Siskiyou Resource Conservation District

Final Report

To

United States Fish and Wildlife Service

Project Title: Scott River Strategic Action Plan
Grant Agreement Number: 11333-01-G005
Project Number: 2001-PC-06
Siskiyou RCD Tracking Number: 72 TF

Report Date: April 10, 2003
Prepared By: Rhonda Muse, SRWC Coordinator

Abstract

This report is being completed to finalize the contractual requirements for the US Fish and Wildlife Service for the Strategic Action Plan (Plan). Although the funds for this project have been utilized in full, the planning efforts continue under funding provided by the State Water Quality Control Board, Proposition 13 and Cantara Trustee Council. Since the last report (dated March 2002), the Scott River Watershed Council (SRWC) and the Siskiyou Resource Conservation District (RCD) have terminated the contract with the original planner, Haling and Associates. The SRWC then contracted with Planwest Partners in Arcata. The lack of consistent coordination and the dissolution of the relationship with the first Planner delayed the effort to produce a draft Plan by the end of 2002 as promised. During the past 60 days, SRWC has ended the contract with Planwest Partners as it has become apparent to the SRWC that we need to complete the remaining tasks in-house. This resulted in assigning the planning responsibility to the SRWC Coordinator. The decision is based on the need for improving efficiency by utilizing local expertise and skills without incurring excessive expense.

The products completed to date supply the necessary information for moving forward with completing a draft Plan. Some of the work produced by the previous contracted planners will be utilized where appropriate. Current and future planning efforts will follow a revised approach and timeline that is critical for completing a quality Plan by the end of 2003.

Introduction

The USFWS has provided approximately 15% of the total funding for completion of the Plan. Other funding entities are State Water Resource Control Board, Department of Fish and Game, and the Cantara Trustee Council. Final reports completed for the other funders will be distributed to the USFWS as well. The Plan is intended to be a living document that will be updated on an annual basis and be used as a guideline for developing restoration and educational projects.

Methods and Materials

A *Request for Statement of Qualifications* (SOQ) to solicit a planning consultant was developed and reviewed by the SRWC, revised, and mailed to a list of firms obtained from the County Planning Department among other sources. A notice was also placed in newspapers and advertised on the internet. SOQ's were received from six interested consultants. The SOQ's were reviewed and commented on by the SRWC Technical Committee and the Interview Committee.

A *Request for Proposal* (RFP) was sent out to all six respondents. The Interview Committee, consisting of one RCD Board member, one SRWC member, and five RCD/SRWC staff persons reviewed the RFP's and conducted personal interviews of all six respondents. The recommendation to contract with Haling and Associates of Chico was accepted and ratified by the RCD Board.

Jennifer Marx provided the coordination for SRWC and community meetings necessary for gathering information to complete the Plan. SRWC participants, standing committee members, and RCD staff provided data and answered questions as requested by the planner and coordinator.

Haling and Associates completed a survey of the community used to develop a list of Issues and Concerns. They also proceeded to browse library information for the purpose of compiling a Master Document List including GIS Database layers (appendix A). A separation of the primary planner (Jeff Schwein) from Haling and Associates resulted in the termination of the contract between the Siskiyou RCD and the contractor.

The second choice of the Interview Committee was Planwest Partners of Arcata. Once the contract with Haling and Associates ended, the RCD and the SRWC began further interviews with Planwest Partners that resulted in a contract with that firm to complete the planning process and create a draft Plan.

Planwest Partners spent approximately two months developing their scope of work and Completion Report which was accepted by the SRWC (see appendix B). After six months of working with the planner it was determined that the approach duplicated previous efforts and did not produce the expected results. Although some of the products are useful, the SRWC was forced to refine majority of the draft products and determined in-house skills would be a better use of funds. In February 2003, the SRWC voted to end the contract with Planwest Partners.

This leads to the current status which includes a revised timeline and approach by the SRWC Coordinator, and the development of a preliminary draft. Included in the responsibility of the SRWC Coordinator is to track the use of remaining funds and report monthly expenditures to the SRWC. The task of tracking available funds began in October 2002. Monthly budget reports can be found in appendix C)

Results and Discussion of Accomplishments

Assessment data from the past two years will be used to update outdated information and fill gaps that currently exist in the Plan. The SRWC standing committees should complete their review and prioritization of goals, objectives, and strategic actions by the end of this month (April 2003). SRWC standing committees are also reviewing the detail of the Fish Population and Habitat Plan and the Scott River Flows Action Plan in order to ensure accuracy of the information that will be included in the Plan.

Currently, the following products have been completed and are being used to compile the Plan.

1. Master Document List – completed by Haling and Associates (appendix A)
2. Index of GIS layers to be included in Plan – completed by SRWC (appendix D)
3. Vision Statement – completed by Planwest Partners (included in appendix H)
4. SRWC standing committee goals, objectives, and strategic actions identified – completed by SRWC (appendix E)
5. Overall Plan goals and objectives – completed by SRWC (included in appendix H)
6. Draft Overviews (a compilation of all information including duplications) – completed by Planwest Partners (appendix F)
7. Revised approach and timeline – completed by SRWC (appendix G)
8. Preliminary draft Strategic Action Plan (the working document that compiles all information) – completed by SRWC Coordinator and Technical Writer/Editor (appendix H)

Summary and Conclusions

A close evaluation of the planning activities and draft products of the Plan has been done to ensure the SRWC needs are being met and that the limited funds available for completing the Plan will be used in a proper manner. There were concerns over the approach being taken by the most recent planner, Planwest Partners. As a 'community' planner, it was found they do not have a lot of experience in watershed needs and have approached the project in a direction leading to implementation rather than a 'blueprint' of how to identify successful projects. Therefore, the SRWC is taking the responsibility to complete the planning process and the Plan itself. Since the Council is made up of mostly volunteers, this will result in a longer period of time for completion of the project to ensure accuracy.

Since re-assigning the project to the SRWC Coordinator, a Technical Writer/Editor has been sub-contracted to help make the document consistent and easy to read. This re-assignment took effect mid-February and since then much progress has been made in compiling the draft document. The next steps will require the involvement of technical experts to identify gaps and review existing content to ensure the most updated data is included.

Summary of Expenditures

The following report provides the summary of expenditures incurred during this project (as of April 10, 2003), underlined amounts represent a **total budget of $109,936.38** for the entire project:

US Fish and Wildlife Service
Effective June 1, 2001 through Dec 31, 2002

	Estimated Budget	Revised Budget	Actual Cost
a. Salaries (including benefits)	**$ 1,108.25**	.00	**$ 1,108.25**
b. Operating Expenses	**289.28**	.00	**289.28**
c. Contracted Planner	**8,222.47**	.00	**8,222.47**
Subtotal	**$ 9,620.00**	.00	**$ 9,620.00**
d. General and admin. (10 % Overhead)	**962.00**	.00	**962.00**
Total	**$10,582.00**	.00	**$10,582.00**

COST SHARE REPORT: (Total Cost Share $99,354.38)

State Water Resource Control Board and Department of Fish and Game

	Actual Cost (SWRQB)	Actual Cost (CDFG)	Actual Match TOTAL
a. Salaries (including benefits)	$ 2,734.18	$ 2,052.90	$ 4,787.08
b. Operating Expenses	$ 57.83	$ 851.50	$ 909.33
c. Contracted Planner	$ 14,968.37	$ 7,251.60	$ 22,219.97
Subtotal	$ 17,760.38	$ 10,156.00	$ 27,916.38
d. General and admin. (10% overhead)	$ 1,776.00	$ 1,016.00	$ 2,792.00
Total	$ 19,536.38	$ 11,172.00	$ 30,708.38

Available funds from SWRQB are remaining in the amount of $ 37,368.62.

Cantara Trustee Council has provided funding in the amount of $13,050. (not yet used).

Additional funds provided from remaining Scott River Watershed Council grant (USFWS; agreement number 11333-01-G004)

	Actual Cost
a. Contracted Planner	$ 10,428.13
b. Operating Expenses	$ 6.25
Subtotal	$ 10,434.38
c. General and admin. (10% overhead)	$ 1,043.00
Total	$ 11,477.38

In-kind Match/Volunteer Hours

	#Hours	Rate	Total
a. Council Meetings	180	$12.50	$ 2,250.
b. Committee Meetings	360	$ 12.50	$ 4,500.
Total	440	$12.50	$ 6,750.

Appendices

Appendix A:	*Master Document List (Haling and Associates)*
Appendix B:	*Completion Report (Planwest Partners)*
Appendix C:	*Monthly Budget Reports*
Appendix D:	*Index of GIS layers*
Appendix E:	*Standing Committee Goals/Objectives/Actions (drafts)*
Appendix F:	*Draft Overviews provided by Planwest Partners*
Appendix G:	*Revised Approach and Timeline (February 2003)*
Appendix H:	*Preliminary Draft, working copy of the Strategic Action Plan*

Attachment

MASTER DOCUMENT LIST (MDL)
SCOTT RIVER WATERSHED
SISKIYOU COUNTY, CA

MDL	ABSTRACT

MDL1-A **Deslaurier, Greg (U.S. Fish and Wildlife Service), 1992, *Chinook Salmon Spawning Survey, Scott River Sub-basin, Klamath Basin,* Fort Jones, California.**

The 1992 redd/carcass survey on the Scott River marked the first year of a cooperative effort between California Department of Fish and Game (CDFG) and the Klamath National Forest (KNF). Due to budget shortcomings, the Salmon and Scott River marking weirs were not installed in 1992; Therefore, a more intensive redd/carcass survey was employed to estimate fall Chinook spawning escapement to the sub-basin. Previously, KNF personnel made bi-weekly counts of newly excavated redds from Jones Beach to the Klamath-Scott confluence while CDFG separately performed carcass surveys to recover salmon marked at the weir. This year's cooperative effort involved surveying nine reaches (from Hwy 3 bridge at Ft. Jones to the Klamath-Scott confluence) twice each week during the fall Chinook spawning run. Carcass and redd surveys were conducted simultaneously on the first pass while only carcass surveys being conducted on the second pass of the week. Carcass data and scale samples were analyzed by CDFG.

MDL4-A **Various Sponsors, 1993, *A Scott Valley Survey,* Etna, California**

In 1993 2,225 households in the Scott Valley were surveyed. Methods of survey distribution included door to door delivery as well as point distribution at Post Offices in Callahan, Etna, Greenview, and Fort Jones. The survey questions included 24 categorical/census type questions and 13 opinion questions. A few open-ended questions were also included in the survey. 18.9 percent or (420) surveys were returned and analyzed. The first thirty-five questions in the survey were analyzed via computer-aided software such as d-Base IV, Kwikstat, and Stata. The last three questions were discussed and categorized by a small group of volunteers from the community and then analyzed via computer.

MDL	ABSTRACT

MDL7-A **Orloff, Steve B, 1996, *Assessment of Fall Agriculture Irrigation Water Conservation Potential in the Scott Valley.***

A three-year study was conducted to evaluate the potential for agricultural conservation in the Scott Valley. The effect of irrigation termination date of forage production was evaluated to determine how late in the season irrigation is needed. The soil moisture status of several irrigated pasture and alfalfa fields was monitored weekly for the duration of the growing season using resistance blocks and a neutron probe. The monitoring study indicated the soil moisture content fluctuated considerably during the growing season. Periods of low soil moisture were generally associated with harvests, a time period when fields cannot be irrigated. The soil moisture content was typically lower in mid to late summer between irrigation, and in the case of alfalfa, in fall after the final harvest of the season was over. In general, irrigated pastures maintained higher soil moisture content than alfalfa fields. Three explanations for the higher sustained soil moisture content in pastures are: 1) pastures are located on sites with poor drainage not suitable for alfalfa, 2) pastures are grazed and irrigation can continue uninterrupted where as alfalfa cannot be irrigated while harvest is taking place. 3) pastures are often irrigated later in the year than alfalfa.

MDL9-A **Scott River Ranger District (U.S. Forest Service), 1997, *Callahan Ecosystem Analysis,* Fort Jones, California.**

The Scott River Ranger District of the Klamath National Forest USDA Forest Service produced the Callahan Ecosystem Analysis. The ecosystem analysis was performed on an area that includes the Callahan watershed between Etna Creek and the South Fork Scott River. The ecosystem analysis discussed six areas of concern: characterization, issues and key questions, current conditions, reference conditions, interpretation and recommendations.

COFG

MDL11-A **Unknown Author, 1996-2000, *Canopy & Temperature Data.***

Data was collected at 93 sites on the Scott River and its tributaries from 1996 to 2000. The subject data is percent canopy coverage, elevation, and maximum weekly average temperature. Temperatures ranged from 62.5°F at the Below French Creek collection station to 77.5°F at the Serpa Lane station. Vegetative canopy ranged from a 1 percent coverage at the Beaver Creek (main fork) station (FBV1) to 100 percent at the Sniktaw Creek (FST5) station. Elevations ranged from 760 feet above sea level at the Steinacher Creek (FW01) station to 4400 feet above sea level at the Shackleford Creek (upper) (FSK28) station.

MDL	ABSTRACT

MDL12-A **Siskiyou Resource Conservation District, 2001, *Challenge Fish Screen Project Final Report,* Etna, California.**

The Siskiyou Resource Conservation District directed the construction and installation of five self-cleaning fish screens for irrigation diversions on five different tributaries to the Scott River. It provided protection of approximately 9.79 cfs of adjudicated flow in prime anadromous fish rearing and spawning habitat. A total of nine fish screens (5 built by SRCD and 4 by others) have been built with the project funding. Funding for the projects was provided by the California Department of Fish and Game ($36,204), National Fish and Wildlife Foundation ($35,453), the Dean Witter Foundation ($5500), and the Siskiyou County Fish and Game Commission ($3800).

MDL13-A **Siskiyou Resource Conservation District, 1962-1988, *Chinook Salmon Survey Results*, Etna, California.**

Not whole system / Not every year
Data was documented during yearly Chinook salmon surveys directed by the Siskiyou Resource Conservation District and conducted by members of a California Department of Fish and Game survey team. Data was gathered on field sheets consistently from 1962 to 1988. The field notes are accompanied by a line graph displaying total yearly Chinook salmon counts.

MDL15-A **Siskiyou Resource Conservation District, 1997-1999, *Condition Inventory 1997-1999 / Blacks, Eler, Hansen, Barnes, Spencer, Tobias*, Etna, California.**

These inventory data sheets document vegetation types on specific sites in 1997, 1998, and 1999. Sites are located on the following properties identified by surname: Black, Eiler, Hansen, Barnes, Spencer, and Tobias. The project data sheets appear to be compiled by the Siskiyou Resource Conservation District. Photographs of some site locations can be found in the Scott River/Cantera/Fay Lane Revegetation photo album (MDL 83-A).

MDL	ABSTRACT

MDL19-A **Unknown Author, Unknown Year, *Custom, Culture and Usage of Forests and Forest Products in Siskiyou County.***

This report includes statistics on historical lumber extractions and returns, population trends, ownership, and parcel acreage in Siskiyou County and the Scott River watershed. Historical descriptions of economic activities as well as demographic statistics are documented for Siskiyou County and the Scott River watershed. The references in this report are extensive and would serve as a good resource for information.

MDL20-A **Klamath National Forest (U.S. Forest Service), *Evaluation of Fish Habitat Condition and Utilization in the Salmon, Scott, Shasta, and Mid-Klamath Sub-basin Tributaries*, Yreka, California.**

The principle objective of the annual report is to relay information about field-work identifying existing salmonid spawning and rearing habitat condition and use in eleven streams located in Salmon, Scott, Shasta, and Mid-Klamath sub-basins. The project focuses on habitat conditions encountered during summer base-flow period. The Scott River study area extends from the river's confluence with the Klamath upstream to Jones Beach Picnic Area approximately 18mi. Sand contaminates spawning gravel throughout the study area. Riparian conditions are fair, providing suitable shade. The Shackleford/Mill Creek study area extends from the confluence with Scott River, upstream 6 mi. on Shackleford Creek to a 3m high waterfall barrier and 2 mi. upstream on Mill Creek to Quartz Valley School.

MDL	ABSTRACT

MDL21-A **Scott River Coordinated Resource Management Planning Council (CRMP), 1999, *Fall Flows Action Plan*, Etna, California.**

The Scott River Coordinated Resource Management Planning Council (CRMP) in 1999 wrote the Fall Flows Action Plan. Subjects covered in the plan include Scott River salmon population, fish habitat needs, hydrology, land and water use, water rights, and fish protection laws. It is presumed that summer runoff is effected by low precipitation, high temperatures, and consumptive water use. The ground water storage capacity has been estimated by Seymour Mack (MDL 33-A) at 400,000 acre-feet. The water table lowers in the summer months apparently by irrigation demands which in-turn lowers summer and fall stream flow rates. Conclusions of the action plan are as follows: 1) fall stream-flow (Sept. – Nov.) in the Scott River Basin is sometimes insufficient to meet the fall needs of spawning salmon and steelhead. 2) Low flows in the Scott River and tributaries have contributed to poor holdover of adult salmon until spawning, blocked access to upstream spawning areas, and reduced availability of spawning sites. 3) Stockwatering is the primary use of water diversions during late fall spawning periods. This is partially due to leaky ditches. 4) A lag effect of groundwater recharge is experienced in the fall represented by a delay between water use and groundwater depth measurements. 5) Action is needed to improve stream-flows on the Scott River.

MDL27-A **Scott River CRMP, 1997, *Fish Population and Habitat Plan*, Etna, California.**

The Fish Population and Habitat Plan (Fish Plan) was written by the Scott River CRMP in 1997. In five of the eight years between 1989 and 1997 the Scott River was the largest contributor of natural fall Chinook salmon spawners in any Klamath River tributary (excluding the Trinity and mainstem). The California Department of fish and Game estimated populations of anadromous fish in the Scott River in 1965 at 10,000 Chinook, 2,000 Coho, and 20,000 to 40,000 Steelhead. The Fish Plan chronicles the habitat changes on the Scott River beginning in the 1820's. Floods and attempts to confine floodwaters to the stream channels have denuded the riparian vegetation throughout the Scott Valley. Fish habitat has been transformed by increased sedimentation, lack of stream-flow, unscreened diversions, and in-stream structures. The Fish Plan identifies objectives for fish habitat, riparian habitat, fish population, information exchange, and water quality monitoring. Each objective is addressed with specific prioritized tasks.

MDL	ABSTRACT

MDL28-A **Federal Emergency Management Agency (FEMA), 1981, *Flood Insurance Study, Siskiyou County, California, Un-incorporated Areas.***

The purpose of the study was to incorporate Siskiyou County into the regular flood insurance program and provide planners with a tool for flood relief efforts. It investigates the existence and severity of flood hazards including the devastating flood in 1997. The report includes reference information on the Scott River Valley.

MDL30-A **Compilation of Authors, 1992-2000, *French Creek Watershed Management Plans,* Etna, California.**

In 1992, French Creek was used as an example of management planning techniques to be utilized on the Scott River. The primary goal of the plans is to reduce the yield of granitic sediment in the watershed. The plans include the: French Creek Watershed Road Management Plan 1992; French Creek Watershed Fire and Fuel Management Plan; French Creek Watershed Monitoring Plan 1992; French Creek Watershed Newsletter, French Creek Watershed Status Report.

