

SALMON RIVER RESTORATION COUNCIL
KLAMATH FOREST ALLIANCE
PO BOX 820
ETNA, CA. 96027

SALMON RIVER COMMUNITY RESTORATION OF RIPARIAN ECOSYSTEMS
(FINAL REPORT FY 94)

Cooperative Agreement # 14-48-0001-94521
Project 94-HR-23

A) ABSTRACT

In this training project several community members learned and applied a variety of riparian habitat rehabilitation and protection techniques across adjacent public and private boundaries in the Salmon River sub-basin. On public lands the rehabilitation sites were chosen in accordance with the USFS's WINI. Techniques learned and applied on private lands were rehabilitated utilizing direction from the WINI to identify the site and to assess the specific site rehabilitation and techniques needed. The rehabilitation activities concentrated on revegetating and stabilizing denuded and unstable riparian areas within the Salmon River Sub-basin, focusing on Negro, Indian, O'Farrill, Black Bear Creeks, and the Upper South Fork of the Salmon River.

There were 60 person days where vegetative species were either collected for planting or planted in targeted riparian habitat. This includes site preparation of the site. SRRC performed 4 days of maintaining and monitoring the planted vegetation - watering, straighten out mulch mats, fix vexar tubing, etc.

The Project employed a stewardship type of approach whereby riparian habitat rehabilitation was accomplished through implementing several restoration and protection measures over a period of time. The multiple techniques learned and applied in this Project were riparian site rehab and technique selection, stabilization and revegetation of these sites. In addition to planting coniferous stock provided by the USFS, native plants were used. In our use of local native plants we learned to identify several native plant and their propagation techniques. To increase the rate of survival planting sites were carefully selected. Soil conditions, shade, natural protection, fuels, competition and other planting site characteristics were all evaluated for each seedling or cutting.

SRRC provided 11 person days involving planning with the Forest Service, identification of proposed sites and the appropriate rehabilitation techniques, researching propagation techniques, and coordinating the project.

Salmon River Ranger District (USFS) personnel provided valuable technical assistance to the Salmon River Restoration Council (SRRC) in areas of planning (identifying and prioritizing rehabilitation sites), implementation (overseeing implementation) and evaluation to the Project. The USFS crew leader was Laura Andrews. Additional support from the Forest Service was provided by Marla Knight - Botanist, Robbie Vanda Water - Watershed Rehabilitation Coordinator, and Dan Blessing - Silvicultural Technician. Propagation information and field assistance was supplied by the Forest Service, nurseries in the bioregion, and from several literature sources.

This Project has served to increase the cooperative relationship supporting rehabilitation between the local landowners/community members and the Forest Service and other associated government agencies.

This was a critical project because it provided the opportunity for the Salmon River Restoration Council (SRRC) to provide local private landowners/community members with a more intensive and cooperative level of training. It has acted as a stepping stone for the SRRC. Increased support from the local community for the rehabilitation of the Salmon River sub-basin, anadromous fisheries, and for the SRRC in general has resulted in completing this Project.

There is a total of 75 SRRC person days directly associated with this project. Sixty days will be paid for and 15 will be donated by the SRRC.

B) INTRODUCTION

SRRC has provided the Salmon River community with several workshops and workdays, focusing on the condition and rehabilitation needs of the Salmon River sub-basin and specifically the anadromous fisheries. These events were planned and implemented cooperatively with various agencies involved in managing the Salmon River sub-basin and the Karuk Tribe. These educational forums (Workshops) were designed to provide a setting whereby many of the players in resource management and resource use could exchange information and develop a better working relationship with one

another. This information was then taken into the field in an associated Workday. During the Workdays the information was looked at on the ground and general rehabilitation and monitoring techniques were learned and applied at appropriate sites.

One of the primary areas that SRRC has focused its attention on is riparian habitat. After the well attended riparian workshops and workdays, the SRRC saw the need to offer increased training to interested community members regarding riparian habitat restoration and protection. SRRC also saw the need for watershed rehabilitation to occur both on the private and public lands in the sub-basin in an integrated, cooperative manner.

The SRRC created this project to increase the community members ability to revegetate and stabilize denuded and unstable riparian areas in the Salmon River sub-basin (specifically: Negro, Indian, O'Farrill, Black Bear Creek, and the Upper South Fork of the Salmon River). Private landowners within the project areas were particularly sought out to participate in this activity, so that they will know the skills and techniques needed to protect and rehabilitate their own lands. SRRC also saw this as an opportunity to improve cooperative management capabilities at a landscape level, on both public and private lands.

