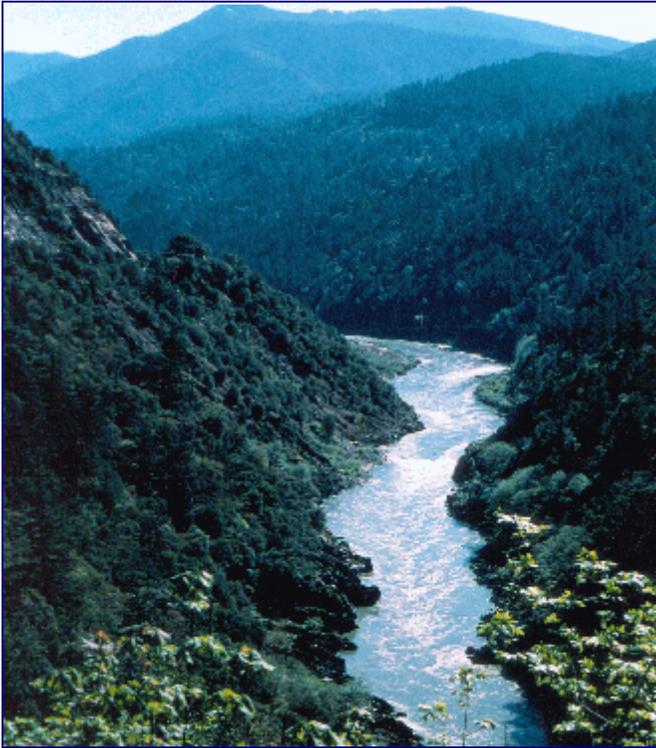


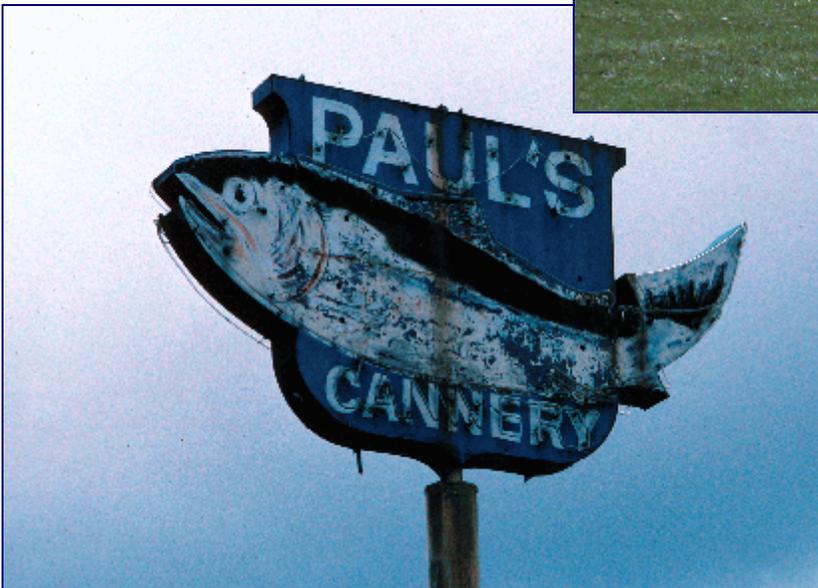


U.S. Fish & Wildlife Service

Klamath River Basin Conservation Area Restoration



Working to Restore Anadromous
Fisheries of the Klamath River
Basin



FY 2001 Annual Report

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*Klamath River Basin Fisheries Task Force
Jobs-in-the-Woods Program
Partners for Fish and Wildlife Program
Clean Water Act, Section 319(h) Program*

Greetings! The Klamath River Basin Fisheries Task Force Chairman, John Engbring, presents the 2001 Annual Report of the Klamath River Basin Conservation Area Restoration Program

We would like to share with you the results of projects completed this year in our Restoration Program. Project profiles received between October 1, 2000, and September 30, 2001, are highlighted in this annual report of the Klamath River Basin Conservation Area Restoration Program. Since the beginning of the program, over 385 projects have been funded throughout the Klamath watershed and approximately \$10,136,900 has been committed for these projects. These projects include education, habitat restoration, habitat protection, fish protection, fish restoration, and planning and coordination projects.

The Task Force has found that funding to local watershed planning and coordination groups has been essential for getting good proposals for on-the-ground projects. The local groups are working with landowners and developing plans that prioritize their needs for projects in their watershed.

This year's projects targeted riparian protection and stream bank stabilization in an effort to decrease stream temperatures, nutrient loading, and sedimentation. A school-based restoration monitoring program provided watershed education opportunities for students in the classroom and field, while providing critical baseline and multi-year data on the success and effectiveness of current and previous restoration efforts. This past year has been very successful for the Klamath River watershed with many projects initiated, underway, and completed. These efforts are certainly important for recovery of our natural resources and will continue to improve biological productivity to provide for viable commercial, recreational, and Tribal fisheries.