MDL31-A **Unknown Author, 1992, *French Creek Watershed Plan,* Etna, California.**

Problems, plans, and recommendations are compiled and outlined for issues concerning the French Creek Watershed. The Fire and Fuel Management Plan describes the high fuel load capacity which puts the watershed at risk for large-scale wildland fire. The Road Management Plan descibes the impacts to French Creek anadromous fisheries due to unstable granitic soil conditions and high rates of erosion. Excess sediment load and lack of proper gravel size for spawning are resulting in egg and fry suffocation. The Monitoring Plan evaluates the quality of the fishery habitat and recommends trend monitoring of spawning gravel composition, fine sediment in pools, juvenile steelhead population monitoring, rainfall data, stream-flow data, water temperature data, and land use changes.

MDL32-A **Unknown Author. 1992-2000. *French Creek Watershed Survey Reach Characteristics***

Specific reaches of French Creek are characterized by reach length, average width, average depth, percent exposed substrate, surface area, segment volume, surface area (meters cubed) and segment volume (meters cubed). The information is presented graphically and dates from 1992 to 2000. It also includes data on catch and biomass of fish species in French Creek, Duck Lake, and Miners Creek.

MDL	ABSTRACT

MDL33-A **Mack, Seymour, 1958, *Geology and Ground-Water Features of Scott Valley Siskiyou County, California: U.S. Geological Survey Water-Supply Paper 1462,* Washington D.C.**

The subject of this 1958 report is an investigation into the geologic formations of the Scott Valley and their relationships to groundwater storage. The oldest rocks in the Scott Valley consist of pre-Silurian to Late Jurassic and possible early Cretaceous horneblende and mica schists, recrystalized sedimentary and volcanic rocks. These rocks are overlain by younger valley alluvial fill that includes stream channel, floodplain and alluvial fan deposits. These younger valley fill deposits are the primary source of groundwater in the area. Estimated recharge to these deposits in 1953 was 20,000 acre-feet from precipitation and 17,000 acre-feet from irrigation. The groundwater storage capacity of the alluvial fill sediments is estimated to be 620,000 acre-feet.

MDL34-A **Jordan, Irene, 1970, *History of Scott Valley.***

This historical account of the settlement of the Scott Valley is a small essay by Irene Jordan. Tom Mackay was the leading trapper to come into the valley from Vancouver Canada in 1836. The valley was known as Beaver Valley when it was first discovered. It is now known as Scott Valley named thus in honor of John Scott, a leader of a party of prospectors who discovered placer gold at Scott Bar in 1860. The Indians in the locality killed up to 30 miners and subsequently, the miners were pushed out of the region. An organized, larger group of men returned to the extremely rich placer diggings at Scott Bar in 1851. The roles of prominent local citizens including A. B. Carlock, James Bryan, Captain Bradford Ripley Alden, and many others are described in the historical essay.

MDL35-A **USDA Soil Conservation Service, 1972, *Inventory and Evaluation of the Natural Resources Scott River,* Etna, California.**

The Inventory and Evaluation of the Natural Resources of the Scott River provides a general geographic description of the watershed as well as detailed descriptions of the regional climatic conditions and local microclimates, riparian vegetation, water resources, and fish populations. The detailed descriptions are based on field data gathered by the USDA Soil Conservation Service. Other descriptions of the watershed include geology, topography, soils, vegetation, groundwater, flood hazards, recreational sites, and wildlife resources. Maps for each of the aforementioned subjects are provided.

MDL	ABSTRACT

MDL38-A **Klamath National Forest (USFS), 1997, *Klamath National Forest Westside Roads Analysis,* Yreka, California.**

This is a regional analysis of roads in the westernmost areas of the Scott River valley. It is intended for comparative purposes and to highlight areas needing a more detailed analysis. The roads were analyzed by sections and prioritized according to need for more specific analysis.

MDL41-A **California Department of Fish and Game, 2000, *Klamath River Basin Fall Chinook Size Estimates*, Yreka, California.**

The California Department of Fish and Game compiled 22 years of fall Chinook size estimates from 1978 through 2000. The data was gathered in the Klamath and Trinity River systems. It includes hatchery and natural spawners from Iron Gate Hatchery, Trinity River Hatchery, Trinity River basin, Salmon River basin, Scott River basin, Shasta River basin, the Main Stem Klamath River and miscellaneous Klamath tributaries. Angler and Indian net harvest quantities are also included in the estimates.

MDL42-A **California Department of Water Resources (DWR), 1963, *Land and Water Use in Shasta-Scott Valleys Hydrographic Unit, Volume 1:Text.***

In 1963 the State of California directed the California Department of Water Resources to describe the land and water use in the Shasta and Scott River Valleys. The need to characterize land and water use information arose from an increased pressure on the natural resources in the two regions. This report was utilized as a baseline for information leading to future water management procedures including the Scott River Adjudication. The report describes the geography, water use, land use, and land classification in the Shasta and Scott Valleys hydrographic unit. Statistical information and photographs of the area are included.

MDL43-A **California Department of Water Resources (DWR), 1965, *Land and Water Use in Shasta-Scott Valleys Hydrographic Unit, Volume II: Plates.***

The California Department of Water Resources, Northern District produced a set of maps covering the Scott River watershed in 1965. This map set was produced in conjunction with the Land and Water Use in Scott-Shasta Hydrographic Unit, Volume I: Text (MDL 37).

MDL	ABSTRACT

MDL45-A **Black, Gary (SRCD), 1996, *Locally Built Fish Screen Project II- Located on Sugar Creek, a Tributary to the Scott River.***

The purpose of the project was to install a fish screen in the Scott River watershed that would supplement the diversion screening efforts of the California Department of Fish and Game (CDFG). The locally built fish screen program is a major portion of the SRCD's mission to screen all active diversions within the habitat of the anadromous fishery. Self-cleaning fish screens that met the CDFG and National Marine Fisheries Service (NMFS) specifications were constructed on the Fay diversion ditch located 2 miles above the confluence with the Scott River. The ditch is documented as a 6.5 cfs diversion in the Scott River Adjudication.

MDL46-A **Kier, William M. and Associates, 1991, *Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program,* Sausalito, California.**

Directed by the Klamath River Basin Fisheries Task Force, William M. Kier and Associates created a comprehensive management plan for the entire Klamath Basin. The 1991 plan is extensive, covering major issues including, habitat protection and management, habitat restoration, fish population protection, fish population restoration, education and communication, and administration. The causes of habitat degradation are suggested to be evaluated rather than the symptoms addressed. The Long-Range Plan recognizes that timber harvest practices have been greatly improved, but the effects of timber harvests are still causing harm to local stream habitats. Research is suggested on gravel, lode, and placer mining operations for the associated impacts to habitat and fish populations. Agricultural management practices have reduced water quality and impaired anadromous fish habitat. The Klamath River Basin Fisheries Task Force is encouraged to speed up the process of communication, encourage best management practices, promote riparian fencing, and monitor water quality and riparian cover. Several maps illustrating these topics are presented.

MDL	ABSTRACT

MDL48-A **Scott River Ranger District (USFS), 2000, *Lower Scott Ecosystem Analysis,* Fort Jones, California.**

The Scott River Ranger District (SRRD) of the Klamath National Forest USDA Forest Service produced the Lower Scott River Ecosystem Analysis. The June 2000 analysis was developed as a vehicle for implementation of forest planning direction but does not include National Environmental Policy Act of 1969 (NEPA) guidelines. It is used as a tool for defining the direction of projects concerning the condition of the watershed. It includes the standard steps for SRRD Ecosystem Analyses; characterization, issues and key questions, current conditions reference conditions, interpretation and recommendations. The Lower Scott Watershed incorporates three major watersheds: Canyon Creek, Kelsey Creek and Mill Creek, but also includes Deep, Middle, and Tompkins Creek and smaller face drainages into the Scott River.

MDL49-A **Bundy, Lorrie, Sue Maurer, et. Al, 1997-1999, *Macroinvertabrate Bioassessment Data Worksheets.***

The California Department of Fish and Game (CDFG) aquatic bioassessment laboratory developed data sheets for field surveys. Macroinvertebrates are accepted as an indicator of water quality by the CDFG. Teams of surveyors organized by the Siskiyou Resource Conservation District office in Etna utilized the data sheets to assess the water quality of the Scott River. Sue Maurer, Lorrie Bundy, and others collected data in 1997, 1998, and 1999.

MDL57-A **North Coast Regional Water Quality Control board, 1992, *Public report on Planning Issues Raised During the Technical Review of the Water Quality Control Plan for the North Coast Region.***

The North Coast Regional Water Quality Control Board listened to issues of concern regarding the Scott, Shasta, and Salmon Rivers from interested parties located in northern California. The temperature objective parameters of the water quality control plan were not accepted well by the public. It was requested by water users that the plan address more site-specific water quality objectives, maintenance and an investigation of problems.

MDL	ABSTRACT

MDL59-A **West Coast Steelhead Biological Review Team, 2001, *Status Review Update for Steelhead within the KMP.***

In March 1999, a lawsuit was filed challenging the National Marine Fisheries Service's (NMFS) decision to not list the Klamath Mountains Province (KMP) and northern California Evolutionary Significant Unit (ESU) for steelhead under the U.S. Endangered Species Act (ESA). Subsequently, northern California ESU was listed as threatened in June 2000 based on the failure of the State of California to implement critical conservation measures. In October 2000, U.S. District Judge Susan Illston ruled that NMFS's decision to not list KMP steelhead was arbitrary and capricious, and set aside the March 1998 final rule. Judge Illston has directed NMFS to further consider the status of KMP steelhead and file its decision by 31 March 2001.

MDL60-A **California State Water Resources Control Board, 1975, *Report on Hydrogeologic Conditions, Scott River Valley***

This 1975 report was prepared for the California State Water Resources Control Board, Division of Water Rights in preparation for the adjudication of the Scott River. The purpose of the hydrologic investigation was to determine the area of interconnected groundwater for adjudication. Geologic cross sections are presented with location of wells, bridges, and stream beds.

MDL65-A **SHN Consulting Engineers and Geologists, Inc, 1999, *Road Erosion Inventory Shackleford and Mill Creek Watersheds,* Redding, California.**

The 1999 Road Erosion Inventory for Shackleford Creek and Mill Creek was conducted by SHN Consulting Engineers and Geologists, Inc. as directed by the Siskiyou Resource Conservation District. Specific sites in Shackleford and Mill creeks and their tributaries were prioritized according to sediment contribution to the Scott River. Maps were prepared with Vestra Mapmaker including plates for road segments, erosion and crossing sites, priority sites, and landslide analysis.

MDL	ABSTRACT

MDL67-A **Olson, A.D. and O.J. Dix, Klamath National Forest, 1992, *Salmon, Scott and Mid-Klamath Sub-basin Spawning Ground Utilization Surveys 1989/1990 and 1990/1991,* Yreka, California.**

This report summarizes the results of fieldwork completed between 01 October, 1989 and 30 September, 1990 under an interagency agreement between the U.S. Department of Agriculture and the U.S. Fish and Wildlife Service. The surveyor identified redds, spawning salmon, and carcasses as well as described habitat types associated with each location. Results are compared to a survey conducted the prior year.

MDL70-A **State Water Resources Control Board, 1980, *Scott River Adjudication.***

The Scott River Adjudication was decreed in The Superior Court for Siskiyou County in 1978 and entered in 1980. The adjudication defines the use and terms of the Scott River water including diversion and use, reasonable diversion and use, structures, schedules; groundwater interconnected stream flows, and natural flows. It defines the use parameters including: 1) Instream flow allotments to the United States Forest Service for fish and wildlife survival on the Scott River, 2) Instream allotments on the tributaries of the Scott River for fish and wildlife survival. The Adjudication defines in precise terms, the claimant, diversion number, use, acres, and place of use for the water use of the Scott River.

MDL72-A **Sommarstrom, Sari, et. Al, 1990, *Scott River Basin Granitic Sediment Study.***

Funded by the Klamath River Basin Fisheries Task Force & U.S. Fish and Wildlife Service cooperative agreement 14-16-001-89506. The study was a result of the recognition of a decomposed granitic sediment problem in the Scott River Watershed. The project involved extracting sediment core samples from various sites classifying them based on grain-size, mode, etc. These were analyzed and reported to be useful as a baseline for monitoring in future years rather than for predicting emergent salmon fry survival in the Scott River.

MDL	ABSTRACT

MDL75-A **California Department of Water Resources, 1991, *Scott River Flow Augmentation Study,* Red Bluff, California.**

The 1991 document suggests three categories of potential methods for increasing fishery flows in the Scott River: Conservation, transfers, and development. Also suggested in the document were two sites for reservoirs: Noyes Valley, and Meadow gulch on French Creek. Each site would have an approximate capacity of about 20,000 acre-feet and would cost approximately $20-30M (1991 costs).

MDL76-A **Lewis, Alvin (Natural Resource Conservation Service), 1989, *Scott River Flow Cross-Section Binder,* Etna, California.**

This information is a survey of 15 cross-section sites of the Scott River. It was prepared in 1989 by Alvin Lewis of the Natural Resource Conservation Service. Additional information for another series of sites is listed to have taken place between 1997 and 1999.

MDL77-A **Maurer, Ken, 2000, *Scott River Flows Data Summary,* Fort Jones, California.**

A summary/outline of resources and data of historical Scott River flows, floods, and precipitation records. Ken Maurer developed this summary in February 2000.

MDL	ABSTRACT

MDL78-A **Sommarstrom, Sari, Ph.D. 2001, *Sediment Sampling & Analysis – 2000: Scott River Monitoring Plan,* Etna, California.**

Spawning gravels in the Scott River and several tributaries were sampled for sediment composition during the low flow period of 2000. Using a McNeil® core sampler, 300 samples were collected, sieved into 7 size classes, and analyzed from 12 mainstem and 4 tributary sites in the Scott Valley area of the basin. Methods and sites followed the protocols of the 1989 baseline monitoring performed as part of a granitic sediment study. Comparing 2000 results to those of 1989 revealed several observations. The mainstem Scott River appears to be getting courser in its sediment composition, particularly in the mid-section of the valley below Highway 3. This reduction in fine sediment may reflect the readjustment of the river's gradient following removal of a small diversion dam and its 30-year accumulation of stored sediment in the river channel behind it. For the tributaries, two of the sites showed reduction in fine sediment, while the other two showed increases. Effects of the 1997 flood could explain some of the higher sediment levels at these sites. Repeated sampling of the same sites, plus some additional ones, is strongly encouraged to occur by 2004, in anticipation of the sediment TMDL to be completed for the Scott by 2005.

MDL79-A **Quigley, Danielle (SRCD), 2001, *Scott River Monitoring Program,* Etna, California.**

The objective of the Scott River Monitoring Program is to develop a basin-wide monitoring plan for implementation over three years to ensure continuous monitoring and assessment of completed projects. The program was written and administered by the SRCD and the Watershed Council and funded by the California Department of Fish and Game. It addresses monitoring activities and data collected from July 2000 – April 2001 and establishes monitoring procedures. The specific objectives are photo-points, sediment sampling, rapid bioassessment, and reporting.

Revisit of 1989 Scott River Granitic Sediment

MDL	ABSTRACT

MDL82-A **Cal-Forest Nurseries, 1996, *Scott River Riparian Woodland Restoration Project- Final Report.***

The Scott River Riparian Revegetation III project was funded by the Klamath Restoration Program. Planting for revegetation occurred on the Eiler, Black/Davidson and the Hansen ranches. Approximately 18 acres were planted and watered with drip irrigation. Estimated depth to the water table is 10 feet to 15 feet at levee sites. Sites consisted of a mix of native and imported soils used in levee construction. The sites had heavy vegetative competition from a variety of species including: starthistle, Russian thistle, hemlock, and quack grass. Success varied across the sites. The Eiler Ranch showed the least success with <5% survival with the remaining trees heavily browsed by deer. Revegetation efforts at the Black/Davidson Ranches resulted in primarily ponderosa pines that apparently handle grass competition the best. The observed factors that most effect outcome included: soil type, competing vegetation, rodents, deer browse, and watering frequency and volume.

MDL84-A **Jopson, Thomas (Siskiyou Resource Conservation District), 1996, *Scott River Riparian Woodland Revegetation Projects-Final Report.***

The year's projects were the first application of the experience gained from the Scott River riparian woodland revegetation demonstration project, funded by the Klamath Fisheries Restoration Act of 1994. The years 1994 and 1995 displayed a strong contrast in conditions favorable to revegetation. The year 1994 was the third driest record in the Scott Valley, while 1995 was one of the wettest in recent decades. The 1995 plantings were considerably more successful that the earlier demonstration project due primarily to the more reliable water sources for the planting areas. A total of approximately 27.5 acres were planted along the Scott River between Etna Creek and French Creek, as well as along Kidder Creek. The overall success rate was about 80% as compared to 40% for the 1994 plantings by site, survival ranged from 61-90%. The findings of 1995 will lead to better results in 1996 and 1997. Conclusions of the report include: 1) May is ideal planting month in most years, 2) small (12-18") rooted cuttings, as opposed to plug seedlings, do not perform well and should be avoided, 3) deer browse can seriously reduce survival of plantings, 4) a reliable water supply is essential to ensure survival of plantings, and 5) line spacing should be 15 feet for wider river planting sites, but remain at 10 feet for narrow sites.

MDL	ABSTRACT

MDL85-A **Lewis, Alvin (NRCS), 1992, *Scott River Riparian Zone Inventory & Evaluation,* Etna, California.**

Scott River riparian zones were measured and inventoried along a 29.70 mile and a 29.57 mile section of the left and right banks, respectively. Recommended restoration work along these areas include: 1) livestock exclusion, 2) fencing, 3) Planting and irrigation to establish riparian vegetation, 3) Flood irrigation water filter control, 5) streambank protection, 6) off stream stockwatering, and 7) fire protection. There were a total of 373 sites identified with 182 on the left bank and 191 on the right bank. The landowners were contacted and each landowner and/or agent was asked to rate their willingness to perform recommended practices.

MDL88-A **Quigley, Danielle (SRCD), 1997-2000, *Scott River Temperature Monitoring 2000,* Etna, California.**

The Scott River Watershed has been listed as impaired under the Clean Water Act, for water temperatures. The presence of anadromous species in the Scott River has created a water quality focus for the State Water Resource Control Board and Siskiyou Resource Conservation District. This report summarizes monitoring events from May through October during the summers of 1997 through 2000. A total of 17 monitoring stations were established on the mainstem Scott River and tributaries. Water temperatures were recorded automatically every 1.6 hours by Hobotemp® units made by Onset Computer Corporation. Temperatures on the mainstem Scott River exceeded 20.5 °C from river mile 50 to river mile 29. However, in 1998 and 1999, only one location exceeded 20.5 °C in the same stretch of river. For each year of collection, the Serpa Lane monitoring station recorded the highest temperatures. Data collected from 1997 to 2000 show that the river temperature increases from upstream to downstream. Mainstem locations showed a daily fluctuation of 6-9 °C.

