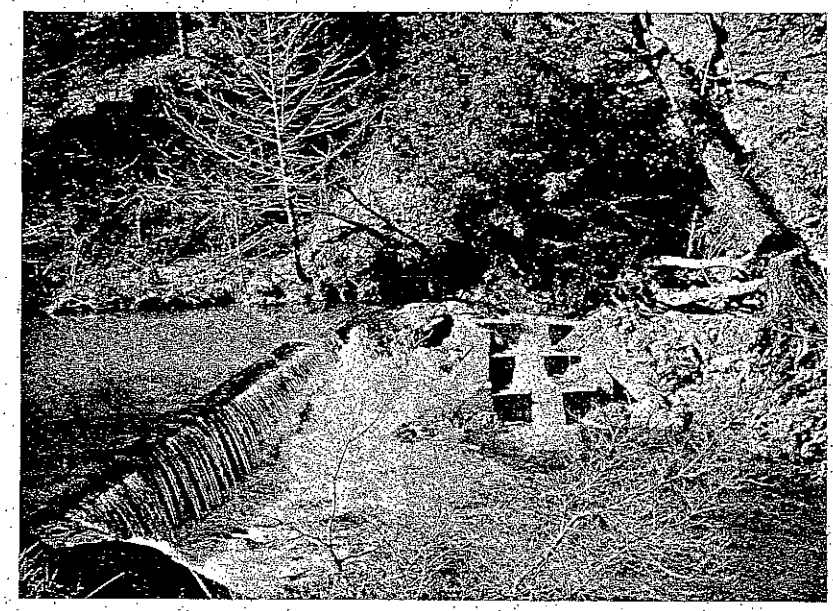
Bear Creek (Yaquina River):

Bear Creek is a small tributary of the Yaquina River and runs through property owned by Don and Darlene Deardorff. The Deardorff s have an Adopt-A-Stream project which includes spawning ground surveys and evaluating stream habitat for limiting factors to fish production.

Cedar Creek (Siletz River):

Tim Miller is removing a huge logjam on Cedar Creek. Miller is donating his heavy equipment which will be required to move the large cedar logs that formed the jam just 100 yards upstream from the mouth. This logjam is presently blocking 9 miles of salmon and steelhead habitat.

A logjam on the beach at the mouth of Hubbard Creek (south coast) was removed by the Port Orford Fishermen's Association — Summer 1982.



Alfonso Dam Fishway — built by the Rogue Flyfishers on the Upper Rogue River.

East Fork McGlynn Creek (Alsea River):

The Albany Chapter of Northwest Steelheaders spent a "day on the coast" to complete a project that they began last year. The Steelheaders placed a series of three gabions below a culvert under a cooperative project with the U.S. Forest Service. This year, over 20 cubic yards of rock were needed to riprap the ends of the gabions to prevent more eroding and possible loss of the project.

Gopher Creek (Alsea River):

A section of Gopher Creek that meanders through a grassy meadow will be involved in a project to enhance not only fish, but wildlife too. The meadow is being rehabilitated for elk habitat, but also wild cutthroat trout will benefit from the proposed enhancement project. Streambank stabilization, willow planting, and overhanging wooden structures will give better habitat for the excellent wild trout population. Biologists from the U.S. Forest Service, Soil Conservation Service, and ODFW will assist volunteers in completing this project.

Schooner Creek (Siletz Bay):

Both forks of this stream are presently blocked for anadromous fish by an impassable falls. A total of 7.5 miles of good coho and steelhead habitat will be opened in 1984 when the U.S. Forest Service ladders both falls. The Lincoln City Chapter of Northwest Steelheaders submitted a proposal to help establish the anadromous fish run above the falls. There is a series of five logjams on the South Fork which would be a passage problem. Two of the logjams were removed this summer and plans are to complete the work on the other jams next fall. Chainsaws, winches, chokers, cables, and a lot of hard work were involved in these workcrews led by Harold Fredericks.

Schultz Creek (Siuslaw River):

Jim Coleman began his habitat enhancement project by clearing small debris from the creek. He planted vegetation along sections of the streambank that had erosion problems. He also conducted stream surveys to collect physical and biological data to evaluate the stream's production.