Sincerely,

John Engbring
Klamath River Basin Fisheries Task Force, Chair

Introduction to the Klamath River Basin Conservation Area Restoration Program

The Klamath River Basin Fisheries Task Force (Task Force) was established by the Klamath River Basin Fishery Resources Restoration Act of 1986 (P.L. 99-552) to provide recommendations to the Secretary of the Interior on the formulation, establishment, and implementation of a 20-year program to restore the anadromous fish populations of the Klamath River Basin Conservation Area to optimal levels and to maintain such levels. The Klamath River Basin Conservation Area Restoration Program (Klamath Restoration Program) is administered for the Department of Interior by the U. S. Fish and Wildlife Service office in Yreka, California. Congress authorizes \$1 million per year to implement this program until 2006, when authorization will cease.

To administer the Klamath Restoration Program, the Yreka Fish and Wildlife Office performs the following functions: [1] provides staff support to the two Federal advisory committees: the Task Force, which provides guidance on implementation of the Klamath Restoration Program; and the Klamath Fishery Management Council (Council), which provides recommendations on the regulation of harvest; [2] coordinates, funds and assists restoration planning and implementation of restoration projects; [3] monitors and coordinates research evaluating anadromous fish populations; and [4] promotes partnerships that help to leverage additional funding for restoration in the Klamath River Basin. The Goals and Objectives of the Restoration Program are presented in more detail on the following page, and descriptions of several current projects also follow.

Several other programs complement restoration in the Klamath River Basin. These include the following:

The Jobs in the Woods Program is part of the U.S. Fish and Wildlife Service's contribution to the Northwest Forest Plan to participate in watershed restoration activities in northern California, Oregon, and Washington. The goals are to: 1) Support watershed restoration efforts on nonfederal lands, 2) contribute to the recovery of fish, wildlife, plant species, and their habitats, 3) complement ongoing watershed restoration efforts on federal lands, 4) provide employment and training opportunities to timber-dependent community workers, and 5) support a cooperative approach to watershed restoration.

The Partners for Fish and Wildlife Program is a technical and financial assistance program working with private landowners to restore wetlands, streams and river corridors, fish and wildlife habitats. The Program provides advice on the design and location of potential restoration projects, as well as financial assistance to implement the projects.

From 1995 to 1999, the Task Force was awarded funding by the California Water Resources Control Board under Section 319(h) of the Clean Water Act to conduct water quality restoration projects in the Klamath River Basin.

Goals and Objectives of the Klamath River Basin Conservation Area Restoration Program

The following goals are to provide the Task Force its long-range direction in accomplishing the restoration of the Klamath River Basin anadromous fish populations.

- I. Restore, by the year 2006, the biological productivity of the Klamath River Basin in order to provide viable commercial and recreational ocean fisheries and in-river tribal (subsistence, ceremonial and commercial) and recreational fisheries.
- II. Ensure that the Klamath Fishery Management Council devises harvest regulation recommendations that will provide for viable commercial, recreational and tribal fisheries.
- III. Recommend to the Congress, state legislatures and local governments the actions each must take to protect the fish and fish habitats of the Klamath River Basin.
- IV. Inform the public about the value of anadromous fish to the Klamath River region and gain their support for the Restoration Program.
- V. Promote cooperative relationships between the lawful users of the Basin's land and water resources and those who are primarily concerned with the implementation of the Restoration Plan and Program.

The following are the objectives:

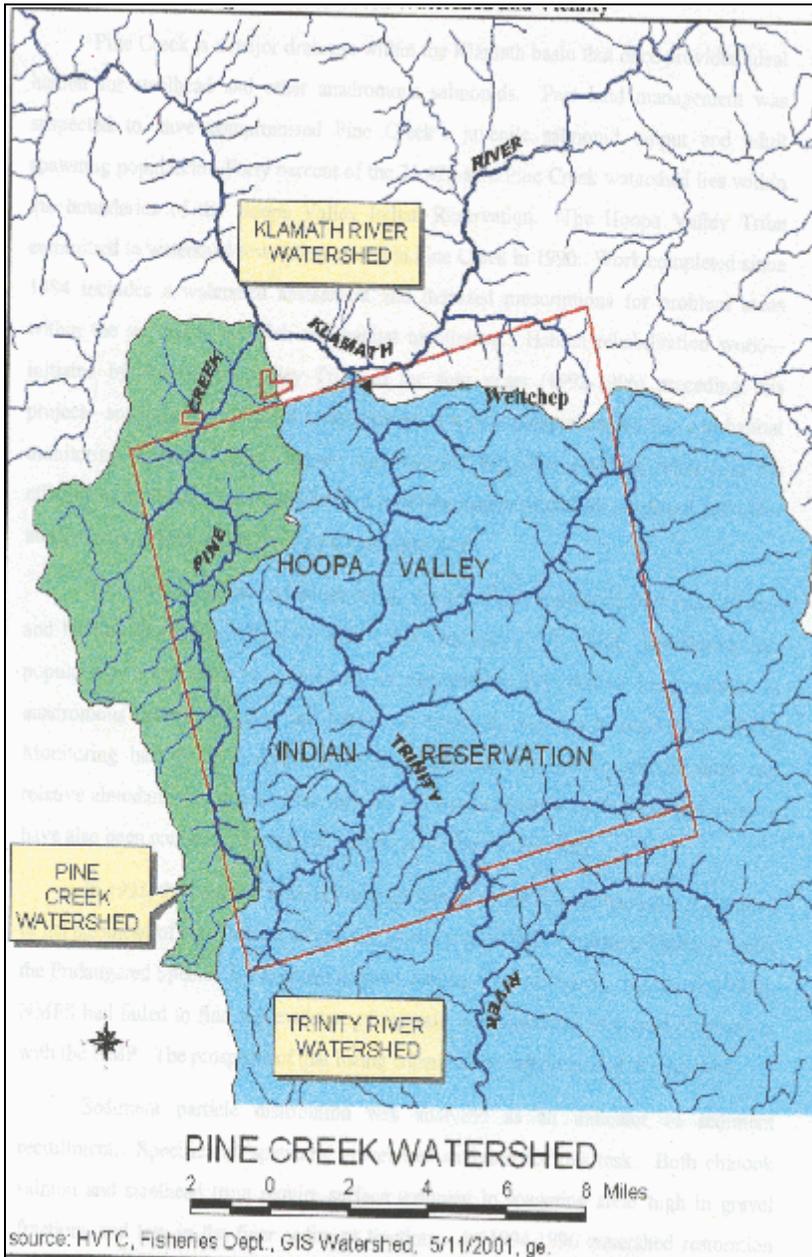
- I. Protect stream and riparian habitat from potential damages caused by timber harvesting and related activities.
- II. Ensure that mining activities do not cause habitat damage.
- III. Protect and improve water quality of stream habitat from adverse agricultural practices.
- IV. Protect salmon and steelhead habitat from harmful effects of water and power projects in the Klamath Basin.
- V. Protect the instream flow needs of salmon and steelhead in streams affected by water diversions.
- VI. Restore the habitat of anadromous fish of the Klamath River Basin by using appropriate methods that address the factors that limit the production of these species.
- VII. Strive to protect the genetic diversity of anadromous fishes in the Klamath River Basin.
- VIII. Iron Gate and Trinity River Hatchery should be operated to produce salmon and steelhead to mitigate for the losses of habitat above their dams, and at the same time, strive to reduce impacts on native fish.
- IX. Small-scale rearing programs should be temporary measures, primarily for the purpose of accelerating the rebuilding of locally-adapted native salmon and steelhead populations, and operated to maintain the genetic integrity of such populations. Ideally, small-scale rearing programs should be operated in conjunction with habitat restoration projects.
- X. Promote public interest in the Klamath River Basin's anadromous fish, their beneficial use and habitat requirements and gain support for the Restoration Program's plans and efforts to restore fish habitat and population numbers.
- XI. Provide adequate and effective administration to successfully implement the Restoration Plan and Program.

Klamath River Basin Fisheries Task Force Projects

Monitoring Stocks of Concern in Pine Creek, Hoopa Valley Tribe

Pine Creek is a major drainage within the Klamath basin, and once provided ideal habitat for steelhead and other anadromous salmonids. Past land management has compromised Pine Creek juvenile salmonid production. The objective of this project was to monitor fish and habitat restoration efforts and to assess the relative success of restoration projects conducted within the Pine Creek drainage. Restoration efforts consisted mainly of road decommissioning in the watershed. To measure the impacts of restoration efforts, sediment quantity was measured at potential spawning sites in the watershed. In-stream sampling was conducted to index the abundance of juvenile salmonids. Adult escapement was monitored with periodic spawner (redd) surveys in reaches of Pine Creek. Numbers of juvenile outmigrants were compared to data collected prior to and after 1996 (pre-and post-restoration efforts).