MDL	ABSTRACT

MDL91-A **State Water Resources Control Board (SWRCB), Year Unknown, *Scott River Watershed Assessment Project.***

The Scott River Watershed Assessment Project was an effort by the State Water Resources Control Board to contribute to the planning process for the natural resources of the Scott River. A recommendation for stream flow gauging along Scott River mainstem was included. The data collected from these gauges should used for design and implementation of restoration projects. Additional assessment parameters include temperature monitoring, stream channel typing, and macroinvertabrate bioassessment.

MDL93-A **Kellogg, Elizabeth, Jim Kellogg, and Sari Sommarstrom, 1990, *Scott River Basin Granitic Sediment Study.***

The extent of the decomposed granitic sediment problem is examined in the Scott River watershed of Siskiyou County, California. This sand-sized sediment was previously identified to cause impacts to spawning habitat for salmon and steelhead and may be an important factor constraining anadromous fish production in the Scott River. Data was collected during 1989-1990 within the 215,500-acre study area that included the Scott Valley portion of the Scott River and several tributaries. The analysis focused on three aspects of the problem: 1) sources of granitic sediment production, 2) granitic sediment storage and transport in the Scott River, and 3) extent of impact of granitic sediment on salmon and steelhead spawning habitat in the Scott River and selected tributaries. Total upland decomposed granitic erosion is estimated to be about 340,450 tons per year. Road cuts constitute 40 percent of the amount, streambanks 23 percent, road fills 21 percent, skid trails 13 percent and the balance from road surfaces, other sheet and rill erosion, and landslides. An average yield of 71,500 tons of decomposed granitic sediment is predicted to be delivered to the Scott River each year.

MDL94-A **California Department of Fish and Game, et. Al, 1979, *Scott River Waterway Management Plan.***

The basic guidance for the approach and intent of the waterway management plan comes from legislation that established the wild and scenic rivers system of which the Scott River is included. The goal of the legislative mandate on which the plan is based is to preserve the Scott River in its free flowing state, together with its immediate environments for the benefit and enjoyment of the people of the state. The objectives of the management plan are: 1) to maintain the free-flowing character of the Scott River, 2) to protect the water quality and flow of the Scott River, 3) to preserve the scenic character of the Scott River, 4) to provide for recreational need and protect and enhance fish and wildlife

MDL	ABSTRACT

resources, and 5) to provide for the development and use of natural resources at levels and in a manner consistent with protection of river characteristics. The resource use and recommendations section includes discussion on water and aquatic resources, road alignment, construction and maintenance, logging, mining, residential development, visual quality, recreation, and natural systems.

MDL95-A **Unknown Photographers, Unknown Year.** ***Scott River/Cantara Photos/Fay Lane Revegetation.***

A collection of approximately 50 photographs showing revegetation projects on the Scott River around Fay Lane. The year and photographers are unknown.

MDL97-A **Author Unknown, Date Unknown,** ***Scott Valley Irrigation District Study.***

This Draft document is undated and has no stated author. It addresses the utilization of surface and ground water in the Scott River Valley. Its main focus is the Scott Valley Irrigation Ditch used for irrigation and stockwater. Additional concerns stated in the document include the anadromous fish populations in the Scott River. The document contains facts gathered in a survey presented to water users of the Scott Valley Irrigation District water. The survey and answers are presented in the appendices.

MDL98-A **Jenott, John D., unknown year,** ***Scott Valley Sketch Book.***

This book of sketches is a pictorial of the history of the Scott Valley. Historical notes accompany the sketches in the form of local poetry, quotes from long time residents, and historical facts.

MDL101-A **California Department of Water Resources (DWR), 1976,** ***Siskiyou County Land Uses and Water Demands.***

This comprehensive presentation of the water use and demands of Siskiyou County covers the Scott River Valley. It estimates the total surface supply at approximately 81,000-acre feet per year and the groundwater storage capacity to be approximately 400,000-acre feet. This report includes statistics, and other information including potential recharge rates.

MDL	ABSTRACT

MDL105-A **U.S. Department of Agriculture Soil Conservation Service, 1983, *Soil Survey of Siskiyou County California Central Part.***

The Survey is for the central part of Siskiyou county with an area of 887,765 acres. It is bordered on the west by the Klamath National Forest, on the south by Shasta-Trinity National Forest, on the east by the Klamath National Forest, and on the north by the State of Oregon. The Scott and Shasta valleys are surveyed in this report as well as other areas. The survey includes history and development, population trends, physiography, relief and drainage, climate, water supply, and vegetation.

MDL106-A **Siskiyou Resource Conservation District, Unknown Year, *Siskiyou Resource Conservation District (SRCD) Long Range Plan.***

This five-year plan (2000-2005) outline will be the guiding document to determine priorities for the Siskiyou Resource Conservation District. It contains a brief outline of programs and actions. The objectives and programs include: 1) improve water conservation, 2) improve water quality, 3) reduce soil erosion, 4) improve fisheries and wildlife habitat, and 5) expand community awareness and understanding of conservation needs, issues, and techniques.

MDL108-A **Busby, Peggy J., Thomas C. Wainwright, and Robin S. Waples (National Marine Fisheries Service (NMFS)), 1994, *Status Review for the Klamath Mountains Province Steelhead.***

The report was directed by a petition to list southwest Oregon's Illinois River winter steelhead as a threatened or endangered species under the federal Endangered Species Act (ESA). Based on genetic, life history, zoogeographic, geologic, and environmental information, National Marine Fisheries Service (NMFS) concluded that the evolutionary significant unit (ESU) that contains Illinois River winter steelhead extends to the Klamath River Basin in northern California. The boundaries essentially follow the prominent geologic feature known as the Klamath Mountains Province. Both winter- and summer- run steelhead are included in the ESU, as well as populations sometimes referred to as "fall-run" in California. Within this geographic area, most steelhead populations show a declining trend in abundance, and 10 stocks have been identified in independent stock assessment reports as being at moderate or high risk of extinction. It is the foresight of the NMFS that the steelhead within the subject ESU is likely to become endangered.

MDL	ABSTRACT

MDL109-A **Alexander, Larry, 1995, *Stockwater for Chinook-Scott Valley Irrigation Ditch.***

The Scott Valley Irrigation District (SVID) ditch is a prominent diversion from the Scott River. The SVID initiated the Stockwater for Chinook study to determine the feasibility and desirability of converting the ditch water source form a Scott River surface water diversion to a ground water source. The study incorporated water user input as well as technical information to provide conclusions and recommendations for the SVID Board of Directors review.

MDL115-A **Bundy, Lorrie (Siskiyou Resource Conservation District), 1998, *Temperature Monitoring on the Scott River.***

Water temperatures at selected sites in the Scott River and selected tributaries were recorded and the data was analyzed in this 1998 report. The objective of the monitoring was to generate an understanding of temperature fluctuations, tributary temperature influence on the Scott River, and climatic activity influence on temperatures on the mainstem of the Scott River. 1997 (1 October, 1996 – 30 September, 1997) was an above normal water year with 708,690-acre feet of water passing the United States Geologic Survey (USGS) gauge near Fort Jones. The 56-year average is 345,671-acre feet of water. Stream temperatures ranged from a low of near 46° F in French Creek to highs near 80° F just upstream of French Creek. The information collected by the Scott River Temperature Monitoring Program has helped direct project locations and provide baseline information.

MDL119-A **Scott River Watershed Council-Land Committee, 2001, *Upland Management Action Plan.***

The Scott River Watershed Council Land Committee identified seven (7) objectives for the upland areas of the Scott River sub-basin. These seven objectives include reintroduction of fire management, forest density management, monitoring road systems, improving management techniques, potentials of up-slope water storage, data collection, and conveying information to the public.

MDL	ABSTRACT

MDL126-A **Siskiyou Resource Conservation District, et. Al., 2001, *Water Temperatures in the Scott River Watershed in Northern California, Preliminary Draft.***

Under the Clean Water Act, the Scott River has been listed as impaired for water temperature levels. To provide the EPA with information regarding stream temperatures for the watershed, the U.S. Forest Service, Timber Products Co., Fruit Growers Supply and the Siskiyou Resource Conservation District (SRCD) have combined data to co-author this report. The objective of the report is to present the distribution of current water temperatures in the Scott River watershed and compile known historical temperature data on the watershed. The water temperature results in the report represent the largest number of sites (68) and annual datasets (171) ever described for the Scott River Watershed. The headwaters and primary tributaries have a temperature range between 10.9 and 17.8°C with most in the range of 14.6 to 16.1°C. These are interpreted as the natural range of temperatures for the Scott River tributaries. Recommendations for future activities include: 1) study the influence of mainstem sediment deposition on water temperature, 2) systematically study the air and water temperature relationships, 3) determine the effect of individual tributary flow (surface/subsurface) on mainstem temperatures, 4) determine the groundwater/surface water relationship in the Scott River Watershed, 5) long-term monitoring of water temperatures in varied riparian areas, and 6) measure the biological response of anadromous fish to the watersheds historic range of water temperatures.

MDL127-A **U.S. Department of Agriculture-River Basin Planning Staff, 1971, *Watershed Investigation Report, East Fork Scott River, Siskiyou County.***

The Watershed Investigation Report for the East Fork of the Scott River includes a brief description of the watershed, problems and needs, potential for meeting needs, local interest, and potential costs and feasibility. Within the problems and needs section subjects such as floodwater damage, erosion and sediment, agricultural water management, non-agricultural water management, and recreation are discussed.

MDL	ABSTRACT

MDL128-A
MDL129-A
MDL130-A **U.S. Department of Agriculture-River Basin Planning Staff, 1971, *Watershed Investigation Report, Etna Creek, Kidder Creek, and Moffett Creek, Siskiyou County.***

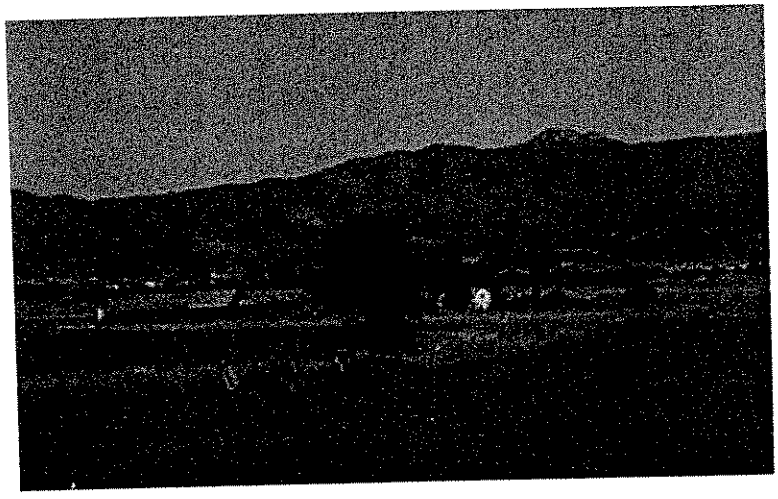
The Watershed Investigation Reports for Etna Creek, Kidder Creek, and Moffett Creek includes a brief descriptions of the watershed, problems and needs, potential for meeting needs, local interest, and potential costs and feasibility. Within the problems and needs section subjects such as floodwater damage, erosion and sediment, agricultural water management, non-agricultural water management, and recreation are discussed.

MDL131-A **U.C. Davis Department of Environmental Science and Policy, 2001, *Watershed Partnerships Project Summary Report,* Davis, California.**

In March of 2001, the Department of Environmental Science and Policy produced a summary of a survey distributed to the Siskiyou County Resource Conservation District. The purpose of the survey was to determine the amount of participation and cooperation with respect to watershed management in the Scott River watershed. The survey addressed meeting participation, views, and goals of the group.

SCOTT RIVER
STRATEGIC ACTION PLAN

COMPLETION REPORT



Prepared for the:

Scott River Watershed Council

Prepared by:

PLANWEST PARTNERS

August 2002

SCOTT RIVER STRATEGIC ACTION PLAN
COMPLETION REPORT

PREPARED BY

PLANWEST PARTNERS

INTRODUCTION

Planwest Partners has contracted with the Siskiyou Resource Conservation District (RCD) to prepare a progress assessment and plan for completion for the Scott River Strategic Action Plan. As part of this report preparation, Planwest Partners representatives, George Williamson and Oona Smith, toured the Scott River Valley, conducted research at the RCD offices, interviewed staff, participated in the July 22nd Watershed Council Executive Committee meeting, and facilitated the planning workshop portion of the July 23rd Watershed Council meeting. This Completion Report assesses planning progress to date, but focuses more on a recommended approach for preparing the Strategic Action Plan. The approach is outlined under the Scope of Work.

A commitment of community time and resources is essential to successfully complete the strategic action planning process, and to implement the results. We feel the community commitment has been made. If this report and our scope of work are satisfactory, we will commit the resources of our firm, and selected subcontractors, to assist the Council in completing this vital planning process.

PROGRESS ASSESSMENT

This progress assessment focuses on the resources and information necessary to prepare the Strategic Action Plan. This assessment does not include a discussion of the ongoing projects the Scott River Watershed Council has been implementing and pursuing. While not included in this assessment, these SRWC projects and studies are important items and will be acknowledged and promoted through the Strategic Action Plan.

The Scott River Watershed Council has been active for over ten years and has completed numerous natural resource and community awareness projects for the Scott River Sub-basin. Projects include fisheries and wildlife habitat improvements, water conservation measures, water quality improvements, and soil erosion reduction projects. These activities will continue, through funding to the Siskiyou RCD, from a variety of agency sources.

Based on information provided by RCD staff and from meetings held on July 22-24 in Scott Valley, the progress on the Strategic Action Plan has been limited. The previous consultant did prepare an extensive bibliography, and a draft Issues and Concerns Development Report based on a community issues survey and review of existing studies and reports. The report is organized in broad categories (e.g., ecological resources, planning and development, etc.) that were not easily reconciled with the Strategic Action Plan outline. The report contains some baseline information and includes community survey results. The report is fairly brief and does not include any information as to how the information is to be used in the Strategic Action Plan.

This GIS data (provided on CD by the RCD staff) has been structured in a way that makes it difficult to extract individual layers, and there are mixed PC ArcInfo and ArcView Shape Files. It appears that the data must have had been based on a Digital Elevation Model (DEM), but unfortunately it was not on the CD. We have included in this report a shaded relief figure of the watershed, which was obtained from another source. We will be proposing to have our GIS Analyst work with RCD staff to generate GIS data for the Strategic Action Plan.

On a more positive note, we feel there's good organizational structure and staffing in place for the Strategic Action Plan. It is our observation that the Watershed Council has a dedicated Executive Committee, dedicated Council members, and a sound committee structure. We were impressed with the commitment shown by those Council and Committee representatives attending the July Executive Committee and Watershed Council meetings.

The Council and committees have developed goals and objectives that will guide plan preparation. In addition to the Strategic Action Plan's overall goal and objectives (see the Key Issues Survey in the following section of this report) there are committee-level goals and objectives that were found to be both consistent and supportive of the overall goal. One example is the Education Committees goal of: *Being as receptive as we are proactive, disseminate current and accurate information from varied sources and viewpoints in order to promote debate and informed decisions*. This openness and proactive approach is essential to the planning process.

At the staff level, the new Council Coordinator, Rhonda Muse, offers facilitation and coordination skills that will be valuable in helping reach general consensus on planning issues. Rhonda appears to strengthen the staff resources, building on what Jennifer offers as Watershed Coordinator and the contributions of the other RCD staff.

While this will be a community based plan, there are a number of public agencies involved. The contributions of public agency staff could be an advantage in preparing the plan. The July 23rd Watershed Council meeting was attended by representatives from at least four State and federal agencies. These and other agencies contribute both staff time and financial assistance to Scott River projects, and have expectations for the Strategic Action Plan. It will be important to consider, and where possible accommodate, those expectations during plan preparation.

KEY ISSUES SURVEY RESULTS

Planwest Partners attended a SRWC meeting on July 23, 2002. At the meeting, Planwest asked participants (council members, RCD staff, and agency representatives) for their feedback on the Strategic Action Plan planning process, past, present, and future. Participants commented on "what has worked" and "what has not worked" to date. Their responses follow.

What has worked?
-Moved to strive for consensus with majority vote option
-Hard-working core group
-Existing plans
-Programs-implementation of plans (at least 8 programs)

What has not worked?
-Committee work interrupted
-Getting appropriate level of participation
-Communication is lacking-what happens next is a surprise
-Web page needs to be interrupted
-Unrealistic to expect Council to take on huge tasks (such as Plan); they don't have the expertise
-Suggestion: Planner can help individual committees
-Uncertain expectations of funding agencies

Next, meeting attendees participated in a "roving" Survey of Key Issues, which involved writing responses to survey questions posted on the walls. Additionally, surveys were handed out for people to fill out individually (and anonymously), or to pass along to other interested parties to fill out. After collecting all survey responses, Planwest has organized the responses to reflect the themes that were identified, i.e., comments that were voiced by more than one person. The themes are presented below.

1. **The goal of the Scott River Strategic Action Plan is to:**
   Improve the effectiveness of natural resources conservation and enhancement by assessing the condition of the watershed, and by providing optimum implementation strategies with full consideration of the custom, culture and economic well being of the citizens of the community.
   Is the goal still valid?
   > Yes very much so.
   > Identify/acknowledge and prioritize the scale and magnitude of issues, problems, and solutions, including costs.
   > Emphasis on "custom, culture, and economic" aspects should reflect current values and be balanced with natural resources.

2. **What are the customs and cultures of the area that you want to preserve?**

> Maintain and enhance the economic viability (i.e., ability to earn a living) of the historical industries
> Keep the working landscapes working – forestry, agriculture, ranching

> Forest multiple use – forests for sustainable timber production, wildlife, recreation, etc.
> Wide open space/surrounding wilderness
> Native American culture
> Natural resource heritage
> Rural life-style; small town hospitality and feel; neighbors helping neighbors
> Sense of community; shared values
> Recreation – fishing, rafting, hiking, camping, swimming, hunting

3. What are the natural resources that you want conserved and enhanced?

> Water quality and quantity
> Water systems: lakes, streams, wetlands, side channels stream/riparian habitat
> River recreation and river quality (wild and scenic)
> Wildlife and habitat
> Air quality/clean air
> Fish habitat (maintain and improve instream fish habitat, passage.)
> Healthy forests. Sustainable timber production & wilderness; forest resources and forest density/fuels management
> Soil, erosion reduction, soil conservation.
> Agricultural lands
> View-scape
> Natural vegetation and wildflowers, flora and fauna
> All of them that are left
> Open space
> Grazing
> Public access to public lands

4. What are the strategic planning objectives that must be addressed in the Plan?
(A strategic planning objective is a measurable activity that helps achieve a stated goal.)