The trainees were community members associated with the SRRC's efforts. Half of the crew was made up of residential private landowners within the Bare Country landscape. The balance of the crew came from the general Salmon River community. The USFS trainer provided technical assistance to the crew.

C) DESCRIPTION OF STUDY AREA

The Bear Country landscape is approximately 18,900 acres in size. It includes all of Negro Creek, O'Farrill Gulch, Indian Creek, Black Bear Watershed, and a portion of the South Fork of the Salmon River watershed. It is bounded by the South Fork of the Salmon River to the South, Picayune Ridge to the North, and McDowell Ridge to the east. It has been heavily impacted by both wildfires and timber harvesting. In 1977 the Hog Fire intensely burned the western portion, and again in 1987 a larger portion was burned by the over 13,000 acre Glasgow Fire.

The landscape has a diverse range of soil and geologic rock types. The landscape contains widespread areas of gentle to moderately steep terrain (0-65% slope gradient) intermixed with steep mountain slopes and inner gorges (> 65% slope). Much of the more gentle terrain is dominated by dormant landslide deposits (5,648 acres or

30% of the landscape). The landslide deposits or slump earth flow terrain typically displays bench slope and hummocky topography. Several perennial streams and rivers occur in the landscape including: Negro, O'Farrill, Indian, and Black Bear Creek and the South Fork Salmon River. In addition, there are several smaller tributaries of importance.

The current landscape pattern was significantly affected by wildfire and to a lesser degree, timber harvesting. Gold mining activities in the late 1880's created the need for timber harvesting; during this era, timber harvesting was confined to the immediate needs of the local population. As national demand for wood products increased in the 1950's and 1960's, extensive harvesting began within this landscape. Harvest methods that were used include clearcutting, overstory removal, and partial cutting.

Wildfires which occurred during 1977 and 1987 were the result of lightning ignitions. These fires were very large in size, due to the lack of fuel reduction following timber harvest activities. In addition, there were large amounts of vegetation and existing fuel ladders created by fire exclusion within the landscape over the prior 60-70 years.

There are several parcels of private property scattered throughout the landscape; most are year round private residences. The common names for these private parcels are: Godfrey Ranch, Blue Ridge Ranch, and Black Bear Ranch. These private properties represent the largest percentage of private lands in any of the landscapes in the Salmon River. The mixed ownership (federal & private) of lands within the Bare Country area makes consistent management of the area more difficult.

Rehabilitation of riparian habitat has been targeted by the Klamath Task Force, the Forest Service, and others. Revegetating the areas that have been denuded or washed out in the past is a particular riparian habitat need.

D) METHODS AND MATERIALS

There were various riparian habitat rehabilitation methods and materials that were used in this projects. These methods and materials are listed below.

1) PLANNING

A) Site Identification - On public lands site identification

was tiered to the Forest Service's (USFS) Watershed Improvement Needs Inventories for the Negro, Indian, Black Bear and the Upper South Fork watersheds. Additional direction was taken from the Bear Country Landscape Analysis Design (LAD). The USFS provided technical assistance to the SRRC at the specific sites. Worked done on private land was either adjacent to targeted sites on federal lands or were was performed on sites with similar characteristics as those existing on the federal lands.

B) Site Prescription - An on the ground review occurred at each of the riparian rehabilitation sites to determine what site specific activities were appropriate. A desired future condition was developed at each site taking into account what type of vegetation and/or protection measures were needed.

C) Revegetation - Existing vegetative cover conditions were assessed. Species selection used for planting underscored the types of native vegetation species present at each site or immediately adjacent to the site. Conifers (Incense Cedar, Douglas Fir, Ponderosa Pine, and Sugar Pine) were provided by the Forest Service. For non-coniferous native species, propagation information was both provided by the Forest Service and obtained through SRRC's research of additional reference sources regarding native plant propagation. The best planting sites in the targeted rehab area were selected emphasizing planting sites with good soil conditions, shading potential, fuels concentrations, water, aspect and other factors.

2) PLANTING/SITE PREP

A) Planting - 1) Conifer trees were planted using hoedads and shovels. 2) Native plants cuttings, seeds, and seedlings were collected and either directly planted at the rehab site or were rooted or saved to be planted later.

B) Mulch - Both plastic mulch mats were pinned and weighted down and organic mulch was applied around the trees and other native plants.

C) Deerproofing - Vexar tubes were put on several of the trees and dead branches were placed around a few trees and native plants.

3) MAINTENANCE/MONITORING

A) Maintenance - Many of the planted trees and native plants were watered at various times throughout the year. Mulch mats that had covered the trees were straightened out and pinned or weighted down. Some of the plants that died were replaced with other planting stock in the fall of 1994 and in the early spring of 1995.