Study results showed that the mean percentage of fine sediment decreased at all the spawning sites sampled, including control sites upstream from the restoration projects, compared to pre-restoration conditions. Due to the flushing effect of a large storm that occurred in the winter of 1996-1997, and high inter-annual variability in fish abundance, the study was unable to determine the relative effects of the specific restoration projects. Steelhead were the most abundant of the juvenile salmonids captured throughout the study, followed by chinook and coho salmon. Of these three species, only juvenile steelhead showed a statistically significant increase in abundance in the post-restoration period. A small increase in juvenile chinook abundance was also observed in the post-restoration period. Coho salmon abundance did not change. Overall, there was an improvement in habitat quality and an increase in the abundance of juvenile steelhead (and possibly chinook salmon) in Pine Creek, but any specific impacts of the restoration efforts were masked by the 1996-1997 winter flood event.



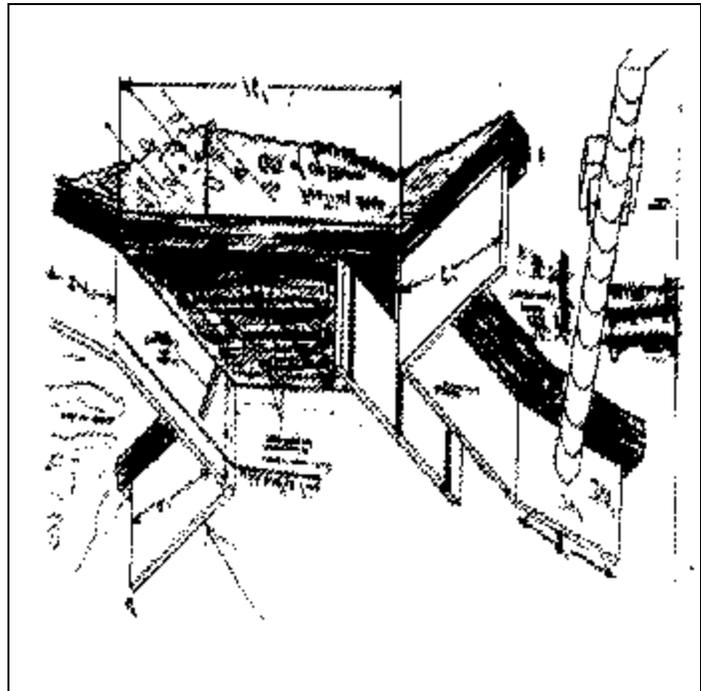
Horse Creek Cattle Exclusion Fencing Project, U. S. Forest Service, Klamath National Forest



Under this project, approximately 5,000 feet of riparian corridor along Horse Creek was fenced. This project will protect the riparian corridor and the valuable spawning bed areas along this stretch of stream.

Horse Creek Migration Barrier Project, U. S. Forest Service, Klamath National Forest

Under this project an earth dam used to divert the main stem of Horse Creek into Middle Creek for irrigation will be replaced with a concrete structure. The structure incorporated a fish ladder to facilitate the migration of fish in the stream. It was also constructed so that the barrier could be removed during the non-irrigating season for unobstructed flow during winter months. Unfortunately, this structure was severely damaged during the 1997 flood.



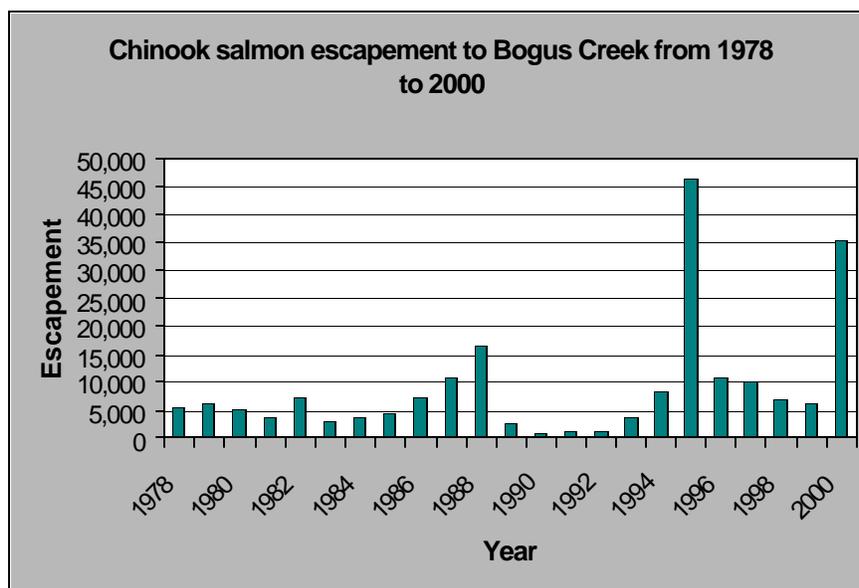
Ah Pah Creek Fish Passage and Habitat Improvement Project, California Conservation Corps