South Depoe Creek (Depoe Bay):

The Depoe Bay Harbor Commission decided to adopt South Depoe Creek, the major tributary feeding into the small bay. Vaughn Taunton, Chairman of the commission and originator of the proposal, believes there could be a lot done to improve the fish runs. The initial part of the project has been a complete survey of the 3.5 mile creek. The next step will be to outline the habitat projects. The commission has involved members of the community, including Coast Guard personnel stationed at Depoe Bay, to assist them in their long-term project.

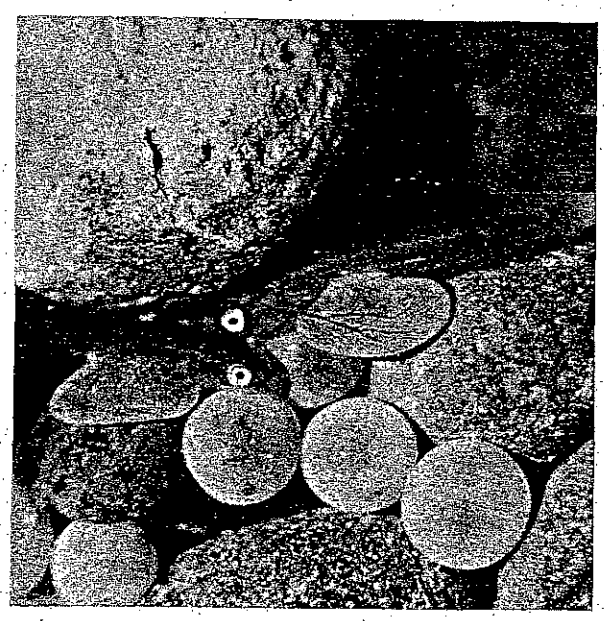
EGG INCUBATION PROGRAM

In the past year, STEP has advanced well beyond what the Department had anticipated for the egg incubation program. That anticipation amounted to simply distributing some salmon eggs that were surplus to hatchery needs for a public involvement program. What really expanded the program beyond this original expectation is the desire of the public to become involved on rivers or streams where there is no suitable hatchery supply of salmon or trout eggs.

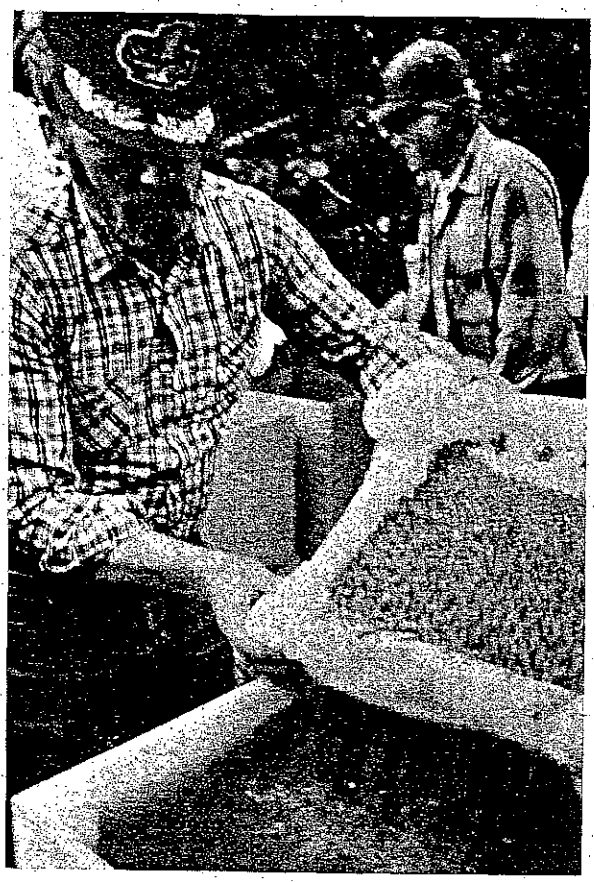
There are several good examples of stream systems where public participants would like to incubate eggs, but there is no hatchery stock that is available, either because of stock transfer guidelines (genetic constraints) or disease factors.

The upper Nehalem River is an area where the Department has had egg requests; however, a disease is present (*Ceratomyxa*) that eliminates the potential for using eggs from the hatchery on the North Fork Nehalem River. Use of this stock (which has a low resistance to *Ceratomyxa*) would reduce the resistance of the wild run in the upper river that has some resistance to the disease if inbreeding occurred. The Department has, for the past several years, been capturing wild fish from Fishhawk Creek that have a greater resistance to the disease. These fish are being used at the hatchery to develop a new brood stock. When returns increase, eggs will be made available to STEP.