> Baseline assessment of watershed/ water balance (i.e. local watershed processes, fish population, wildlife habitat needs, etc.); "State of the Watershed" annual report; objective data
> Data management/accessibility
> Identify, assess, & prioritize strategic actions, implementation of projects, issues, and approaches to issues.
> Existing objectives in existing plans; revise if needed
> Outreach/education; increase community participation; communication/coordination – public agencies & private landowners
> Cost effectiveness
> <u>Monitoring:</u>
- Short term and long term;
- Effectiveness monitoring designed for several key watershed attributes and beneficial uses (e.g. water quality, fish habitat, agriculture);
- Monitor project implementation (e.g. general and/or site specific mitigation, restoration & enhancement projects, best management practices, standards, etc.)

5a. What are the best ways to include interested individuals and community groups in the planning process, and what are effective ways to get information to them?

> Work at small community level, e.g. sub-watershed groups; neighborhood meetings
- Get various groups (SOSS, homeowners) in on planning
- Community workshops; presentations at community organizations, e.g. Rotary, Lions, classroom presentations/field trips (invite parents).

> Better meeting facility

> More media outreach:
- Radio, newspapers ads, newspaper articles (e.g. about someone's interesting project), local T.V. channel broadcasts), newsletters, simple education handouts, special mailings.
- Discussion groups live and on the air representing divergent views on planning matters
- Internet: anonymous "chatroom" for Sisqtel internet customers; regularly updated website

> Have a booth at the county fair. Have a float in the 4th of July parade. Have more barbeques.

> Local polling (e.g. at Rays)

> Local stewardship awards

> Individual investment in SRN

5b. What obstacles to participation by the larger community exist?

> Folks lack time; scheduled conflicts.

> Lack of interest; limited desire to know; apathy.

> Don't believe it will affect or benefit them.

> Limited understanding of issues; complexity of technical issues

> Misinformation. Biased news reporting. Rumors.

> Philosophical differences; different value systems; community is polarized on certain issues

> Prejudice

> Fear, apprehension; fear of change; lack of trust

> Fear of regulation. People are discouraged by regulatory environment that doesn't seem to appreciate proactive efforts. Agency schizophrenia.

> Need specific things for small landowners and residents to do.

> Noisy meeting rooms

> Too much bureaucracy in the SRWC process.

5c. How can the obstacles be remedied?

> Communication & Information Dissemination:
- Publicize success stories; information on the benefits of being proactive
- Radio interviews and/or editorials with testimony from those who have overcome their fears and now participate in the process.
- Use Internet for information
- Publish summaries and updates
- Field trips; demonstration projects
- Distribute/sell signs "Get involved In Your Watershed," with meeting dates, times etc.
- Unbiased, science-based information

> More neighborhood type meetings – less formal, less bureaucracy; family-friendly events

> Rewards: relief from regulatory constraints, recognition of voluntary participation

> Work with regulatory personnel at the council meetings to reduce fears and increase trust in the community

6. **What expertise, if any, would you like to have added to the consultant team that would build upon existing work and help develop and/or implement the strategic action plan?**

Yes ✓	Area of Expertise	Specific Topics or Issues of Interest?
X X X X X X	**Fish biologist**	> Independent consultant > Extent & quality of current habitat/passage > Limiting factors analysis > Baseline condition analysis > Strategies for future assessment work.
X X X X	**Geologist**	> Local watershed processes explained > Baseline condition analysis > BMP's for correcting road related erosion
X X X X X	**Hydrologist**	> Local watershed processes explained > Water (non-ag) utilization, e.g. timber and other vegetation in up slope > Baseline condition analysis > Strategies for future assessment work
X X X	**Agriculturalist**	> Riparian/grazing expert > Operational / Implementation > Baseline condition analysis > Strategies for future assessment work
X X X	**Timber**	> Operational / Implementation > Strategies for future assessment work
X	**Cultural**	> Early input & plan review 1) Include tribal members
	Leadership training	> Workshop on teambuilding
X X	**Legal Aspects**	> Early input & plan review > Legal assistance 1) Water mastering navigability
X X	**Economist**	> Only if needed > Expert in rural socio-economics for community concerns & buy-in, operational / implementation > Agricultural economist 1) Include "natural" economy-value all life
	Other(s): Mediator Public relations Technical writer Computer tech Ecologist	Someone to weave the disciplines together Database info layers consolidation
	A navigator through regulatory requirements.	Legal? Biologist?
	Proactive consultant on water/land use solutions	
	> Pastoral	Communication, support groups, the stimulation of a spirit of love in the process.

7. In order to measure the effectiveness of the Strategic Action Plan, what measures, strategies, or approaches would you like included in the Plan?

> Evaluation / Monitoring
- First evaluate existing plans and progress; evaluate effectiveness past and future programs
- Tasks should be measurable
- Define monitoring method in the plan; trend monitoring through regular, periodic re-assessment & re-measurement of permanent sampling locations.
- Careful and accurate monitoring of actions (implemented strategies) and wide publication of findings.
- Periodic reviews: 2, 5, 10-year re-evaluation of goals; bi-annual progress update of plan.
- Systematic sampling design for baseline assessment of current conditions.
- Revise plan based on additional information and technical data
- Does plan accommodate new issues as they arise? If so, is it functional?
- Flexible plan with adaptive management as part of its foundation

> Mutual fact finding instead of adversarial experts
> Cost effectiveness/analysis
> Fish trapping/counts
> Habitat conditions
> Quality of life factors-community-wide
> Incentives for stewardship vs. regulatory enforcement

PLAN FOR COMPLETION – APPROACH

The following describes the proposed approach for completing the Scott River Watershed Council's Strategic Action Plan (SAP). This approach was crafted based on the background information and feedback from the SRWC, including planning done to date (reports, plans, surveys, etc.); responses from the "Key Issues Survey" (from both individual surveys and the "roving" survey conducted at the July 23, 2002 Watershed Council meeting); and discussions with and direction from staff and council members.

Coordination and Assistance

Planwest Partners will coordinate with the Watershed Council Coordinator and other staff and council members to keep the community at-large and relevant agencies up-to-date and informed about the planning process. A Planwest Partners representative will attend six SRWC meetings (see Task 6) in approximately seven months (or rescheduled as appropriate), and will be readily reachable by phone, mail, and e-mail when not in the Etna/Fort Jones area.

Planwest Partner's coordination will also include scheduling all draft documents to be reviewed and approved by SRWC (either by Executive Committee or the full council, as appropriate) before documents are made public.

Plan Approach

The Scott River Strategic Action Plan must be an independent planning tool that addresses the needs of the Scott River Watershed, and also serves as a sub-basin plan for the overall Klamath Watershed Plan.

A four-part approach is proposed for the planning process:

- Prepare overviews for each topic to be addressed in the Strategic Action Plan;
- Develop and prioritize actions for two-, five-, and ten-year time frames;
- Develop implementation strategies for highest priority actions; and
- Prepare draft plan for public review, incorporate input, and prepare final plan.

Key features of this approach are to:

- Capture current information on resource and community issues and organize that information to serve as a basis for strategic action;
- Identify information gaps and future studies to that they can be added or referenced, and the results incorporated into the action planning process;
- Prioritize activities (strategic actions) so that the most time sensitive issues are addressed first, while incorporating lower priority activities into mid-term and long-term actions;
- Build organizational capacity and promote strategic thinking within the Watershed Council;
- Provide an open planning process that encourages involvement and builds support; and
- Proactively address regulatory mandates in a way that maximizes the watershed's interests.

This approach is described in more detail in the Scope of Work.

Schedule

The timeline for completing the SAP is proposed as a six-month schedule starting in September 2002 and being completed in February 2003. A full schedule with tasks, meetings, and deliverable dates is also included in this report.

PROPOSED MODIFICATIONS FOR STRATEGIC ACTION PLAN OUTLINE

The Strategic Action Plan Outline (as revised by the ED/ComRel Committees 10/12/2000) was carefully considered while preparing this completion report. It is understood that the Scott River Plan is a sub-basin plan for the Klamath River Watershed, and must be consistent with an overall watershed framework. Revisions are proposed for Section 2 to present overall watershed condition information first, followed by natural resource topics (2B-2 through -8) and community resource topics (2B-9 through -12). Revisions are proposed for Section 4 to include short, mid, and long term action items. Plan preparation is described in more detail in the scope of work.

Preface: Restoration Program Information
Focus on Scott, reference Klamath context, goals, basin map, SRWC descriptors

1. **Introduction** (Overview/ Summary/ Committee Structure)
Describe planning process and why the Plan is needed; Uses and purpose of the Plan; Watershed Council/landowner relationship (wording from Bylaws)

2. **Scott River Basin / Watershed**

2A. Background – Watershed map; Stakeholders/resource users;

2B. History and Current Status of Watershed Conditions (Overview)
(Including limiting factors, data and restoration needs)

2B-1. Overall Watershed Condition
2B-2. Fisheries & Wildlife (fish species, population dynamics, and fish habitat)
2B-3. Vegetation & Habitat Restoration
2B-4. Geology and Soils
2B-5. Hydrology
2B-6. Fire
2B-7. Land Use (agriculture, forestry, mining, roads, ownership/management, dams, diversions, municipal, hydropower)
2B-8. Agriculture and Timber
2B-9. Community Resources & Socio-economics (urban, rural, cultural)
2B-10. Community Relations &Education
2B-11. Legal Aspects (water rights, land use, fish protection laws)
2B-12. Regional & Agency Coordination

3. **Scott River Basin Objectives**
Drawn from Watershed Council and Committee Goals and Objectives

4. **Actions**

4A. Integration (Strategic Action) Table
2-, 5-, and 10-Year Action Items and Implementation Strategies

4B. Table Elements: Limiting factors, goals, planning action (other possibilities: status, priority level, project, estimated costs, RFP responsible, comments, etc.)
(See proposed Action Plan Worksheet Template.)

5. **Glossary of Terms**

6. **Appendices**

1. Sub-basin Contacts - Interested parties; former contractors, agencies, roles of contacts
2. RFP Process Information

3. Other Funding Sources
4. Additional Sub-basin Information Sources
5. List of Surveyed Streams - Would include information provided by cooperators (types of surveys and who to contact)
6. Expenditure of RFP Project Funding by Project Category
7. Pertinent Regulation Information
8. Life Histories of Fish Species
9. Work Plan (includes timeline, etc.)

SCOPE OF WORK

Task 1. Prepare Action Topic Overviews, Plan to Fill Data Gaps, and Refine Plan Outline

Planwest Partners, relying primarily on information from the Watershed Council and RCD staff, will compile background materials and prepare overviews for each of the following areas:

1. Overall Watershed Condition
2. Fisheries & Wildlife
3. Vegetation & Habitat Restoration
4. Geology and Soils
5. Hydrology
6. Fire
7. Land Use
8. Agriculture and Timber
9. Community Resources & Socio-economics
10. Community Relations & Education
11. Legal Aspects
12. Regional & Agency Coordination

This will be in summary form, using tabular format and graphics as much as possible. History and current status of watershed conditions will be incorporated. Information that is missing or still being developed (gaps) will be identified and assessed, so that it can be developed or inserted when available as part of the planning process. Each action topic will be assigned to the appropriate Watershed Council Committee. Strategic Action Plan outline modifications recommended by the consultant will be reviewed. Existing stated objectives for the Strategic Action Plan will be related to each topic as applicable.

Work Product: Revised outline and overview report for twelve Action Plan topics.

Task 2. Develop and Prioritize Overall Strategic Actions for 2-, 5-, and 10-Year Time Frames

Once overviews have been completed, short-term (2 year), mid-term (5 year) and long-term (10 + years) strategic actions will be developed and prioritized for each of the action plan topics. The consultant will prepare a Strategic Action template for use by the Council and the six

committees. These actions will include the activity, resources required, and desired outcomes. The objective of this task is to develop the range of actions the Council intends to accomplish, relative time frames, and the overall priorities. It is anticipated that there would be 10 to 12 priority actions developed for each time frame (short-, mid-, and long-term). Lower priority actions would be "stored" for future consideration. A draft of priority action items will be distributed to the community and agencies for review and comment.

Work Product: Prioritized short-, mid-, and long-term strategic actions in draft form.

Task 3. Refine Actions and Develop Implementation Strategies

Once the community and agencies have provided input on the draft prepared in the previous tasks, refine priorities as appropriate. Implementation strategies will be developed by the Watershed Council using Action Plan Worksheets (see template on following pages).

Work Product: Strategic action template, and up to a total of 12 short-, mid-, and long-term implementation strategies.

Task 4. Prepare Draft Strategic Action Plan for Community Review

A draft Strategic Action Plan will be prepared following the outline revised in Task 1. Strategic actions prepared in previous tasks will be reviewed for consistency with Strategic Action Plan goals and objectives. The Plan will contain specific and quantifiable measures for short-term and mid-term actions, and broader measures for long-term actions. There will also be strategy developed for annual review and updating of the plan. Cost estimates, schedules, and management/oversight responsibilities will be developed for short- and mid-term actions. A draft Plan will be prepared and distributed for community and agency review.

Work Product: 40 copies of the Draft Strategic Action Plan and web version for review.

Task 5. Refine and Prepare Plan for Watershed Council Adoption

After community and agency review, the Plan will be revised as directed by the Watershed Council. The Plan will be submitted for adoption and implementation by the Council. It is anticipated that this Plan will be updated on at least an annual basis, to include new strategic actions and acknowledge and celebrate the completion of short-term projects

Work Product: 40 copies of the adopted Strategic Action Plan

Scott River Strategic Action Plan (Time Frame: 2,5, or 10 Year) Action Plan Worksheet Part 1

Action Item:	**Objective:**			
Description:				
Activity	Responsible **Party**	Resources	**Completion/ Milestone Date**	It's Done When…

Scott River Strategic Action Plan

Action Plan Worksheet Part 2

Activity Leader:		**Meeting Date:**	**Phone:** **Fax:** **Email:**	
Watershed Council/ Agency Representative	Phone/Fax	Address	Affiliation/Organization	Who will contact them
Assistance needed or issues to be resolved:				
Information and/or assistance sources:				

Task 6. Watershed Council Meetings

A Planwest Partners representative will, in conjunction with the District's Watershed and Council Coordinators, facilitate 6 Watershed Council meetings. This could also include attending Executive Committee meetings when they immediately precede Watershed Council meetings.

Meeting #	Suggested Topics
Meeting 1	Action Topic Overviews
Meeting 2	Overall Strategic Actions for 2, 5 and 10 Year Time Frames
Meeting 3	Overall Strategic Actions for 2, 5 and 10 Year Time Frames
Meeting 4	Develop Implementation Strategies
Meeting 5	Draft Plan Review
Meeting 6	Plan Adoption

Work Product: Post meeting summaries will be provided.

SCHEDULE – September 2002 to March 2003

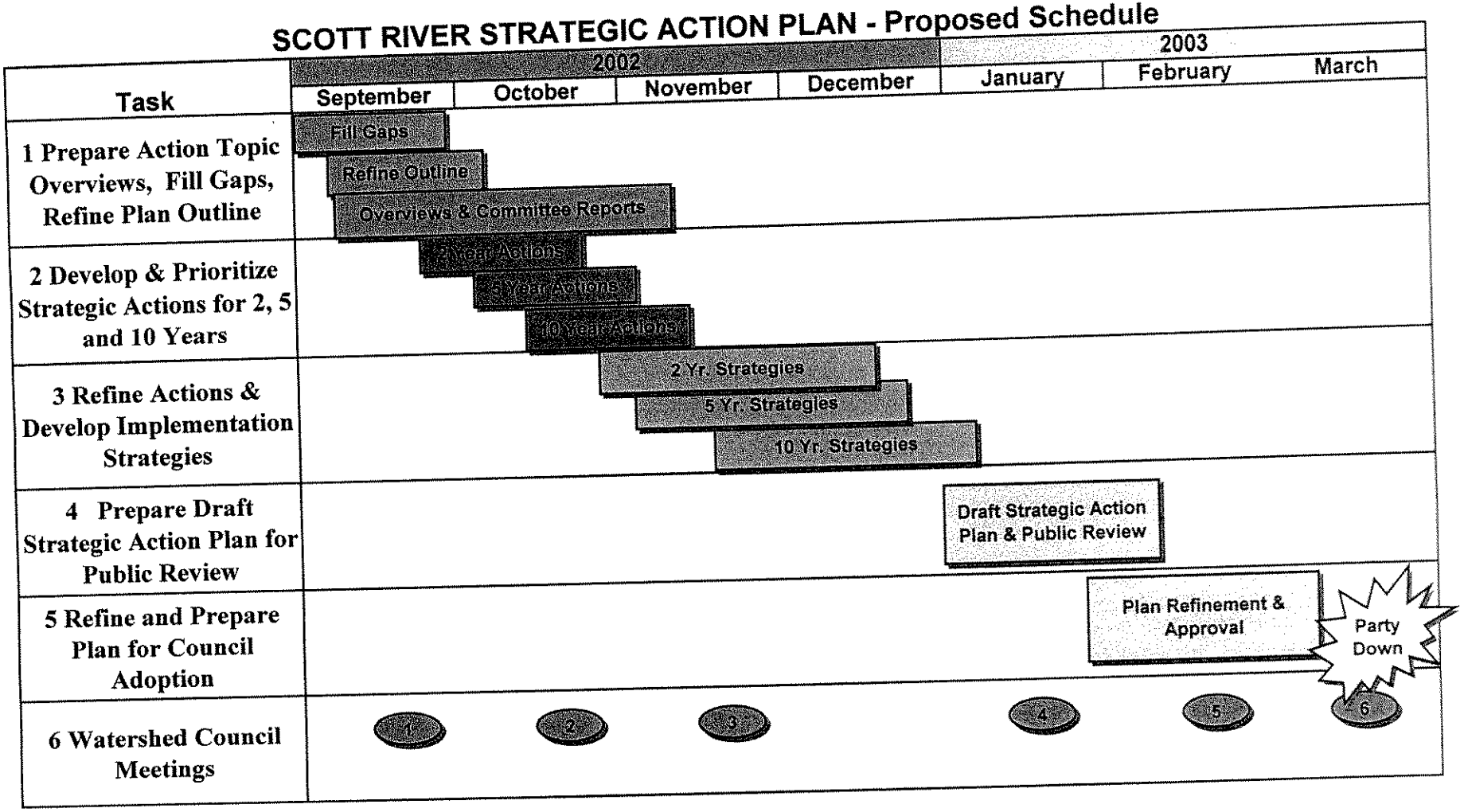
A schedule for plan completion is provided (in excel spreadsheet format) as an attachment to this report