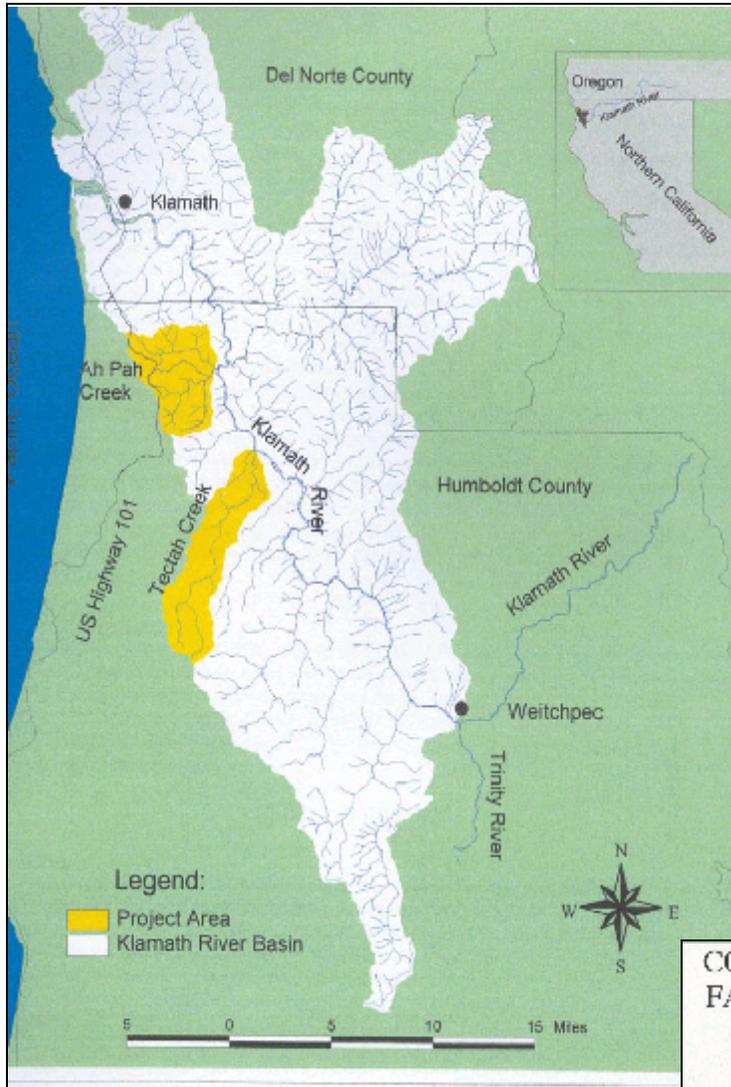
The California Conservation Corps (CCC), Klamath Service District, was funded by the Klamath River Basin Fisheries Task Force to implement instream enhancement and fish passage measures on Ah Pah Creek, a small tributary to the lower Klamath River. The Ah Pah Creek Fish Passage and Habitat Improvement Project was a cooperative effort undertaken by the CCC, California Department of Fish and Game, and U.S. Fish and Wildlife Service. Restoration efforts took place on lands owned and operated by the Simpson Timber Company. Intensive land use practices, interstate highway road construction, flood events, and stream clearance projects had left much of Ah Pah Creek nearly devoid of instream fish habitat.

Bogus Creek Salmon Studies, California Department of Fish and Game

The California Department of Fish and Game operated a fish marking weir and conducted carcass surveys on Bogus Creek in the fall of 2000. The primary purpose of the study was to determine the escapement of fall-run chinook salmon and describe the general characteristics of the spawning run. The chinook spawning run began on September 28, 2000, and migration into the creek ended on November 11, 2000. The peak of the spawning run occurred between the 9th and the 21st of October. Approximately 35,051 chinook salmon were estimated to have entered Bogus Creek during the 2000 spawning season. Based on length frequency analysis, 98% of the run was comprised primarily of adult fish.