B) Monitoring - Many of the activities in this project were photographed. The sites were visited to assess survival and replanting needs.

E) RESULTS AND DISCUSSION

There were 60 person days where vegetative species were either collected for planting or planted in targeted riparian habitat. This includes site preparation of the site. SRRC performed 4 days of maintaining and monitoring the planted vegetation - watering, straighten out mulch mats, fix vexar tubing. SRRC provided 11 person days involving planning with the Forest Service, identification of proposed sites and the appropriate rehabilitation techniques, researching propagation techniques, and coordinating the project. There is a total of 75 SRRC person days directly associated with this project.

There were 17 sites in which SRRC worked with the USFS crew leader, Laura Andrews, to train the community members in riparian ecosystem management. The USFS crew leader insured that currently acceptable techniques were used. An extensive review of information on various planting techniques, propagation methods, and maintenance plans took place. (See Appendix 2 - Site Identification)

During FY-94 the SRRC contacted several nursery facilities in the region who deal with native plants (propagation and for rehabilitation). In the SRRC communications with Cal Forest Nursery, Tom Jopson strongly recommended setting up watering systems to insure that the site revegetation is the most successful. Although closed line watering systems with a regulated schedule was identified as the most desirable watering method to use at the revegetation sites, the SRRC participants did not follow up watering at some restoration sites hand carrying buckets.

The SRRC's monitoring and maintenance of the rehabilitation sites identify that some sites species better than others. Planting success ranged from 40 to 100 % survival. This is above average for the Salmon River area. Some of the sites with poor survival will be replanted in FY-1995 and in subsequent years. The SRRC is committed to providing on-going rehabilitation activities at these sites.

Revegetation activities emphasized performing techniques at sites that incorporated both private and public lands. A number of native species, as well as conifer trees, were used in SRRC's revegetation activities in this project. As a result of this project, several of

community members have expanded their involvement in identification and rehabilitation of riparian ecosystem habitat problems, utilizing a variety of techniques. vegetative species that are being used in riparian habitat rehabilitation.

F) SUMMARY AND CONCLUSION

This project was a successful SRRC training project which allowed SRRC to accomplish the next stage of implementing some short term restoration measures. Revegetation of the targeted riparian habitat will create cooler water temperatures and improve water quality which will help the fall and spring chinook, steelhead, and the remnant coho population.

This project has increased cooperation between the Forest Service and the private land owners within the Bare Country landscape. The increased cooperation is the landscape as being managed more as one unit with a more unified management scheme.

As a result of this Project, the participating local landowners and members of the community have learned what type of rehabilitation techniques to utilize and how to prioritized the sites. SRRC participants learned what plants to utilize at specific sites, why they are needed, and what results to expect.

The landowners are continuing to maintain the rehabilitation sites in this project and are rehabilitating other sites on their own land.

The SRRC will continue to take the lead roll in heightening community awareness and enlisting the local support needed to rehabilitate the Salmon River fisheries and the related resources which exist within the sub-basin.

G) SUMMARY OF EXPENDITURES

A) SALARIES.....\$ 6,000

B) ADMINISTRATIVE EXPENSES \$ 1,500
at 25%

GRAND TOTAL.....\$ 7,500

C) Technical Assistance \$1,100
(Already paid directly by USFWS to the USFS)

TOTAL PROJECT COSTS TO USFWS \$ 8,600

H) APPENDICES

1. Current Invoice
2. Photo Documentation
3. Site Map

APPENDIX # 1

KLAMATH FOREST ALLIANCE
SALMON RIVER RESTORATION COUNCIL
PO BOX 820
ETNA, CA. 96027

Current Invoice

Billing Date: 5/20/94

Project Name: Salmon River Community Restoration of Riparian
Ecosystems Program (94-HR-23)

Cooperative Agreement Number: 14-48-0001-94521

Period Covered: 10/1/93 - 1/31/95

Budget Line Items..... Approved AmountThis Billing

A) SALARIES..... \$ 6,000 \$ 6,000

B) ADMINISTRATIVE EXPENSES \$ 1,500 \$ 1,500
at 25 %

SRRC's TOTAL.....\$ 7,500 \$ 7,500

C) Technical Assistance \$1,100
(Already paid directly by USFWS to the USFS)
Grand Total..... \$ 8,600

Pete Brusker
Signature (Cooperator)

APPENDIX # 2

PHOTOS

THESE PHOTOS IDENTIFY ACTIVITIES WHERE WORK WAS PERFORMED.