Tenmile Lakes were, in the past, a large contributor of coho salmon to Oregon's sport and commercial fishermen. The salmon runs in the tributaries of these lakes are substantially reduced at the present time, and both the public and the Department would like to see these runs restored. In addition to efforts by the public in salvaging stranded coho fry from the tributaries, the Department is involved in a brood stock development program that, hopefully, will be built up to a place where coho eggs for both a hatchery program and a STEP streamside incubator program are available.



Eggs and sac fry survive well in the clean gravel of an incubation box.



Spring chinook eggs just received from a hatchery are placed in an upwelling incubation box and then covered with gravel.

Early in STEP the people on the Coquille River were involved with the streamside incubator program. Since there is no state hatchery to get eggs from on the system, the options were to go to a wild egg-take or obtain eggs from Alsea or Cole Rivers hatcheries. The program that was worked out included eggs from a wild egg-take and others from Cole Rivers Hatchery. Part of the coho eggs from the wild egg-take on the North Fork Coquille River have been taken to Butte Falls Hatchery and reared to smolt size. The smolts are divided between a payback program to the North Fork and a release in Ferry Creek (Coquille Bay) for developing a brood stock. Plans worked out between the Department, Bandon Fishermen's Association and the Coquille Rotary for the fall and winter of 1982 are to eliminate the use of Cole Rivers Hatchery eggs. The program will concentrate on obtaining native Coquille River salmon and steelhead eggs through trapping, seining, and use of the trap at the North Fork fish ladder.

Several different styles of streamside egg incubators are being used in STEP.

The first return of adult coho salmon is expected at the Ferry Creek trapping site in 1983. It is planned that these returns will eventually supply the needs for STEP on the Coquille River and several other small south coast streams.

An IHN virus disease complicated the egg needs for the Department and STEP volunteers on the south coast. Elk River Hatchery raises fall chinook and steelhead from Elk River and the Chetco River. Because of the virus, fall chinook eggs have not been available for STEP. Seining efforts by the Department, Chetco Steelheaders, and commercial fishermen produced fall chinook to help meet the needs of the smolt program, but there was no excess left to be used for the STEP streamside incubator program. A more intensive effort is being planned for the winter of 1982-83 so that needs of both programs can be met.

Other efforts were expended by STEP volunteers to collect native brood stocks in Floras Creek, Hunter Creek, Pistol River and Winchuck River. High waters and an unusually stormy fall allowed most fall chinook to escape these efforts last year. On the other hand, volunteers were successful in capturing some winter steelhead for STEP projects on Floras Creek, Hunter Creek, and Pistol River.

A summary of the total STEP egg program for 1981-82 is presented in Table 1.

Table 2 is a list of the streams and cooperators for the different species of salmon and trout in the egg incubation program.

Dead eggs are picked off regularly to keep fungus from spreading to other eggs.

Table 1

Total Egg Program 1981-82
(Egg to Fry)

Species	Eggs Received	Fry Released	Percent Survival
Coho	2,187,125	1,093,563	50%
Fall Chinook	402,700	261,755	65%
Winter Steelhead	1,385,550	1,177,718	86%
Cutthroat	10,700	9,700	91%