1999 Ah Pah and Tectah Creek Watershed Restoration Training and Implementation, Yurok Tribe

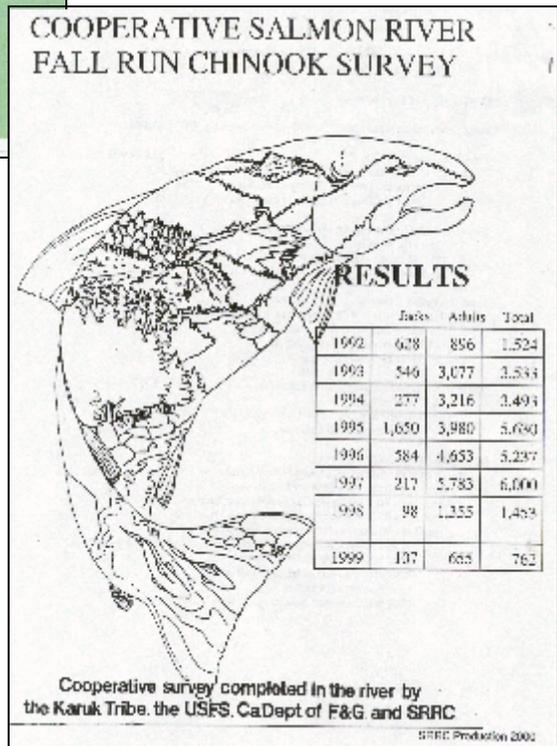


From July through October, 1999, the Yurok Tribe conducted a Watershed Restoration Training and Implementation Program within the Ah Pah and Tectah Creek drainage basins. This is part of a multi-year restoration effort, which is intended to remediate man-caused sediment sources from 30 tributary sub-basins within the Lower Klamath River Basin.

This program was part of long-term watershed restoration goals intended to fulfill two principal Tribal objectives: return the Klamath River fisheries to their healthiest possible condition and create job training and employment opportunities for Tribal members. The Ah Pah and Tectah Watershed Training and Implementation Program employed nine Tribal members, and provided them with the technical skills needed for watershed restoration work within the Tribal Fisheries' Restoration Division.

Salmon River Education Events, Salmon River Restoration Council

The Salmon River Restoration Council (SRRC) is a community-based group whose mission is to assess, protect, restore and maintain the Salmon River ecosystems, as well as the local community. In fiscal year 2000, the SRRC enlisted community members in specific educational projects and cooperated in a series of Fishery Surveys and Fire Awareness Workshops and Workdays. These focused on: 1) Fall Chinook Salmon Population and Spawning Ground Surveys, 2) Fire Management, 3) Winter Steelhead Population Surveys, and 4) Spring Chinook and Summer Steelhead Population Dive Surveys.



Scott River Watershed Council, Siskiyou Resource Conservation District

The Scott River Watershed Council (Council) is a community-based group whose mission is to “promote a watershed-wide effort to conserve and enhance the natural resources, to conserve open space and a resource-based economy, and to seek mutually beneficial solutions to natural resource use through education and a voluntary collaborative community process”. During the period June 1, 2000, to January 31, 2001, the Council was very active in positive and productive resource restoration, especially in educational events, project development, and the initial stages of a Scott River Watershed Plan. The plenary Council met monthly, and three of these meetings included educational speakers. There was one special meeting to review and prioritize proposals, and another special meeting for community mapping. The Council’s six committees (Land, Water, Fish, Community Relations, Monitoring, and Education) met nearly every month. The Technical Committee met once or twice a month, and the Executive Committee met once a month to set the agenda for the meetings. Educational events included: 1) a landowner sediment monitoring workshop by University of California Extension, 2) a forestry stewardship workshop by University of California Extension, and 3) a tour and potluck dinner with the Klamath Fishery Management Council. The Council’s coordinator produced monthly newspaper articles and a newsletter.



Salmon River Community Restoration Program, Salmon River Restoration Council



The Salmon River Restoration Council (SRRC) is a community-based group whose mission is to assess, protect, restore, and maintain Salmon River ecosystems. In our cooperative agreement for the Salmon River Community Restoration Program, the SRRC continued to enlist community members in a variety of watershed awareness, restoration and protection activities. The SRRC held a series of Ecosystem Awareness Workshops, Restoration Training Workdays, and Field Trips in the Salmon River subbasin. These focus on: 1) Fisheries Management, 2) Fire Management, 3) Native Plant Nurseries, 4) Watershed Education Program- Partnership between the 3 Schools and SRRC, which highlights subbasin water temperature monitoring, 5) Forest Management, 6) Road Management, 7) Noxious Weed Control, 8) Recycling Fire Camp Trash, 9) Subbasin Restoration Planning, and 10) SRRC Annual Community Action Plan development. Community cooperation and support is expanding and complements SRRC’s work in bringing together various stakeholders in the subbasin to prioritize and implement needed restoration activities.

Jobs-in-the-Woods Program Projects

Shasta River Riparian Fencing Project, Great Northern Corporation



Grant funds from the federal Jobs in the Woods program were used to accomplish a variety of restoration tasks in the Shasta River Watershed. These included riparian fencing and fence repairs, native tree planting, fish screening and flashboard dam removal. Sites were on the mainstem Shasta River, and the Little Shasta River.