BUDGET

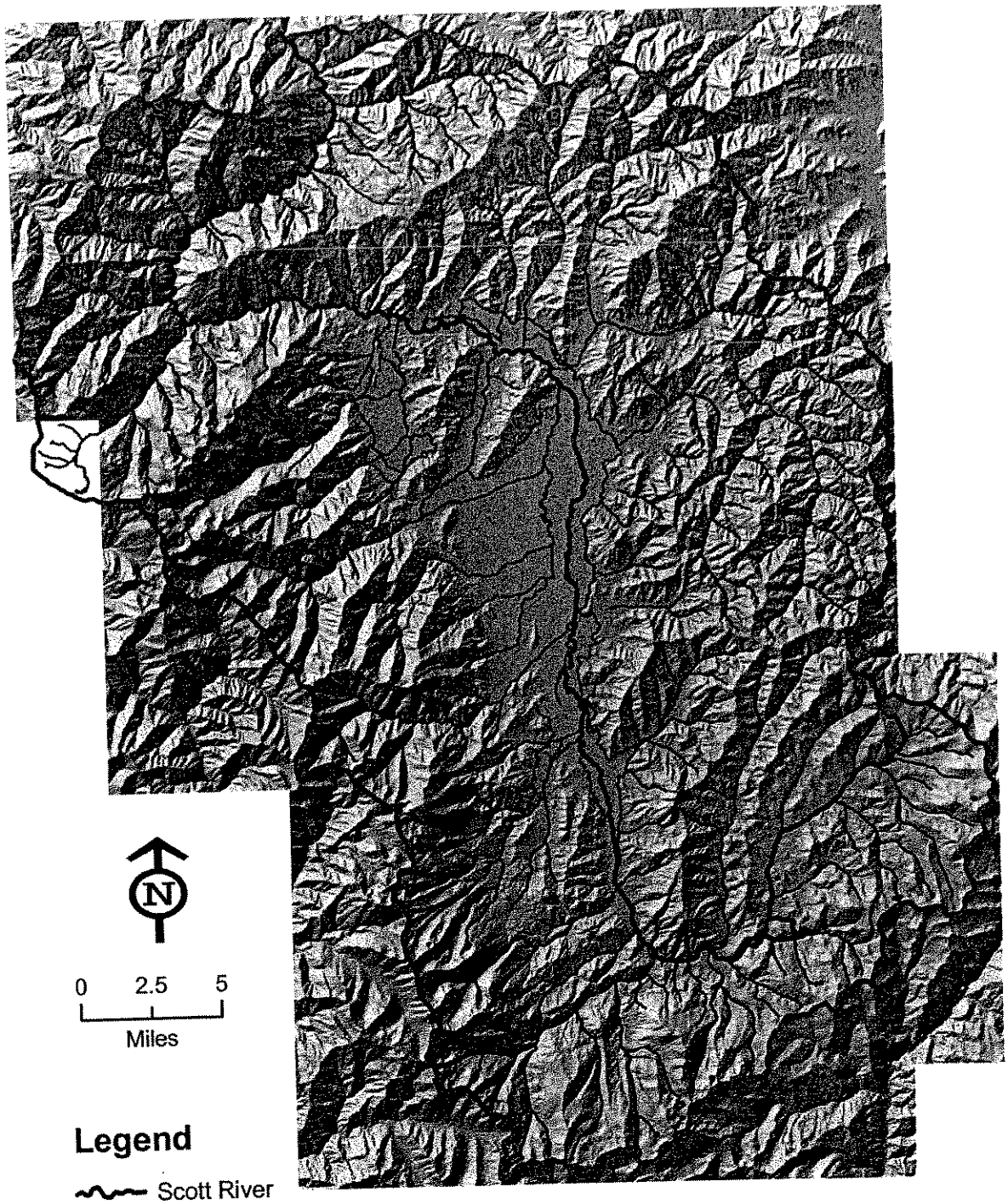
The budget for completing the scope of work is shown below.

Task	Planwest Services	Subcontract Services	Direct Expense	Total
1. Prepare Action Topic Overviews, Plan to Fill Data Gaps, and Refine Plan Outline	$5,000	$0	$250	$ 5,250
2. Develop and Prioritize Overall Strategic Actions for 2-, 5-, and 10-Year Time Frames	$4,100	$1,000	$250	$5,350
3. Refine Actions and Develop Implementation Strategies	$6,800	$2,000	$250	$9,050
4. Prepare Draft Strategic Action Plan for Community Review	$8,600	$2,000	$2,000	$12,600
5. Refine and Prepare Plan for Watershed Council Adoption	$6,700	$	$1,000	$7,700
6. Watershed Council Meetings	$5,200	$	$1,800	$7,000
Totals	$36,400	$5,000	$5,550	$46,950

SCOTT RIVER STRATEGIC ACTION PLAN - Proposed Schedule



Shaded Relief Model - Scott Valley



Planwest Partners, 2002

EXHIBIT A – SCOPE OF WORK
Scott River Strategic Action Plan

The following scope of work specifies the tasks to be completed by the consulting firm of Planwest Partners (Planwest) for the Strategic Action Plan. This work will be done in collaboration with Siskiyou Resource Conservation District staff (referred to as RCD staff) and the Scott River Watershed Council, which includes the Council's committees. Each task will yield a work product, which will provide an opportunity for RCD to review progress and provide input. At the direction of the Watershed Council's Ad-hoc Scoping Committee, the roles of the consultant, RCD staff, and the Council/Committees, are included at the end of each task.

Task 1. Prepare 12 Topic Overviews, Plan to Fill Data Gaps, and Refine Plan Outline – "Where We Are"

Planwest, relying primarily on information from the RCD, will compile background materials and prepare overviews for each of the following topics:

1. Overall Watershed Condition
2. Fisheries & Wildlife
3. Vegetation & Habitat Restoration
4. Geology and Soils
5. Water (water quality and quantity)
6. Fire
7. Land Use (including agriculture and timber)
8. Community Resources & Socio-economics
9. Community Relations & Education
10. Legal Aspects
11. Sub-watershed characteristics
12. Regional & Agency Coordination

The topic overviews will incorporate the history and current status of watershed conditions, summarizing existing resource data, assessments, and conditions. The overviews will also identify information gaps, and indicate what data is still being developed for future assessment. The overviews will be in summary form, using tabular format, graphics, and mapping as much as possible. Any lengthy descriptions or baseline studies will be incorporated by reference and placed in appendices.

Planwest will prepare the initial draft for each overview, based on information already provided by RCD staff. An initial "administrative" draft will be submitted to RCD staff for their initial review; RCD staff will provide Planwest with additional overview information as applicable, e.g. restoration efforts to date, lessons learned, and/or maps. Planwest will edit and expand the draft according to RCD staff's review.

Planwest staff will also work with RCD staff to identify available GIS data for each of the overview topics. This will include information from land and resource management agencies, including those agencies involved in the North Coast Watershed Assessment

Planwest will then submit the edited draft overviews to the appropriate Watershed Council Committee for subsequent review. Planwest will be responsible for editing overview material provided by the committees. Planwest will format and revise the topic overviews to incorporate changes as requested by the Council.

The overviews will be included as Section 2B of the Strategic Action Plan. As part of the ongoing strategic planning process, the committees will be responsible for adding collected data and assessments as it becomes available.

Task 1 also includes reviewing the Strategic Action Plan outline (see Attachment A). Planwest will be responsible for revising the outline as directed by the Council and committees.

Task 1 Responsibilities

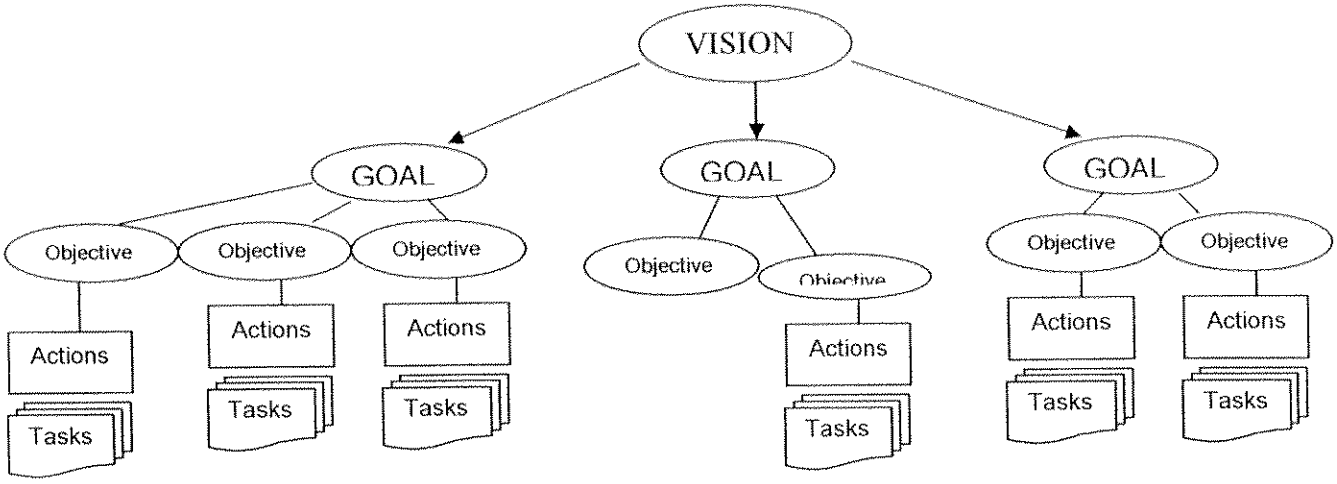
Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Supply information for overview topics. ♦ Committees provide Limiting Factors Analysis by tributary/reach. ♦ Help identify information gaps. ♦ Provide GIS maps as needed, by topic.	♦ Supply past 10 years of program/project data. ♦ Identify information gaps. ♦ Assist committees in compiling what they can do with local expertise. ♦ Send compiled info. to Consultant. ♦ Help resolve conflicts.	♦ Supply initial overview drafts. ♦ Develop standard format for this section. ♦ Summarize, edit & format submitted material for topic descriptions. ♦ Help identify data gaps.

Planwest Work Product: Revised outline and overview reports for twelve overview topics.

Task 2. Set Strategic Action Plan Direction – "Where We're Going"

This task will focus on setting the direction for the Strategic Action Plan. Planwest will facilitate a direction-setting workshop early in the planning process that includes formulating a vision statement which will define the Council's desired outcomes for the watershed. The Plan's "direction" will be guided by the vision statement, and will be founded and on the Plan's overall goal, the Council's mission statement, and the committees' goals, objectives, and programs.

Vision, Goal, Objective, Action and Task Hierarchy



Definitions

Vision - A statement of the best, or ideal, picture of the Scott River Watershed.

Goal - The general, overall, and ultimate purpose, aim, or end that will guide the Watershed Council's long range strategic planning efforts.

Objective - A measurable statement of a desired future condition toward which strategic planning efforts are directed. Any goal can have multiple objectives. Objectives should be time specific (achieved by when, date), concise (one idea), and achievable (challenging but doable).

Action - A disciplined, defined, and active effort to achieve the Watershed Council's goals and objectives. There can be a single corresponding action or multiple corresponding actions for an objective.

Task - A specific quantifiable assignment, such as a function to be performed, or responsibility to be met. Tasks are the most detailed portion of the plan

Plan - A program or methodology, worked out beforehand, for the accomplishment of goals and objectives.

RCD staff (key contact: SRWC Coordinator) will provide Planwest with a compilation of the existing goals and objectives of each committee (see 9/4/02 draft of *Goals & Objectives by Committee*). Planwest will incorporate the existing goals and objectives into a summary for the Council's review. The Council will review the goals and objectives summary for consistency, to identify and eliminate contradictions, and to develop a set of goals and objectives for the Plan.

Task 2 Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Review existing goals and objectives of Council and its subcommittees and revise as needed. ♦ Create Watershed Council's vision statement. ♦ Review plan goals and objectives for consistency.	♦ Provide consultant all existing mission statement, goals, and objectives. ♦ Work with committees as needed. ♦ Help develop consensus.	♦ Assist in crafting Council's vision statement. ♦ summary of goals and objectives. ♦ Assist in revising and drafting plan goals and objectives.

Planwest Work Product: Set of Plan goals and objectives.

Task 3. Develop Strategic Actions – "How We Get There"

This task will focus on developing a comprehensive list of possible strategic actions. These actions will be developed during a planning workshop facilitated jointly by a Planwest representative and the Watershed Council Coordinator. At this stage of the planning process the Council and committee representatives, as well as community members and agency representatives, will be asked to think broadly about the range of actions that should be considered in the Plan. Strategic actions will not be tied to any specific overview topic, and it is anticipated that most actions will cover several topics. Potential strategic actions will not be limited in this task; however, the subsequent task (Task 4) will involve prioritizing strategic actions based on available and anticipated resources. At the workshop, the identified strategic actions will be listed by committee, as applicable. The lists of actions will then be forwarded to the committees for internal discussion and further refinement prior to prioritization in the next task.

To help frame this discussion, the Action Plan Worksheet (see Attachment A) template will be reviewed and revised as needed. The current worksheet includes spaces for identifying an action and its required resources, time frame, responsible party, desired outcomes, and monitoring requirements.

Task 3 Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Brainstorm broad range of strategic action ideas with Consultant & committees.	♦ Put range of draft strategies on website (Rhonda).	♦ Assist in brainstorming ideas for strategic actions.

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Review template for Action Plan Worksheet.	♦ Help develop consensus on activities/responsibilities. ♦ Work with committees on defining strategic actions. ♦ Work with Planner to help resolve internal differences with Council where needed.	♦ Revise Action Plan Worksheet template as directed.

Planwest Work Product: Final (revised) Action Plan Worksheet template. Transcript of broad range of strategic actions in draft form, from the workshop.

Task 4. Prioritize and Refine Strategic Actions, and Develop Implementation Strategies

Working from the broad range of strategic actions developed in Task 3, a Planwest representative and the Watershed Council Coordinator will jointly facilitate a workshop where priority strategic actions (approximately 12 to 15 priorities, not ranked in any order) will be selected by the Council. After the strategic actions have been prioritized, the Council and committees will be asked to identify which resources (i.e., funds, agency expertise, staff time, and Council/committee time) will be dedicated to the prioritized actions.

If resources exceed the prioritized items, additional actions may be added. If the available resources do not cover all prioritized actions, the number of actions may need to be reduced by giving one or more actions a lower priority. Lower priority actions will be "stored" for the Council to revisit and strategize in the future. A "general" consensus method will be used for this prioritization activity. This exercise will "balance" the priority activities with the resources necessary for their successful completion in a timely manner.

Once the priority action items have been identified, worksheets (see Attachment A) will be prepared. Planwest and RCD staff will facilitate the preparation of individual draft worksheets for priority actions in a Council workshop. The worksheets will define the individual tasks necessary to complete the action , responsible persons and agencies, resources to be applied, and monitoring information. The development of worksheets is intended to provide as comprehensive a treatment as possible for the highest priority items, and serve as a guide to facilitate preparation of worksheets for future action items. Once the draft worksheets are completed, they will be sent to the most appropriate committee for review and comment. In some cases, multiple committees may need to coordinate worksheet review and acknowledge common interests.

Once the committees and agencies have provided their input on the draft worksheets, they will be brought back to the Council for additional review. The Council will be asked to review the tasks, responsible parties, and resource allocations for all action items to ensure there are not overlaps or gaps. The Action Plan Worksheets will be a key component of the draft plan prepared and distributed in Task 5. Tasks and monitoring strategies will be drawn from local expertise and committee resources. Agency representatives will be consulted to determine regulatory standards and programs that should be included or referenced in the worksheets.

Task 4 Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Set criteria for defining priority actions. ♦ Identify highest priority strategic actions ♦ Compare priority actions to available resources. ♦ Prepare draft worksheets and distribute to committees & agencies.	♦ Put draft action items on website (Rhonda). ♦ Help develop consensus on priorities. ♦ Coordinate distributing draft worksheets to committees & agencies. ♦ Solicit committee/ agency feedback on worksheets	♦ Assist with criteria for priorities & facilitate prioritizing process. ♦ Write up draft of priority action items. ♦ Assist Council committees in preparing worksheets. ♦ Research resource information for worksheets

Planwest Work Product: Prioritized list of strategic actions , with worksheets for each priority; strategic action (Council's 12 to 15 highest priorities) including resources, responsible parties and monitoring. List non-priority items for future consideration.

Task 5. Prepare Draft Strategic Action Plan for Community Review

A draft Strategic Action Plan will be prepared following the outline shown in Attachment A, and as revised in Task 1. Strategic actions prepared in previous tasks will be reviewed for consistency with the Strategic Action Plan vision, goals and objectives. The draft Plan will contain specific and quantifiable tasks, primarily in the worksheets developed in Task 4, for short-term and mid-term actions, and broader measures for long-term actions. Cost estimates, schedules, and management/oversight responsibilities will be developed for short- and mid-term actions. There will also be a strategy developed for annual review and updating of the plan. A draft Plan will be prepared and distributed for community and agency review.

Planwest will also assist the RCD staff in developing GIS database layers for the strategic resources within the watershed. These maps will be converted to figures for the plan, and will also be provided as Arcview coverages.

Task 5 Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Coordinate Committee – review of draft Plan and action item refinement. ♦ Assess whether available resources are sufficient to accomplish actions within specified time frames. ♦ Review and comment on draft Plan & resolve any conflicts. ♦ Distribute Draft to community & agencies.	♦ Put Draft on website (Rhonda). ♦ Work with Monitoring Committee to pull together Monitoring Plan. ♦ Bring Draft Monitoring plan to Council. ♦ Present to RCD Board ♦ Coordinate Draft distribution to community & agencies. ♦ Facilitate community review and feedback.	♦ Compile, edit, & format Draft Strategic Action Plan including Monitoring Program's for priority items. ♦ Print & distribute Draft. ♦ Incorporate public, agency Council and committee responses.

Planwest Work Product: 40 copies of the Draft Strategic Action Plan and web version.

Task 6. Refine and Prepare Plan for Watershed Council Adoption

After Council, committee, community and agency review, the Plan will be revised as directed by the Council. The revised Plan will be submitted to the Council for adoption and implementation. It is anticipated that this Plan will be updated at least on an annual basis, to include new strategic actions and acknowledge and celebrate the completion of short-term projects.

Task 6 Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Help with Final Plan distribution.	♦ Coordinate Final Plan distribution, post on website (Rhonda).	♦ Revise Draft Plan, Print and distribute Final Plan.

Planwest Work Product: 40 copies of the adopted Strategic Action Plan and one copy on CD ROM.

Task 7. Watershed Council Meetings and Community Involvement

A Planwest representative will attend six Watershed Council meetings and, in conjunction with the RCD Watershed Coordinator, facilitate the Strategic Action Plan portions of the meetings. The suggested topics for each meeting are:

Meeting #	Suggested Topics
Meeting 1	Topic Overviews and Review of Goals, Draft Vision Statement
Meeting 2	Refine Goals and Objectives, and Brainstorm Strategic Actions
Meeting 3	Refine and Prioritize Strategic Actions, and Prepare Draft Worksheets
Meeting 4	Review worksheets for Prioritized Action Items
Meeting 5	Draft Plan Review
Meeting 6	Plan Adoption

The Planwest representative would also be available to attend Executive Committee and Watershed Council Committee meetings that are scheduled on the same day as Watershed Council meetings. Meeting materials will be provided to the SRWC Coordinator for distribution and posting on the website, prior to the meeting, to facilitate community involvement

Task 7 & General Task Responsibilities

Council Tasks with Local/Regional Expert Assistance	RCD Plan Coordinator (Jeffy) or Watershed Council Coordinator (Rhonda) Tasks	Consultant (Planwest) Tasks
♦ Meet with Consultant as needed throughout the process. ♦ Do publicity on meetings, progress, and products available for public review. ♦ Supply all information pertinent to Plan, including GIS maps.	♦ Ensure consultant is following that budget. ♦ Ensure that funders are in the loop at each step. ♦ Prepare draft press releases and have Council approve.	♦ Jointly facilitate Council meetings and receive public input throughout the process. ♦ Assist in process of soliciting information. ♦ Gather, organize and synthesize plan information.