Table 2

Summary of Streams and Cooperators

Hatchbox Site	Major River System	Fish Species	Cooperator
Fourmile Cr.	Pacific O.	Coho	Bill Kurtz
Morton Cr.	New River	Coho	John Kirchgesler
New Lake Slough	New River	Coho	Bill Kurtz
Floras Cr.	Pacific O.	Coho	John Kirchgesler
Hubbard Cr.	Pacific O.	Coho	Orris Smith
Brush Cr.	Pacific O.	Coho	Pat Cassin
Euchre Cr.	Pacific O.	Coho	John Wilson
Edson Cr.	Rogue R.	Coho	Wallace Wades
Indian Cr.	Rogue R.	Coho	Chuck Knox
Silver Cr.	Rogue R.	Coho	Steve Smith
Winchester Cr.	Coos R.	Coho	Wallace Niece
Coalbank Cr.	Coos R.	Coho	Forrest Taylor
Libby Cr.	Coos R.	Coho	Jack Piper
Radar Dome Cr.	Coos R.	Coho	Bill Poppe
North Cr.	Coos R.	Coho	Karen Jackson
Meltmen Cr.	Coos R.	Coho	Glen Compton
Bills Cr.	Coquille R.	Coho	Harry Slack
China Cr.	Coquille R.	Coho	Harry Slack
Ferry Cr.	Coquille R.	Coho	Rod Junge
Easy Cr.	Coquille R.	Coho	Rod Junge
Bud Cr.	Coquille R.	Coho	Neal Haga
Rink Cr.	Coquille R.	Coho	John Higgens
Glen Adkins Cr.	Coquille R.	Coho	Harry Sweetman
Fat Elk Cr.	Coquille R.	Coho	Ron Bruce
Halls Cr.	Coquille R.	Coho	Bob Bryan
Lampa Cr.	Coquille R.	Coho	Lawrence Winter
Rollen Cr.	Coquille R.	Coho	Arlie Amos
Fish Trap Cr.	Coquille R.	Coho	Carl Ohman
Bear Cr.	Coquille R.	Coho	Rod Junge
Bills Cr.	Coquille R.	Coho	Bob Nuessle
Two Mile Cr.	Pacific O.	Coho	Rod Junge
China Cr.	Bradley Lake	Coho	Roger Winters
Bear Cr.	Yaquina R.	Coho	Don & Darlene Deardorff
Condon Cr.	Siuslaw R.	Coho	Jack Leasure
Green Cr.	Siuslaw R.	Coho	Bill Pendergrass
Lake Cr.	Siuslaw R.	Coho	Don Wilbur
Unnamed	Walluski R.	Coho	Palmer Henningson
Unnamed	Walluski R.	Coho	John Christie

Table 2 (cont.)

Hatchbox Site	Major River System	Fish Species	Cooperator
Ross Cr.	Columbia R.	Coho	Jack Conklin
Scappoose Cr.	Columbia R.	Coho	Vern Hudson
Korn Cr.	Willamette R.	Coho	Bob Haindel
Scappoose Cr.	Columbia R.	Coho	Jack Mullican
Euchre Cr.	Pacific O.	Chinook, Fall	Jonn Wilson
Hayes Cr.	Coquille R.	Chinook, Fall	Jim Humbards
Long Tom Cr.	Coquille R.	Chinook, Fall	James McWilliams
Amlings Cr.	Coquille R.	Chinook, Fall	Ernest Amlings
Rassler Cr.	Coquille R.	Chinook, Fall	Neal Westfall
Endicott Cr.	Coquille R.	Chinook, Fall	Preston Husted
Boones Cr.	Coquille R.	Chinook, Fall	Bud Boones
Giles Cr.	Coquille R.	Chinook, Fall	Tom Mason
Middle Cr.	Coquille R.	Chinook, Fall	Mac Kinsland
Bills Cr.	Coos R.	Chinook, Fall	Harry Slack
Sand Cr.	Sand Lake	Chinook, Fall	Archie Schenck
Beaver Cr.	Nestucca R.	Chinook, Fall	Skip Baily
Farmer Cr.	Nestucca R.	Chinook, Fall	Jack Crider, Jr.
Beaver Cr.	Nestucca R.	Chinook, Fall	Rick Robideau
Simmons Cr.	Tillamook R.	Chinook, Fall	Wes Simmons
Fawcett Cr.	Tillamook R.	Chinook, Fall	George Hurliman
Unnamed Spring	Tillamook R.	Chinook, Fall	Duane Johnson
Cedar Cr.	Trask R.	Chinook, Fall	Mark Comolli
Unnamed	Kilchis R.	Chinook, Fall	Doug Brown
Unnamed	Kilchis R.	Chinook, Fall	Rob Ridderbush
Proudy Cr.	Miami R.	Chinook, Fall	Gordon MacMillan
Proudy Cr.	Miami R.	Chinook, Fall	Henry Olson
Wedonna Cr.	Miami R.	Chinook, Fall	Jon Brown
Milk Cr.	Pacific O.	Chinook, Fall	Tom Adams
Proudy Cr.	Molalla R.	Chinook, Fall	Metro Trollers
Floras Cr.	Pacific O.	Steelhead, Winter	John Kirchgesler
Hunter Cr.	Pacific O.	Steelhead, Winter	Bob VanLears
Crook Cr.	Pistol R.	Steelhead, Winter	Bob Stamsells
Jack Cr.	Chetco R.	Steelhead, Winter	Burden Mibust
Hayes Cr.	Coquille R.	Steelhead, Winter	Jim Humbards
Long Tom Cr.	Coquille R.	Steelhead, Winter	James McWilliams
Rassler Cr.	Coquille R.	Steelhead, Winter	Neal Westfall
Endicott Cr.	Coquille R.	Steelhead, Winter	Preston Husted
Giles Cr.	Coquille R.	Steelhead, Winter	Tom Mason
Deer Cr.	Coquille R.	Steelhead, Winter	Doug Brown
Joyce Cr.	Coquille R.	Steelhead, Winter	Tom Leach
Brainard Cr.	Coquille R.	Steelhead, Winter	Bill Carcher
Hall Cr.	Coquille R.	Steelhead, Winter	Vern Shields
Benson Cr.	Coquille R.	Steelhead, Winter	Harold Benson
Stock Cr.	Coquille R.	Steelhead, Winter	Dale Reiber
Empire Lake	Umpqua R.	Steelhead, Winter	Terry Weaver
Silver Cr.	Smith R.	Steelhead, Winter	Harold Wornath
Glen Cr.	Smith R.	Steelhead, Winter	Cliff Lance
Catching Cr.	Tenmile Lk.	Steelhead, Winter	Bill Little
Dement Cr.	Coos R.	Steelhead, Winter	Bill Adkins
Rhoda Cr.	Coos R.	Steelhead, Winter	Bob Bryan