Scott River Riparian Restoration Project II, Siskiyou Resource Conservation District

The goal of the Scott River Riparian Restoration Project is to improve and expand riparian and cold water habitat throughout a 5.0 mile section of the Scott River by planting 35 acres of riparian vegetation. The project was funded by the USFWS Jobs-in-the-Woods Program, Klamath River Basin Fisheries Task Force, and the National Fish and Wildlife Foundation. The project reach of the Scott River is important to the watershed's fisheries due to cool summer flows and prime spawning habitat. Although the reach has some positive aspects, there are also problems present. Much of the project reach has an overly wide and unstable active channel due to excessive bed load created by millions of yards of mining tailings located upstream of the project. Solutions to this problem are being investigated in another project funded by the Jobs-in-the-Woods Program.



Partners for Fish and Wildlife Program Projects

South Siskiyou County Pond Restoration

This Pond Restoration Project includes the enhancement of an existing riparian habitat. The project is located approximately three miles north of Weed, California. The restoration includes repair and maintenance by excavation of an existing dam to improve holding capacity, and the establishment of rearing mounds. The establishment of habitat and vegetation beneficial to waterfowl, raptors, songbirds, cavity nesters, and small mammals within the pond riparian area will accelerate the development of the riparian complex.



Clean Water Act, Section 319(h) Program Projects

Shasta River Riparian Restoration Project, Great Northern Corporation



The Shasta River was historically the mainstay for the chinook runs in the Klamath Basin, and was the most heavily fished stream for steelhead in Siskiyou County. In recent years, that situation has been reversed, and the Shasta has frequently had the smallest fall chinook spawner returns, and fishing for steelhead is non-existent.

A variety of water quality improvement projects and activities in the Shasta Valley in 2000 included livestock exclusion fences, beaver protection on large trees, water quality data collection and management, working with local high school students on restoration site monitoring and water quality issues, partnering with AmeriCorps members working with students, and preparing and providing additional maps and information for the Klamath Resources Information System.

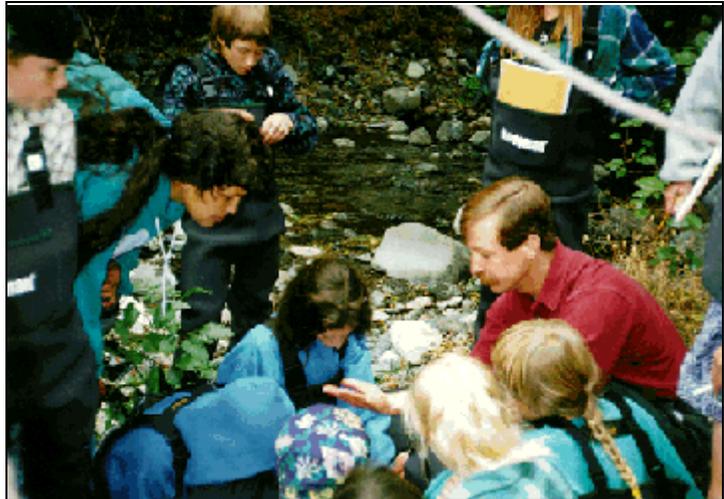
Scott River Riparian Restoration Project, Siskiyou Resource Conservation District

The Siskiyou Resource Conservation District completed the construction and implementation of one complete alternative stock watering system, and the improvement of two other systems. They constructed a total of 8,800 feet of riparian fencing along lower Patterson Creek, Kidder Creek, and the Scott River in order to protect and enhance the riparian area. The goal of the project was to protect the riparian area and allow native and riparian plantings an opportunity to become established in order to provide riparian cover and trap sediment already in the stream. A photo of the new watering pump is shown.



Salmon River Restoration Monitoring and Education Program, Salmon River Restoration Council

The Salmon River Restoration Council (SRRC) developed and implemented the Salmon River Restoration Monitoring and Education Program. The primary functions are: 1) to collect water quality information on the Salmon River as a tool for restoration monitoring, 2) to input water quality, restoration activities and watershed education activities into the Klamath Resource Information System (KRIS) system, 3) to attend and sponsor technological training sessions to increase awareness of SRRC staff and community members about watershed processes and management impacts and, 4) to provide technical assistance to schools, the community and community groups.



The SRRC met its goals as a technological leader in the Klamath Basin. The SRRC was a major contributor to KRIS, revising and improving the Salmon River Subbasin segment. They also provided technical assistance to other groups working with KRIS and helped lead KRIS training sessions. Their working relationship with the Forest Service under this grant helped establish a comprehensive Salmon Subbasin monitoring program. Combined with their Watershed Education Program, SRRC has supported the three local elementary schools in ecosystem awareness and technology, giving the students a greater perception of the world around them. This exposure ties sciences and technology to the students' surroundings, increasing their understanding of scientific concepts. SRRC shares GIS products with interested people and groups via maps, presentations, publications, etc. This aspect of public outreach helps adults visualize watershed management concepts and increases their input into the resource management decision-making process.