Planwest Work Product: Summaries for each of six meetings will be prepared jointly with the Watershed Council Coordinator.

Scott River Watershed Council
STRATEGIC ACTION PLAN -- BUDGET REPORT

REPORTING PERIOD: March 18, 2003 - April 15, 2003

	Project #:	72	89-10	71-task6	71 II	TOTALS
	Funding Source:	DFG	FWS	WQCB	Cantara	
	Original Budget Amount:	$449.10	$2,547.78	$55,129.00	$13,050.00	**$71,175.88**
	Beginning Balance:	$0.00	$0.00	$38,288.00	$13,050.00	**$51,338.00**

ITEMIZED CHARGES:

Payee	*Description*	*Amount*	*Amount*	*Amount*	*Amount*	
Rhonda	Planning/Technical Writing/Meetings			$640.00		$640.00
Danielle	Planning & Reporting			$48.00		$48.00
Staff	Payroll Deductions			$75.38		$75.38
Jeff	Proof Reading/Editing/Meetings			$156.00		$156.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
TOTAL CHARGES:				***$919.38***		***$919.38***
	Ending Balance:	$0.00	$0.00	$37,368.62	$13,050.00	**$50,418.62**

Scott River Watershed Council
STRATEGIC ACTION PLAN -- BUDGET REPORT

REPORTING PERIOD: January 21, 2003 - February 18, 2003

	Project #:	72	89-10	71-task6	71 II	**TOTALS**
	Funding Source:	DFG	FWS	WQCB	Cantara	
	Original Budget Amount:	$449.10	$2,547.78	$55,129.00	$13,050.00	**$71,175.88**
	Beginning Balance:	$0.00	$0.00	$44,448.36	$13,050.00	**$57,498.36**

ITEMIZED CHARGES:

Payee	*Description*	*Amount*	*Amount*	*Amount*	*Amount*	
Planwest	Task 2. Set SAP Direction/Vision/Goals			$220.00		$220.00
Planwest	Task 3. Develop Strategic Actions			$3,362.50		$3,362.50
Planwest	Task 7. SRWC Meetings			$1,794.60		$1,794.60
Rhonda	Meetings/Planning			$196.00		$196.00
Danielle	Planning/Funding Source Reports			$160.00		$160.00
Staff	Payroll deductions (SS, Wkrs Comp,etc)			$60.49		$60.49
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
TOTAL CHARGES:				***$5,793.59***		***$5,793.59***
	Ending Balance:	$0.00	$0.00	$38,654.77	$13,050.00	**$51,704.77**

Scott River Watershed Council
STRATEGIC ACTION PLAN -- BUDGET REPORT

REPORTING PERIOD: November 19, 2002 - December 17,2002

	Project #: Funding Source:	72 DFG	89-10 FWS	71-task6 WQCB	71 II Cantara	**TOTALS**
	Beginning Balance:	$0.00	$0.00	$53,885.73	$13,050.00	**$66,935.73**

ITEMIZED CHARGES:

Payee	*Description*	*Amount*	*Amount*	*Amount*	*Amount*	
Planwest	Task 1. Prepare 12 Topic Overviews			$1,245.00		$1,245.00
Planwest	Task 2. Set SAP Direction/Vision/Goals			$1,723.00		$1,723.00
Planwest	Task 3. Develop Strategic Actions			$390.00		$390.00
Planwest	Task 7. SRWC Meetings			$900.00		$900.00
Brenda	Printing supplies for reports			$25.69		$25.69
Rhonda	Meetings/Planning			$252.00		$252.00
Jeffy	Meetings/Planning			$130.00		$130.00
Danielle	Planning/Funding Source Reports			$160.00		$160.00
Staff	Payroll deductions (SS, Wkrs Comp,etc)			$71.87		$71.87
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
	Ending Balance:	$0.00	$0.00	$48,988.17	$13,050.00	**$62,038.17**

Scott River Watershed Council
STRATEGIC ACTION PLAN -- BUDGET REPORT

REPORTING PERIOD: October 21, 2002 - November 19, 2002

Project #: **Funding Source:** **Beginning Balance:**	72 DFG $449.10	89-10 FWS $2,547.78	71-task6 WQCB $55,129.00	71 II Cantara $13,050.00	**TOTALS** **$71,175.88**
ITEMIZED CHARGES:					
Payee	*Description*	*Amount*	*Amount*	*Amount*	*Amount*	
Planwest	Task 1. Prepare 12 Topic Overviews	$449.10	$903.90			$1,353.00
Planwest	Task 2. Set SAP Direction/Vision/Goals		$1,274.23	$343.27		$1,617.50
Planwest	Task 7. SRWC Meetings			$900.00		$900.00
Brenda	Administrative/Financial Reports		$49.50			$49.50
Rhonda	Meetings/Planning		$28.00			$28.00
Jeffy	Meetings/Planning		$230.00			$230.00
Danielle	Planning/Funding Source Reports		$16.00			$16.00
Staff	Payroll deductions (SS, Wkrs Comp,etc)		$46.15			$46.15
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
Ending Balance:		$0.00	$0.00	$53,885.73	$13,050.00	**$66,935.73**

GIS Layers for Strategic Action Plan

- Relief Map
- Precip
- Streams/Lakes
- Diversions
- Anadromous Coho Streams
- Restoration Projects:
  - by program category (Fish, Water, Land)
    - -Habitat Restoration
    - -Water Conservation
- Land Use (urban)
- Ownership - public vs. private
- Granitic Soils
- Roads
- Monitoring/Assessment:
  - Sediment
  - Road Assessment
  - Fish presence surveys (by species & life cycle)
  - Habitat
  - Temperature (complete)
  - Macroinvertebrates
  - Photo Points (complete)
  - Stream Gauges (current & proposed)
  - Water Quality
- Fire

STRATEGIC ACTION PLAN – Goals, Objectives, and Strategic Actions

Each standing committee, Fish, Land, Monitoring, Outreach, and Water, has developed a set of goals and objectives specific to their area of responsibility. The committees then added strategic action items that would assist with achieving the objectives. This section outlines this information as it relates to the overview topics and continues to identify the originating committee for the purpose of integrating previous planning documents (See Appendices List for identification of previous planning documents).

The information in this section identifies strategic actions that have not yet been pursued to their full potential. In short, this is the guide for identifying restoration projects that have not yet been pursued.

Goals are numbered and preceded with an indicator of the originating standing committee that developed the goal. The alpha indicator allows the SRWC to link the goal back to previous planning documents and removed the problem of repeating the numeric values.

Alpha Indicators:

F = Fish Committee
L = Land Committee
M = Monitoring Committee
O = Outreach Committee
W = Water Committee

Objectives are prioritized using high, medium, and low indicators to assist the SRWC in making decisions for implementing multiple restoration projects.

Prioritization ranking was accomplished by setting numeric standards and having individual SRWC members rank each objective. An average value was then calculated using the number of SRWC members indicating a score above zero (0).

Ranking Values Used:

0 = not enough info or knowledge to rate

1 = Immediate negative impact on education or production of habitat or species population

2 = Will have negative impact on education or production of habitat or species population over time

3 = No change in the education or production of habitat or species population

4 = Believed increase in the education or production of habitat or species population over time

5 = Believed to have an immediate increase in education or production of habitat or species population

Each Strategic Action is identified with a code that will be used as a link to the section *'Developing Strategic Actions'*.

Description of Strategic Action code:

Sample: X – 1 – A . a

X = Originating Committee (F = fish, W = water, O = outreach, L = land, M = Monitoring)

1 = Numeric indicator of the Goal

A = (Upper case) Alpha indicator representing the Objective for the related Goal

a = (Lower case) Alpha indicator representing the Action Item

Fisheries

F1) **GOAL** (originating committee = Fish Committee):
Increase and/or maintain native anadromous fish populations at self-sustaining levels.

Objective F1-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Understand population trends and spawning and rearing locations of coho salmon, Chinook salmon, and steelhead.		F-1-A.a	Monitor juvenile habitat utilization.
		F-1-A.b	Use data to evaluate habitat conditions and identify limiting factors for salmon and steelhead health. [??fits with limiting factors, see Goal 2, Objective A, under Habitat section]
Objective F1-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Investigate effects of fish harvesting (commercial, sport, and Tribal) on Scott River stocks.		F-1-B.a	Promote increased marking of hatchery fish to evaluate the effects of hatchery stocks on the natural stocks of the Scott River Basin. (currently being done??)
Objective F1-C	***Priority:??***	***Strategic***	***Strategic Action Description***

		Action Code	
Identify distinguishing characteristics (behavioral or genetic) of Scott River anadromous stocks.		F-1-C.a	Promote the analysis of samples (i.e. solicit funding for…)
		F-1-C.b	Encourage studies of life history patterns.
Objective F1-D	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Continue to support CDFG's policy to prevent the introduction of non-native fish into the Scott River system (anadromous waters).		F-1-D.a	Communicate with hatchery managers.
		F-1-D.b	Investigate relationship of lake stocking, rainbow to steelhead and native resident trout.
Objective F1-E	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Prevent the loss of anadromous fish by stream diversions		F-1-E.a	Develop a procedure for monitoring.
		F-1-E.b	Review inactive and unknown diversions for future and potential screening.
Objective F1-F	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Evaluate feasibility of a fish rescue project that has a high likelihood of success		F-1-F.a	Evaluate results and monitor success of mark/recapture studies; spawning ground surveys; direct observation dives.
		F-1-F.b	Determine current stocking of candidate rearing areas.
		F-1-F.c	Relocate rescued fish to fill rearing capacity in natural streams, if and where feasible.
		F-1-F.d	Evaluate the feasibility of an alternative rescue operation (e.g. Kidder Creek, Tailing Ponds, Kelsey Channel, etc.).

Wildlife

Vegetation & Habitat Restoration

The goal for this section applies to two topics, Vegetation & Habitat Restoration and Water Quality. Different objectives are used in topic application. Therefore, the goal stated below is repeated under Water Quality.

F2) **GOAL** (originating committee = Fish Committee):

Improve and maintain fish habitat conditions for native anadromous populations.

The Objectives for this goal have been further categorized by Instream and Riparian. The following table describes the objectives using category indicators.

Objective F2-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Instream: Identify factors limiting spawning, migration, and rearing (e.g. timing and distribution) within the Scott River watershed. [??is this the same as Goal 3]		F-2-A.a	Qualify limitations created by historical activity that are still affecting stream systems.
Objective F2-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Instream: Evaluate effectiveness of existing fish passage structures in the Scott drainage basin and pursue any necessary improvements.		F-2-B.a	Complete records available to the public (located in the RCD office). [??need to state what and how the evaluation of these records would be done]
Objective F2-C	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Instream: Improve channel conditions where historic side channels/braids/wetlands can be reconnected/restored.		F-2-C.a	Identify locations where channel can connect to floodplain without negatively impacting community.
		F-2-C.b	Re-establish beaver dams (activity) where appropriate.
		F-2-C.c	Explore conservation easements as management opportunities for flood-prone areas.
Objective F2-D	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Riparian: Inventory and evaluate riparian conditions as they affect fish habitat.		F-2-D.a	Expand the scope of the existing mainstem Scott riparian inventory to also assess relationship to fish habitat. (Include location and status of existing fencing and livestock watering sources.)
		F-2-D.b	Conduct riparian inventory on significant tributaries to assess the quality and quantity of riparian conditions and determine priorities for habitat restoration. (Include location and status of existing fencing and livestock watering sources.)
		F-2-D.c	Utilize 1991 aerial photos to evaluate riparian conditions, as appropriate.
Objective F2-E	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***

Riparian: Design and complete projects to promote effective riparian revegetation and maintain riparian habitat.	F-2-E.a	Evaluate riparian planting projects and make recommendations to improve planting program.
Objective F2-F ***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Experiment with alternative fish-friendly methods to stabilize streambanks.	F-2-F.a	Evaluate the geomorphology of the mainstem Scott River channel to identify potential demonstration projects.
	F-2-F.b	Evaluate planned 'geomorphic'; modified rip-rap, and other experimental projects before requesting funding for other similar projects.
	F-2-F.c	Learn more about fish-friendly bank stabilization and geomorphic processes through workshops and field trips.

F3) **GOAL** (originating committee = Fish Committee):
Increase local knowledge of factors affecting anadromous fish in the Klamath Basin. [??is this the same as Goal 2 Objective A]

Objective F3-A ***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Encourage improved understanding through information exchange on Klamath River Basin topics (such as ocean, estuary, and main Klamath River conditions, role of predations, harvesting, poaching, artificial propagation, and other topics of priority interest). [??items in parenthesis appear to be issues that can be addressed through action items]	F-3-A.a	Develop and contribute to a data repository.
	F-3-A.b	Invite speakers, or have information available, on other important and related subjects that may not be unique to the Klamath River Basin (such as: structural complexity of streams, fluvial processes, habitat connectivity, ecosystem management, geomorphic analysis, and others).
	F-3-A.c	Develop information exchange (2-way) workshops for local resource users (agriculture, timber, mining, and tribal), including issues of their economic, social, and biological needs and effects. [??how does this compare to action F-3-A.a]
Objective F3-B ***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Establish fish research and education associations with schools	F-3-B.a	Explore research opportunities with colleges and universities to study local salmonid life history, genetics, and habitat. [??is this current with the UCD training exercise]
	F-3-B.b	Make Kelsey Creek Spawning Channel a demonstration site for research and educational, following agreement on objectives and evaluation methodology (including genetics).

Geology & Soils

Water

This topic is split into two categories, Quantity and Quality.

Quantity

W1) **GOAL** (originating committee = Water Committee):
Work for adequate water flows in the Scott River system to protect the migration, spawning, and rearing needs of the salmon and steelhead stocks, while also protecting other beneficial uses.

The Objectives for this goal have been further categorized by study (objective A), supply (objective B), and demand (objective C). The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective W1-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Study: Improve our understanding of the hydrology of the Scott River system and the relationship to water use.		W-1-A.a	Evaluate the ground and surface water recharge effects of irrigation ditches. More information is needed on the return rate, quantity, and location of the ditch seepage to streams and the effect on spawning conditions.
		W-1-A.b	Evaluate the potential domestic/urban water use under the Scott Valley Area Plan (refer to ??, Land Use Plan and ??, General Plan), its impacts on stream flow and opportunities for water conservation and other mitigation.
Objective W1-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Supply: Increase the in-stream flows in the Scott river and its tributaries during low flow periods, as needed.		W-1-B.a	Investigate water storage opportunities, both on and off site
		W-1-B.b	Investigate option of recharge to aquifer in winter months
		W-1-B.c	Study and implement various methods to decrease water loss.

		W-1-B.d	Construct and evaluate temporary flow modification structures to store water for fall release in the upper Scott River and its headwater tributaries.
		W-1-B.e	Investigate opportunities for upland vegetation management in the watershed to enhance water supply and timing.
Objective W1-C	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Demand: Reduce the demand for water by promoting efficient water management practices which are economical, reliable, and practical.		W-1-C.a	Develop a manual to educate users about potential water conservation practices and why they are needed during low flow years.

Quality

This goal applies to two topics, Vegetation & Habitat Restoration and Water Quality. Different objectives are used in topic application. Therefore, the goal stated below is repeated under Vegetation & Habitat Restoration

F2) **GOAL** (originating committee = Fish Committee):
Improve and maintain fish habitat conditions for native anadromous populations.

Objective F2-G	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Design and complete projects to improve water quality conditions using prioritized sites having the greatest potential for improvement.		F-2-G.a	Implement Water Flow Plan [??be more specific here as far as projects, the Water Flow Plan pertains to quantity, but will soon add an objective for quality]

Fire

L1) **GOAL** (originating committee = Land Committee):
Be a fire safe community.

The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective L1-A	***Priority:??***	***Strategic***	***Strategic Action Description***

		Action Code	
Reduce fuel loads in interface areas and near structures.		L-1-A.a	Integrate available resources with willing landowners (fire crews/mechanical).
		L-1-A.b	Identify and list available resources.
		L-1-A.c	Develop local fuels reduction crews to help small 'interface' landowners to accomplish fuels reduction.
Objective L1-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Work with USFS, CDF, timber companies, and landowners in cooperative fuel reduction and burn projects.		L-1-B.a	Convert vegetation to energy source (biomass).
		L-1-B.b	Reintroduce fire into the uplands through natural and managed means.
		L-1-B.c	Modify fuels (USFS goal acres/year) to reduce Scott Valley area fire hazards.
		L-1-B.d	Develop pilot projects to reduce intrusion of brush and juniper.
		L-1-B.e	Develop a plan for noxious / invasive weed elimination.
Objective L1-C	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Produce agricultural products, in selected areas, which are less water consumptive.		L-1-C.a	Find willing agricultural landowners to partner with.
		L-1-C.b	Identify products/goods which are less water intensive (e.g. orchard grass).
		L-1-C.c	Monitor impact.

Land Use

L2) **GOAL** (originating committee = Land Committee):
Protect streams from erosion/siltation due to local land uses.

The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective L2-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Roads: A maintained road system that does not significantly degrade water quality and wildlife values.		L-2-A.a	Continue road assessment and prioritize 'fixes' at the subwatershed level.
		L-2-A.b	Work with County Depts. (Public Works, Planning, etc) to implement road standards.
Objective L2-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Riparian: floodplains not encroached upon by development.		L-2-B.a	Work with County Depts. (Public Works, Planning, etc) to implement floodplain development standards.
Objective L2-C	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Upland –Upland grazing in forested areas that minimizes timber and stream impacts		L-2-C.a	Work with livestock owners and land managers on timing and movement of grazers.

L3) **GOAL** (originating committee = Land Committee):
Protect streams from impacts of agricultural practices.

The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective L3-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Improve stream protection through incentive driven projects that promote Ag viability.		L-3-A.a	Work with agricultural users to identify appropriate incentives.
Objective L3-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Protect riparian areas from		L-3-B.a	Continue exclusion fencing for riparian areas.

agricultural practices.		

L4) **GOAL** (originating committee = Land Committee):
Maintain productive and viable agricultural and timber practices.

The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective L4-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Improve markets for local agricultural products.		L-4-A.a	Conduct marketability and value added studies.
Objective L4-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Achieve holistic management through education.		L-4-B.a	Offer educational workshops on holistic management.

Community Resource & Socio Economics

Community Relations & Education

O1) **GOAL** (originating committee = Outreach Committee):
Expand communication with the local and broader community.

The following table describes the objectives and indicates the strategic actions that will assist the success of achieving the objective.