Table 2 (cont.)

Hatchbox Site	Major River System	Fish Species	Cooperator
Pheasant Cr.	Coos R.	Steelhead, Winter	Neal Westfall
Myrtle Cr.	Coos R.	Steelhead, Winter	Andrew Waterman
Libby Cr.	Coos R.	Steelhead, Winter	Jack Piper
Radar Dome Cr.	Coos R.	Steelhead, Winter	Bill Poppe
North Cr.	Coos R.	Steelhead, Winter	Karen Jackson
Meltman Cr.	Coos R.	Steelhead, Winter	Glen Compton
Ross Cr.	Coos R.	Steelhead, Winter	Don & Darlene Deardorff
Bear Cr.	Yaquina R.	Steelhead, Winter	Don & Darlene Deardorff
Condon Cr.	Yaquina R.	Steelhead, Winter	Jack Leasure
Curl Cr.	Yaquina R.	Steelhead, Winter	Harold Fredericks
Lake Cr.	Siuslaw R.	Steelhead, Winter	Don Wilbur - Frank Hale
Bales Cr.	Siuslaw R.	Steelhead, Winter	Tom Worlick - Russ Glascock
Catarack Cr.	Siuslaw R.	Steelhead, Winter	Sidney Nicholson
Oglesby Cr.	Siuslaw R.	Steelhead, Winter	Burt Henderson
Rickreall Cr.	Salmon R.	Steelhead, Winter	Harry Miller
Taylor Cr.	Willamette R.	Steelhead, Winter	Greg Lindsey
Unnamed	Willamette R.	Steelhead, Winter	Rob Ridderbush
Beaver Cr.	Kilchis R.	Steelhead, Winter	Joe Ducham
Cedar Cr.	Nestucca R.	Steelhead, Winter	Mark Comolli
Unnamed Spring	Trask R.	Steelhead, Winter	Duane Johnson
Fawcett Cr.	Tillamook R.	Steelhead, Winter	George Hurliman
Proudy Cr.	Tillamook R.	Steelhead, Winter	Metro Trollers
Unnamed	Miami R.	Steelhead, Winter	Rob Ridderbush
Peterson Cr.	Wilson R.	Steelhead, Winter	Bob Leighton
Milk Cr.	Nehalem R.	Steelhead, Winter	Tom Powell
Scappoose Cr.	Molalla R.	Steelhead, Winter	Jack Mullican
Abernathy Cr.	Columbia R.	Steelhead, Winter	Jack Barber
Boykin Cr.	Nehalem R.	Cutthroat	Paul McCraken