School-Based Klamath Restoration Project, Siskiyou County Office of Education

The School-Based Klamath Restoration Project was a collaborative effort between seven Siskiyou County schools, the Siskiyou County Office of Education, and the U. S. Fish and Wildlife Service. The objectives of the project included: 1) expanding hands-on field science watershed education, 2) encouraging a sense of resource stewardship among students at all grade levels, 3) collecting quality data for inclusion in the 319(h) database, 4) teaching applications of the scientific method, and 5) providing on-going in-service training for teachers to increase the effectiveness of the project.



The cooperators acquired and analyzed Klamath River Watershed data, including river water temperatures, river cross sectional profiles and spawning ground surveys. In some cases, the field data were collected and compiled by agency personnel. Spawning ground survey data were collected by student volunteers as part of a project conducted by the California Department of Fish and Game and the U. S. Forest Service. Descriptions of methodology used are included in the project's final report. In addition to data collection, the schools did many other watershed-related activities. The photo above illustrates carcasses recovered with a jaw tag are chopped in half to prevent recounting.

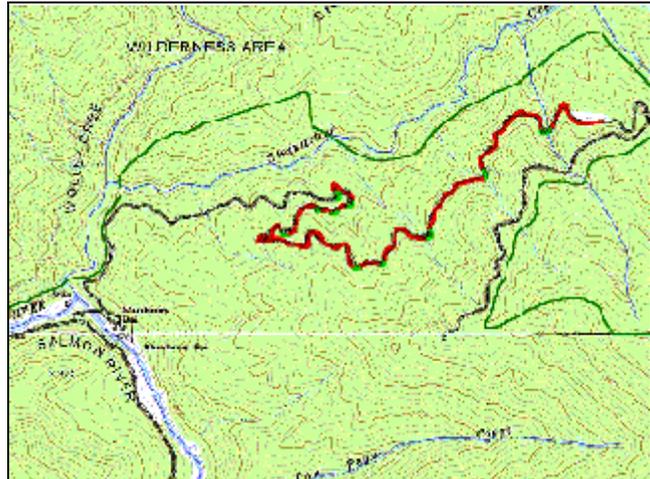
Klamath River Riparian Fence Project, PacifiCorp

PacifiCorp has long recognized the need to foster innovative ways to protect and enhance the environment. There is a need to increase riparian protection and restoration efforts on PacifiCorp's lands along the Klamath River (i.e., between the state line and Copco Reservoir). The company worked with a ranch leasee to minimize bank erosion and livestock access to the Klamath River shoreline in adjacent pastures and reduce animal waste inflows from the corral area. This project benefitted water quality by enhancing bank stability, thereby reducing inputs of sediment, and reducing nutrients and fecal coliform.

The Klamath River Riparian Fence Project included the design and construction of 4 segments of livestock exclusion fence along both sides of the Klamath River. Fences are located along the river and tie into existing natural barriers to livestock movement. Plantings of native riparian trees in several areas will accelerate riparian vegetation development and increase diversity.

Steinacher Road Decommissioning Project, Karuk Tribe of California

The Karuk Tribe and the Forest Service are tackling one of the largest road decommissioning projects in the Pacific Northwest to date. This project is vitally important for the beginning of the restoration of the Karuk Tribe's Ancestral Territory and the National Forests, as well as for the local economy. The Wooley Creek tributary is widely recognized as one of the most pristine and high quality anadromous fish habitats in the state of California. One of the objects of this project was to decrease the sedimentation caused by the remaining 5 miles of road within the Wooley Creek watershed. The reduction of sediment in impaired watersheds has been proven to increase and enhance critically important salmonid refugia, which will help restore populations of spring chinook, coho, and fall chinook salmon, and steelhead trout. The other object of this project was to continue to operate and maintain the KRIS Database at the Karuk Tribe of California, Department of Natural Resources.



McGarvey Creek Watershed Restoration Project, Yurok Tribe



McGarvey Creek is an anadromous fish-bearing stream, and a tributary of the Lower Klamath River. The Upslope Sediment Reduction and Road Stabilization in the McGarvey Creek Watershed project involved the hydrologic decommissioning of a portion of the M-10 Road in McGarvey Creek. Heavy equipment was used to decommission 900 feet of road and remove roughly 6,503 yd³ of sediment on the main M-10 road network. This was done to remove a fish barrier and to prevent sediment from entering a class 1 fish-bearing stream.



This report was prepared for the
Klamath River Basin Fisheries Task Force

U. S. Fish and Wildlife Service
Yreka Fish and Wildlife Office

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