Objective O1-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Promote entire community involvement		O-1-A.a	Implement a media campaign through the development of a prioritized media contact list.
		O-1-A.b	Deliver presentations to local clubs, and regional

			and state groups.
		O-1-A.c	Attend regional meetings to gain knowledge.
		O-1-A.d	Conduct project tours to invited groups, legislators, media, schools, public and other special interest groups.
		O-1-A.e	Coordinate, inform, and work with Siskiyou County government.
Objective O1-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Build upon community confidence and trust in the Watershed Council by maintaining and conducting positive and productive meetings.		O-1-B.a	Provide practical forums to seek solutions and clear understanding.
		O-1-B.b	Compile a 'policy binder' to have available at each meeting. Policies to be included are those addressing the procedures for project implementation, rules of conduct, etc.
		O-1-B.c	Encourage informative and productive meetings by setting an agenda that is structured to address specific issues and provide education.

Monitoring

M1) **GOAL** (originating committee = Monitoring Committee):
Evaluate the effects of projects on the health of the river.

Objective M1-A	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Have a reliable record of water data for each project.		M-1-A.a	Implement project-level water monitoring based on project-specific desired outcomes.
Objective M1-B	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Develop a standardized project evaluation criteria for each type of project.		M-1-B.a	Improve pre-project evaluation.
		M-1-B.b	Review and revise the current form so monitoring data can flow compatibly.
		M-1-B.c	Feed standardized project reporting and data to SRWC through monitoring
Objective M1-C	***Priority:??***	***Strategic Action Code***	***Strategic Action Description***
Create and maintain the record of past projects by evaluating projects on an annual basis.		M-1-C.a	Review what has been done successfully to select future projects that will replicate those successes.

Objective M1-D	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Include pre- and post-project monitoring component in every project proposal as a deliverable product.		M-1-D.a	Develop a standardized monitoring protocol that can be used by any party.

M2) **GOAL** (originating committee = Monitoring Committee):
Have a basin-level monitoring program.

Objective M2-A	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Initiate a basin level monitoring program, developed according to subwatershed prioritization.		M-2-A.a	Identify and prioritize parameters to be used.
		M-2-A.b	Invite technical specialists to suggest and/or review parameters and prioritization.
Objective M2-B	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Establish baseline or current condition data for parameters.		M-2-B.a	Assess existing protocols (being used by different agencies) and data gaps. Use to develop common collection standards that can be placed in a common database.
		M-2-B.b	Identify and address redundancies and gaps in data.
		M-2-B.c	Write cooperative reports synthesizing data into a 'big picture'.
Objective M2-C	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Expand photo monitoring as an immediate and viable tool.		M-2-C.a	Offer photo monitoring seminars (include pre and post photos)
		M-2-C.b	Establish photo points with landowner permission.
		M-2-C.c	Evaluate current photo monitoring program for enhancement.
Objective M2-D	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Implement an annual program report.		M-2-D.a	Develop format.
		M-2-D.b	Identify the target audience.
Objective M2-E	*Priority:??*	*Strategic Action Code*	*Strategic Action Description*
Encourage landowner participation in monitoring.		M-2-E.a	Develop and MOU with landowners and agencies on data sharing.

STRATEGIC ACTION PLAN OVERVIEW DRAFT #1

2A. INTRODUCTION

The Scott River watershed is approximately 800 square miles in size and characterized by forest management in the upslope areas and agricultural land uses on the valley. Areas along the Scott River were cleared of riparian vegetation in the mid to late 1800s, during settlement by farmers, ranchers, gold miners and trappers of European descent. The communities of Fort Jones, Etna, and Callahan were established about that time as well. Periodic flooding has resulted in riparian vegetation loss as well. This has affected anadromous fish populations (chinook and coho salmon, and steelhead trout) in the Scott River mainstem and a number of the tributaries.

The Strategic Plan Overview characterizes what is known about the Scott River Watershed. The overviews are organized into twelve sections and collectively describe watershed resources and document changes in land use, fish populations, and resource management over time.

The Overview is a compilation of currently available watershed information. It summarizes information on the watershed's history, describes watershed features, and identifies the various watershed resources. A variety of sources have been used to prepare these overviews, including studies and reports by the Siskiyou Resource Conservation District, the Scott River Watershed Council and Committees, and various local, state and federal agencies. By compiling available information, the Overview can help to identify existing information gaps. The task of filling the information gaps, if and when possible, can then be planned.

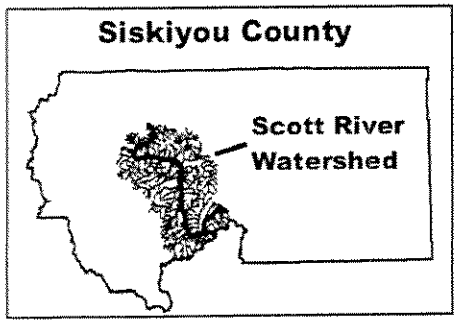
Watersheds are complicated systems, and all of their processes and management activities may never be fully understood. This complexity makes it important to involve a wide range of perspectives when evaluating watershed conditions.

Historical information provides clues to the watershed's status from the time before and during European settlement, and its changing conditions over time. Sources of historical information include newspaper articles, published reports, oral histories, and agency archives. Historical materials help depict river conditions, aquatic/riparian habitats, fish populations, and human activity.

Water use is a key overview issue, and information on this topic is typically defined by beneficial use categories such as irrigated agriculture, stockwatering, and municipal uses. Quantifying these different types of water uses and their associated impacts on flows is important information for the overviews. The legal aspects section of the overviews includes a discussion of water rights. The assessment of water use in the Strategic Action Plan will likely focus on low-flow issues. It is understood that low-flow issues are important, but are difficult to characterize. Water use, such as agriculture can impact low flows, yet the low flows can be enhanced through adopting water conservation measures that keep more water in the system.

Figure 2-1. Scott River Valley – Location View *(insert .pdf file here)*

Scott River Valley - Location View



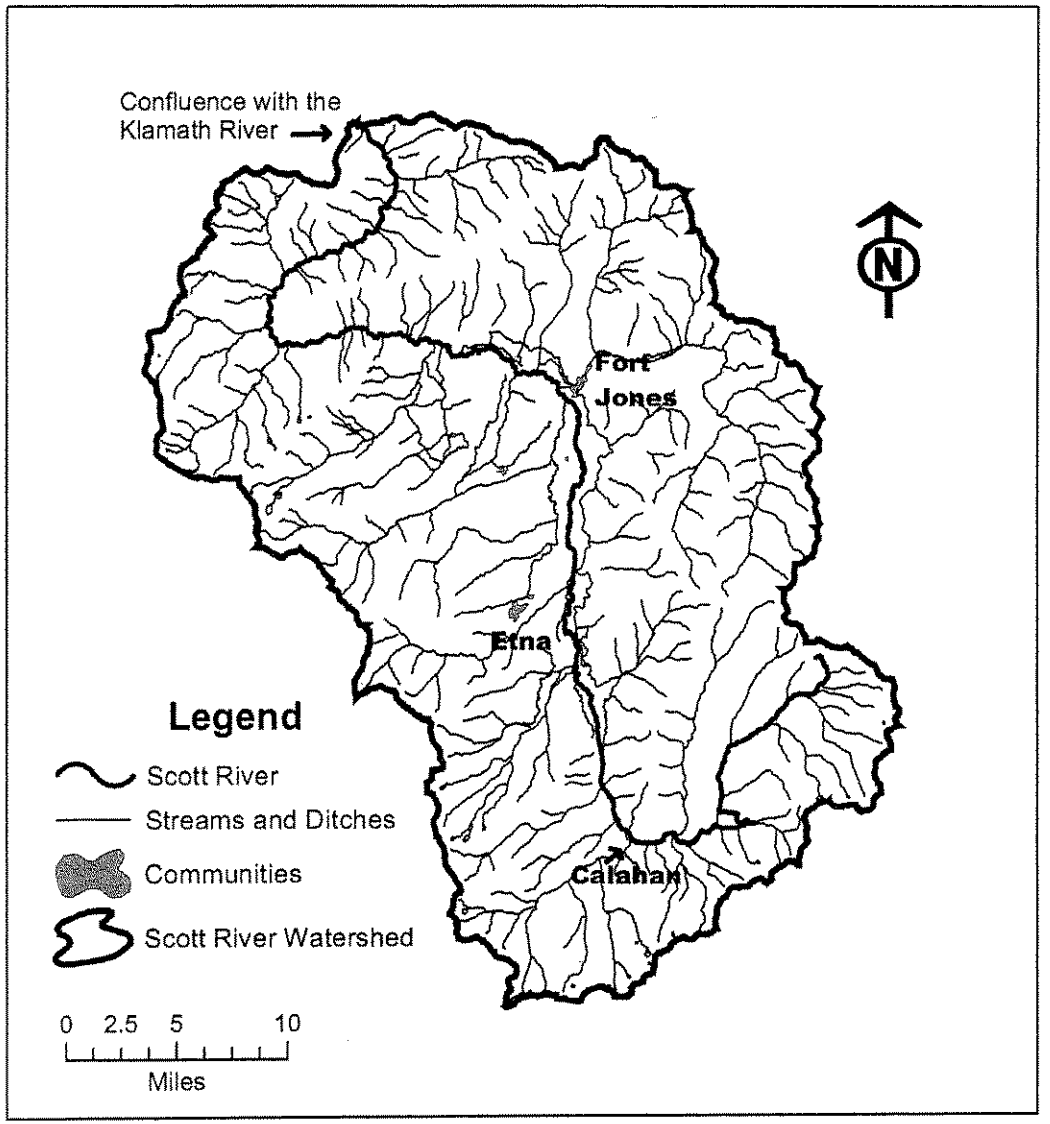
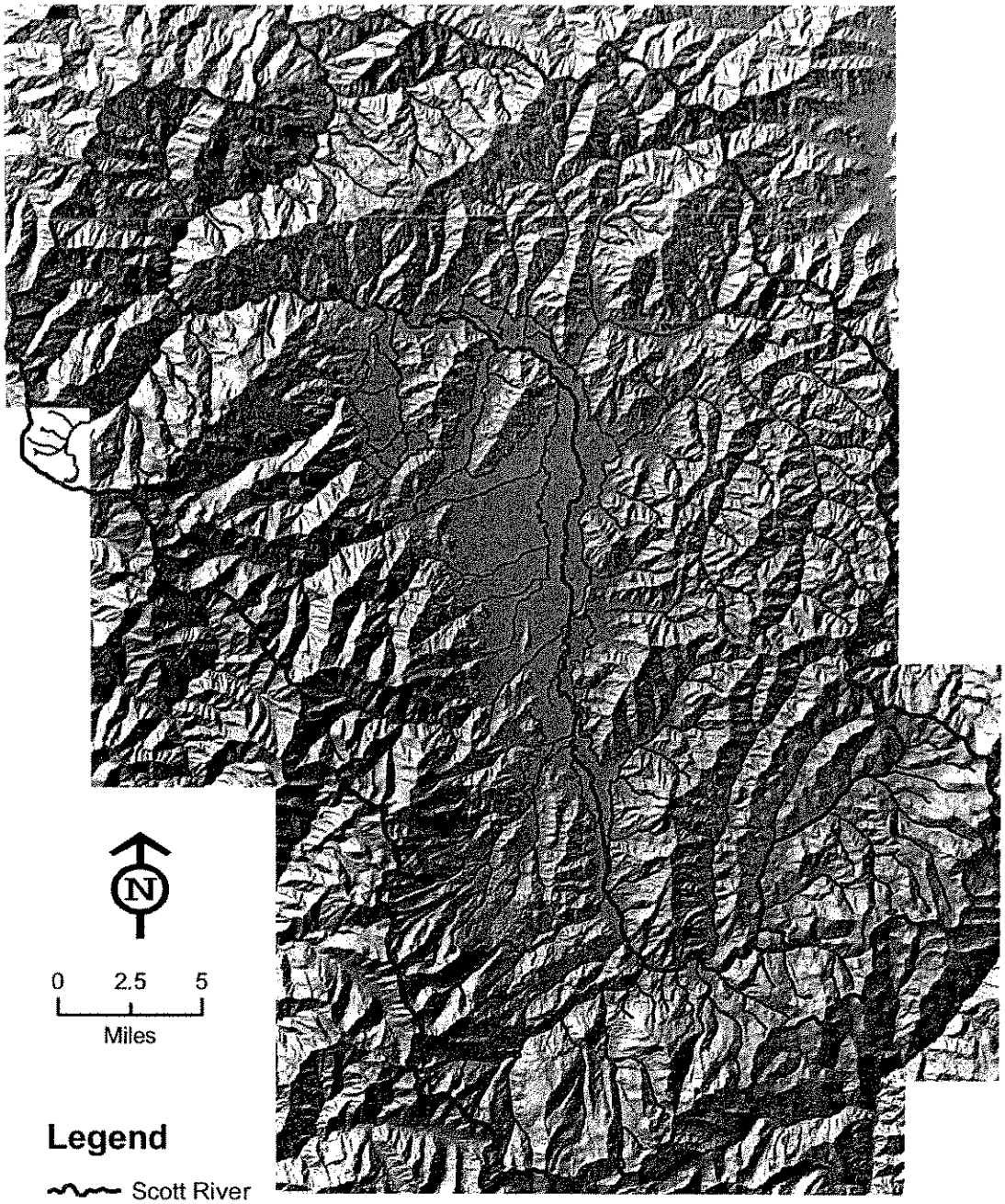


Figure 2-2. Scott Valley – Shaded Relief Model *(insert .pdf file here)*

Shaded Relief Model - Scott Valley



N

0 2.5 5

Miles

Legend

Scott River

Streams

Scott River Watershed

Planwest Partners, 2002

Land uses are one way to organize potential watershed issues and will help identify the typical major concerns with the land use related to fisheries and water issues. Land use categories can be used to focus the actions of the strategic plan. There are significant distinctions between different land uses. Many land use activities have the potential to alter basin hydrology with resulting effects on aquatic resources.

The Overview characterizes watershed features and functions. This overview preparation process includes compiling available information on history of the watershed, describing its features, and identifying the various resources within the watershed.

Completing the overviews will require involvement by people interested in the watershed, through committee meetings, collecting data and developing maps. The overviews will contributions from resource specialists who will be called upon to analyze the information and data that has been collected. The overviews will ultimately become the baseline, a critical component, of the strategic action plan.

The overviews will help establish watershed conditions including providing information that will characterize conditions of native fish and the maintenance of water quality. In addition to the overall watershed, it is important to examine the different subwatersheds as well. For example, some subwatersheds such as Houston Creek will have limited fish use and water quality, while other subwatersheds, such as Shackleford Creek support a high diversity of fish species and high water quality.

While it is important to examine all areas of the Scott River watershed, special emphasis should be placed on stream channels that are most likely to benefit from channel habitat improvements (See the Oregon Watershed Assessment Manual - Channel Habitat Type Classification component). For example, low-gradient stream channels with floodplains provide critical habitat for salmonids; these habitats are sensitive to watershed-wide disturbance.

2B. OVERVIEW OF HISTORY & CURRENT STATUS OF WATERSHED CONDITIONS

2B-1. OVERALL WATERSHED CONDITION

Critical Questions *(From Oregon Watershed Assessment Manual)*

1. What resource-condition issues that affect local decision making in the watershed arise from state and federal laws?
2. What are the potential effects of land management activities that affect these issues?
3. Are there additional aquatic resource issues that have been identified at the local level?
4. How does one use this set of issues in conducting a watershed assessment?

1. What are the information and data gaps identified in the assessment process?
2. What were the historical conditions of the aquatic–riparian areas within the watershed?
3. What are the historical changes (legacies), and land uses and resource management trends, that have contributed to impacts in habitat quality, and fish presence and abundance?
4. What ongoing resource management/land use activities are contributing to continued impacts on the watershed resources?
5. What are important issues and key aquatic–riparian areas that need to be addressed to restore and protect watershed resources?

Location – water basin, watershed (river/streams/aquifer), and sub-watersheds

Scott Valley's two incorporated areas are Etna and Fort Jones, and the valley's three unincorporated towns are Callahan, Greenview, and Mugginsville/Quartz Valley. Etna and Fort Jones are small retail and residential centers that provide the basic commodity needs of valley residents. *(Community Action Plan for Scott Valley (CAP), 1994)*

Topography, Precipitation, & Climate

The elevation of Scott Valley is between 2,500 and 3,000 feet. Located in far Northern California, the area experiences distinct seasons of a mediterranean type. Predominant weather systems are from the northwest with diminishing levels of precipitation as systems spread southeast. Winters are cool with intermittent snow on the valley floor. Precipitation has averaged 21.6 inches per year during the last 55 years. In the mountains west and north of Scott Valley, precipitation approaches 65 inches per year. Spring climate is moderate with intermittent rainfall; summers are warm with temperatures averaging in the high 80's. *(CAP 1994)*

The northern, western and southern mountains surrounding Scott Valley are covered with mixed conifer forested stands with mixed hardwoods and complex plant and animal life. The eastern mountains are covered more with annual grasses, shrubs and foothill transition type grading to conifer stands dominated by ponderosa pine. Wildlife abounds and includes steelhead and salmon. Streams and lakes provide water for irrigation and recreation. *(CAP 1994)*

Summary of Characteristics

[To be prepared with Committee input.]

Scott River Valley Community – brief history; demographics; economy

HISTORY: Historical descriptions of Scott River and its streambanks reveal immense changes have occurred. Starting in the 1820s, fur trappers removed thousands of beaver from "Beaver Valley", particularly in the East Fork. A map of "Scott's Valley" from 1852 (*SRWRAP Figure 1*) identifies "beaver dams" in the Big Slough/Kidder Creek area of the valley, but no where else. (SRWRAP Draft #1)

In the first decades of the 20th century, the lower portion of the Scott Valley near the mouth of Oro Fino Creek was known as marshy ground popular for waterfowl hunting (Orel Lewis, personal communication). However, the wet soils impeded farming and "drainage control" assistance was sought from the government. While not yet documented, several sources relate that a "bedrock sill" in the lower Scott above Meamber Bridge was blasted down about 10 feet in the late 1930-early 1940s to improve drainage and lower the water table (Orel Lewis & Don Brazil, pers. comm.). If this major alteration did occur, the permanent effect on the ground water storage and riparian vegetation would be quite significant. (Fish Plan, pp 3 & 5) (SRWRAP Draft #1, J. Marx)

Historically, two state egg collecting stations were once located in the Scott system: Shackleford Creek (1925-1940) and Tompkins Creek (1935) (CDFG Fish Bulletin 150). The eggs were probably taken to the Mt. Shasta or Fall Creek Hatcheries for rearing. While steelhead were planted in east side streams "in accordance with demands of local residents", a fishery biologist in 1934 recommended discontinuing such planting (Taft, 1934). He noted that exotic (non-native) salmonid species (eastern Brook and Loch Leven trout) plantings were unsuccessful in the Scott system and that "native steelhead and salmon are best adapted to most of the streams." (Fish Plan, p14-15, par 6) (SRWRAP Draft #1, J. Marx)

Scott River Steelhead: In 1934, a federal fishery biologist, _____ Taft, stated the problems of the Scott regarding steelhead were (in order of importance): 1) loss of fish through unscreened and inadequately screened irrigation ditches; 2) dams which ban access to spawning grounds; 3) temporary dams which interfere with downstream movement of young fish. In the upper river above Callahan, he reported that both spawning grounds and food had been destroyed by silt from mining (Taft, 1934). (SRWRAP Draft #1, J. Marx)

Population: The area's longest standing residents are the Shasta Indians. On December 15, 1983, Federal recognition was restored to the Quartz Valley Indian Community, which includes Shasta, Karuk, and Upper Klamath Tribal members. The Quartz Valley Rancheria includes 24.2 acres of land. Early European settlers included trappers, miners, soldiers and homesteaders. Many settler families date back to the mid 1800s. Today, the largest group in Scott Valley is caucasian with a significant minority of Native Americans. *(CAP 1994)*

While the population of Scott Valley has fluctuated this century, it has roughly increased from 2,900 in 1930 to about 8,000 in 1990 (Etna = 839; Ft. Jones = 639 in 1990 Census). Ultimate population

build-out in 2010 is expected to be about 18,000 people based on the Scott Valley Area Plan's projections (Siskiyou Co., 1980). (Water Plan; p 7) *(SRWRAP Draft #1)*

Scott Valley was historically known as "Beaver Valley" before the beaver population was substantially removed by trappers during the early to mid-1800s. Beaver dams in the Big Slough/Kidder Creek area were even noted on the 1852 map of the valley. The elimination of natural beaver dams from the Scott River system has altered the ability of the valley to slow runoff and store water in the aquifer, lowering the water table. The water table was also reportedly altered by the removal in the 1930s of the bedrock sill in the Scott River channel near Meamber Bridge and by extensive channel alteration through 1974. The Army Corps of Engineers did most of this work along with private landowners for the purpose of improving drainage and reducing flooding. Loss of these natural means of water storage in Scott Valley has also affected the surface flows in areas where the ground water is interconnected with streamflow. Efforts to restore flows need to consider such historic alterations. *(FFAP 1999)*

Mining/impacts on streams: Gold miners arrived in Scott Bar in 1850 and soon spread up to sites around Scott Valley. Placer mining in the late 1800s, particularly in the South Fork and Oro Fino Creek, washed large portions of streambanks downstream. Mining ditches and flumes were built in every stream from the South Fork to Scott Bar. Huge mining dredges excavated gold from ancient river deposits in the floodplains and left extensive cobble-sized tailings piles in the upper Scott near Callahan, as well as McAdams Creek off of Moffett Creek. Sediment plumes from these dredges extended far downstream and impeded fish surveys by the state in June 1934. Many of these original mining ditches were eventually converted for irrigation purposes. ...
While west side streams were noted to have a "natural tendency to dry up in their lower courses where the water sinks into the gravel of the valley", the drying was "accentuated by the numerous diversions." (SRWRAP Draft #1, J. Marx)

Historical Floods/impacts on river: Following a series of damaging floods from 1940 to 1974, the Scott's channel through the valley was further changed. Earthen flood control levees were built along lower Etna, Kidder and Moffett Creeks. Designed by the U.S. Soil Conservation Service (now called the Natural Resource Conservation Service), permanent bank stabilization structures were also tested, with large rock proving to be the most flood-proof. As a result, rock riprap has been placed along much of the Scott and its tributaries to prevent loss of farmland (see Table 2A). (Fish Plan, pp 3& 5, par. 2) *Include info on 1930's CDFG screening program* (SRWRAP Draft #1, J. Marx)

Floods/Veg removal: ...Floods followed in the 1930s, and following one in the winter of 1937-38, Siskiyou County requested the U.S. Army Corps of Engineers to "clear the rivers throughout Scott Valley of debris from flooding". This work began in August 1938 (Etna *Western Sentinel*, 8/10/38). With their tractor blades and saws, they also removed the remaining riparian vegetation through the middle of the valley (Orel Lewis, pers. comm.). ... Aerial photos of the river from 1944 reveal little or no vegetation along the Scott River's banks. (SRWRAP Draft #1, J. Marx)

Drought/flood/vegetation: A prolonged drought hit the region from 1923-1931, with the Scott River going completely dry in 1924 (Jim Denny, personal communication). ... The Corps also built levees along the mid-Scott River (many of which are still in existence.) (SRWRAP Draft #1)

2B-2. FISHERIES & WILDLIFE

Critical Questions

1. What fish species are documented in the watershed? Are any of these currently state- or federally listed as endangered or candidate species? Are there any fish species that historically occurred in the watershed which no longer occur there?
2. What is the distribution, relative abundance, and population status of salmonid species in the watershed?
3. Which salmonid species are native to the watershed, and which have been introduced to the watershed?
4. Are there potential interactions between native and introduced species?
5. What is the condition of fish habitat in the watershed (by sub-basin) according to existing habitat data?
6. Where are potential barriers to fish migration?
7. What is the distribution of CHTs (channel type habitats) throughout the watershed?
8. What is the location of CHTs that are likely to provide specific aquatic habitat features, as well as those areas which may be the most sensitive to changes in watershed condition?

Scott River's Salmon Population: The only adequate fish population data available on the Scott River are fall-run chinook salmon carcass counts for the period from 1978 through 1998, which are then extrapolated to spawning escapement estimates (CDFG, 1998). These figures reveal a returning adult and grilse ("jack" or two-year-old) population ranging from a low of 1,615 in 1990 to a high of 14,477 in 1995 (Figure 1). During the period 1978-1989, the average adult spawner count estimate was 3,699 (which was low due to high flows flushing out carcasses), while the 1990-1994 average was 3,533 adult salmon. During the past four years (1995-1998) the adult spawner estimate has increased to an average of approximately 8,600 per season. Salmon escapement levels in the entire Klamath River system have shown similar trends. The Klamath River basin's minimum escapement level of 35,000 natural adult fall chinook spawners has been exceeded four times in the past seven years (i.e. 1995 through 1998). *(FFAP 1999)*

FFAP Figure 1. Scott River Fall Chinook Salmon Spawning Escapement, 1978-1998.

Fish Habitat Needs: A chart of spawning, egg incubation, and migration periods for salmon and steelhead in the Scott River is shown in **Error! Reference source not found.** (CDFG, 1974; amended 1994). For the chinook salmon, adults migrate upstream into the Scott system beginning in late September, followed by a spawning period that extends into mid-December. The eggs incubate in the gravels of the redd (nest) from the time of fertilization until emergence, a period which can last until mid-March. The juvenile salmon then migrate downstream. Some of these young fish also reside in the Scott River during the summer months before they migrate into the estuary and ocean in the fall (D. Maria, CDFG, pers. comm.).

FFAP Figure 2. Salmon & Steelhead Periods of Use in the Scott River (CDFG, 1974, as amended; 1994)

Fall spawning surveys reveal that the chinook spawners are clustered heavily in the reach from Shackleford Creek to the USGS Gage Station below the valley, particularly in low fall runoff years. Females are observed building new redds on top of existing redds in these densely used sections, an occurrence referred to as "redd superimposition" which is known to cause reduced survival of previously laid eggs. While spawners have been observed as far upstream as Callahan, a low percentage migrate above this reach (DesLaurier, 1993). In the early 1970s, low flows were noted to be creating several problems: poor holdover of the adult chinook until spawning, blocked access to upstream spawning areas, and low availability of spawning sites (CDFG, 1974; CH2M-HILL, 1985). Low flow conditions during spawning season have also prevented access to tributary habitat, such as Shackleford/Mill Creeks (West et al, 1990.)

Defining "adequate" streamflows for salmon and steelhead in terms of specific quantities for a stream is different for each site, season, and species. As shown in Table 1, the California Dept. of Fish and Game rated flow adequacy qualitatively for the Scott River in 1974 and found problems for all of the species and runs during at least part of their life cycle in the river. Based on temperature, flow, and habitat data collected in the Scott River over the past five years, the qualitative ratings reported in Table 1appear to be applicable today. While an Instream Flow Incremental Methodology (IFIM) instream analysis (the most common assessment used today though not universally accepted) would provide precise flow information, the $200,000 to $300,000 estimated cost may not be warranted (CDWR, 1991 & 1994). In Fall 1994, a flow of 18 cfs at the USGS Gage Station was clearly inadequate to provide access for spawning fall-run chinook into the Scott Valley portion of the Scott River, where the greatest area of spawning habitat is located. In dry years, low flows are a problem the entire length of the River to the mouth. *(FFAP 1999)*

FFAP Table 1. Adequacy of 1970s Streamflow and Temperature Conditions for Anadromous Salmonid Population in the Scott River (CDFG, 1974).

Species and Run	Holdover of Adults Prior to Spawning	Spawning	Juvenile Rearing
Steelhead (winter-run)	Good	Good	Poor
Chinook Salmon			
Spring-run *	Poor	Poor	Fair
Fall-run	Poor to Fair	Poor to Fair	Fair
Coho Salmon	Fair	Fair	Poor

* Spring Run Chinook may be extirpated from the basin since the late 1970's.

Sensitive Habitats and Species

Salmon And Steelhead Life Histories: What is presently known about the life histories of the Scott River's salmon and steelhead is described in a 1994 report by the California Dept. of Fish and Game (Maria, 1994). Three anadromous (meaning "ocean-running") salmonid species presently occur within the Scott: chinook (formerly called "king") salmon, coho (or "silver") salmon, and steelhead. Chinook salmon are fall-run fish, entering the Scott in September and continuing their spawning run

into December. As soon as spawning occurs, egg incubation begins; emergence of fry takes place from late November through March. While most juvenile smolts will move downstream or outmigrate to the Klamath (the estuary and ocean in the spring) new data are revealing that at least a modest number are spending the summer in the stream and outmigrating in the fall. Fall chinook will spend from 2 to 4 years in the ocean before returning to the Scott River as adults and repeating the cycle. The best fisheries data from the Scott is the annual (since 1978) fall chinook spawner escapement estimate, done by carcass and redd counts. Once the dominant chinook run in the Scott and Klamath, the Scott River spring-run chinook existed into the 1950's (S. Farrington, in: West et al, 1990).

Coho salmon adults arrive in the Scott from mid-October through January as mostly 3-year-old spawners. Smaller than the chinook, coho prefer tributaries for spawning. Egg incubation lasts through early May; hatching occurs from February through mid-June. It is believed that juvenile coho stay in the Scott for about 14 months, outmigrating as yearling smolts from May through mid-August. Data is needed on outmigration timing, population trends, and spawning and rearing locations. As coho reside in the stream for at least one year (like the steelhead), adequate rearing habitat is critical. Coho juveniles have recently been observed throughout the watershed, including in the upper reaches of Scott River and in French Creek (D. Maria, CDFG, pers. comm.).

Steelhead adults migrate in two separate runs. The fall-run, which includes a large number of immature "half-pounders", moves into the Scott in October and November, while the later winter-run occurs from December through April. It is not known if the two runs spawn at different times or select different locations for spawning. Unlike salmon, steelhead may spawn more than once. Colder water temperatures slow egg and alevin development, with hatching and emergence occurring from April through July. From 1 to 3 years is spent by the juvenile steelhead in their nursery stream before outmigrating to the estuary and ocean. Another 1 to 4 years passes in the ocean before the adults migrate upriver again to their spawning grounds in the Scott. Recent information indicates that remnant summer (spring-run) steelhead are still present, with adult steelhead observed in the mid-Scott River in August 1994 (D. Maria, CDFG, pers. comm.). (Fish Plan, pp.2-3, par 4-7) (SRWRAP Draft #1)

> *To be added to background with Committee input:*
> *e. More on mining history, esp. Callahan tailings*
> *f. More anecdotal info. on historical fish #'s*
> *g. More upland anecdotal & other history.* (SRWRAP Draft #1)

Current Population Status: (Fish Plan; pp1-2) The Scott River and many of its tributaries support runs of three species of anadromous fish species: chinook (king) salmon, coho (silver) salmon, and steelhead. The Scott River produces a large proportion of the natural fall chinook salmon in the Klamath River system. In four of the last six years, the Scott was the largest contributor of natural fall chinook spawners in any Klamath tributary (excluding the Trinity) or mainstem reach (CDFG Table 1). In 1994, severe low flow conditions in the Scott impeded access by spawners and the data below show the Scott's count was lower than most other sections of the Klamath Basin.

CDFG Table 1. Estimates of the Klamath Basin fall-run chinook salmon natural spawner escapement, upstream of Trinity River (CDFG and USFWS).

(Total count: adults plus grilse)

Location	1989	1990	1991	1992	1993	1994	1995	1996
Scott River	4188	1615	2165	2581	5300	2863	14477	12016
Salmon River	3610	4667	1480	1524	3533	3493	5475	5237
Shasta River	1577	533	726	541	1426	5358	13511	1450
Bogus Creek	2662	785	1281	1152	3716	8206	46432	10837
Misc. Klamath								
Tribs	3487	724	504	578	2562	1252	3196	5531
Main stem								
Klamath	1225	564	580	600	678	3404	6472	2744
Total	16749	8888	6736	6976	17215	24567	89563	37815

Source: Calif. Dept. of Fish and Game; 1/ USFWS, Arcata (# redds x 2).

In 1965, the California Dept. of Fish and Game (CDFG) estimated the Scott River's fish population at 10,000 chinook, 2,000 coho, and 20,000-40,000 steelhead (CDWR, 1965). The last time the Scott's chinook population reached 10,000 was in 1982, with the past six years averaging 3,119 spawners. (In contrast, the Shasta River's fall chinook population has dropped from counts in the 1930s of 40,000 to an average of 1,694 in the last six years.) No estimates are available of current coho and steelhead populations in the Scott.

The national American Fisheries Society (AFS), a professional organization of fisheries scientists, recently identified which Pacific salmon stocks are at some level of "risk of extinction", as they termed it (Nehlsen et al, 1991). While not at high or moderate risk of extinction, the fall chinook stock in the Scott was specifically noted by AFS in a third priority category called "of special concern". Coho salmon for the entire Klamath River Basin were also identified as "of special concern", while steelhead (winter race) were not identified. A later AFS report from the Humboldt County Chapter indicated that the coho in the Scott River were at "high risk of extinction", meaning that populations showed continuing spawner declines with fewer than 200 adults (AFS, 1992).

In October 1993, the Pacific Rivers Council and many other environmental groups petitioned the National Marine Fisheries Service (NMFS) to include the Pacific coho salmon on the federal endangered species list (ONRC, 1993; PRC, 1993). In March 1995, NMFS announced that steelhead populations in the Klamath Mountains Province are proposed for listing as threatened under the Endangered Species Act, with the final ruling to be decided by March 1996. NMFS is also evaluating the need to list chinook salmon in Pacific Coast states. (Fish Plan, p. 1-2)

Fish Population Findings: (Fish Plan;14-15)
Population Monitoring: Fish population information for the Scott is best for chinook salmon (Table 1). Spawning escapement information is needed for coho and steelhead, as well as juvenile survival. Spawning surveys for steelhead have occurred irregularly, most recently in 1988/89 in the lower Scott and Shackleford Creek (West et al, 1990). The only juvenile steelhead monitoring occurs in French Creek, as part of the French Creek Watershed Monitoring Plan (Maria et al, 1994). No "control" streams in relatively undisturbed sub-basins are monitored, nor are downstream migrants trapped for outmigrant survival data. Qualitative dive surveys are occasionally performed in the lower Scott during the summer by the USFS and CDFG. Current locations of coho and steelhead spawning also

need to be updated.

Fish Rescue: Juvenile fish are stranded in pools in the mainstem and in major tributaries when the streams are dewatered during late spring and summer months. A good example is Kidder Creek. Kidder Creek has excellent spawning gravel and tends to produce a high number of juveniles, especially steelhead. Much of this production is lost, however, when the stream becomes dewatered during the summer. While CDFG has often spent significant funds rescuing these steelhead and transporting them down river, it is not clear that the efforts are effective. In their new stream locations, rescued steelhead must compete for space and food with other anadromous and native fish. It is believed that available habitat may become over-utilized under such conditions putting both the rescued and endemic fish at risk (West et al, 1990). For several years (1990-1993), rescued Scott River steelhead were hauled downriver to Orleans to be reared in a community rearing pond for later release in the Klamath River.

Fish Propagation and Stocking: Historically, two state egg collecting stations were once located in the Scott system: Shackleford Creek (1925-1940) and Tompkins Creek (1935) (CDFG Fish Bulletin 150). The eggs were probably taken to the Mt. Shasta or Fall Creek Hatcheries for rearing. While steelhead were planted in east side streams "in accordance with demands of local residents", a fishery biologist in 1934 recommended discontinuing such planting (Taft, 1934). He noted that exotic (non-native) salmonid species (eastern Brook and Loch Leven trout) plantings were unsuccessful in the Scott system and that "native steelhead and salmon are best adapted to most of the streams".

Hatchery-raised non-native trout and rainbow trout are stocked only in some of the high mountain lakes above the headwaters of the Scott, but some trout may escape into streams below the lakes (CDFG, 1969). Some exotic non-salmonid fish are presently found in the Scott: brook stickleback, brown bullheads, and green sunfish. CDFG's present policy is to not introduce non-native fish in streams like the Scott. Protection of the genetic integrity of the Scott River's native salmon and steelhead stocks is considered to be very important.

Many fishery biologists believe that artificial propagation and rearing of native stocks are not the solutions to rebuilding fish populations because of: 1) disease outbreaks when fish confined together (as happened in experimental rearing pond on Kidder Creek in 1990); 2) greater potential for accidents and catastrophic losses; 3) high operational costs and staffing requirements; and 4) potential for genetically altering native stocks to the detriment of those stocks as a whole (D. Maria, CDFG, pers. comm.).

Harvesting and Poaching: Sport fishing for steelhead (but not chinook or coho) is allowed in the mainstem Scott below State Highway 3 near Fort Jones. Until 1972, fishing regulations allowed anglers to take large numbers of juvenile steelhead as parr and as smolts, which may have had a "depressing effect" on the numbers of returning adults. To increase their numbers, the California Fish and Game Commission delayed the opening of trout fishing season and reduced the daily bag limit of trout (Lanse, 1971). The present trout fishing regulations have not been re-evaluated whether they are adequate to protect juvenile steelhead. No special sport fishing regulations currently address coho salmon in the Klamath River, though petitioned for federal endangered species listing. According to local wardens, poaching mainly occurs where the river is close to the county road, but otherwise

poaching does not appear to be a serious problem (Lt. Chuck Konvalin and Ron Presley, CDFG, pers. comm.).

Tribal fishing occurs downstream in the Klamath River by the Yurok, Hoopa and Karuk tribes for subsistence, ceremonial, and sometimes commercial purposes. To protect Scott River and other natural stocks, the Yuroks are managing the timing of their gill netting to target the hatchery runs and stopping their own commercial harvesting (Troy Fletcher, Yurok Tribal Fisheries Dept., pers. comm.). To protect Klamath chinook, commercial ocean fishing (salmon trolling) has been closed except for a few days in the summer. Evaluating the effects of harvesting on natural stocks like those of the Scott River is difficult in a mixed-stock (natural and hatchery) fishery unless all hatchery fish are marked. Genetic analysis can also help determine the timing of Scott River runs. The fall chinook escapement minimum of 35,000 spawners in the Klamath River has not been met in the past four years and harvest rates are being tightly controlled by the Secretary and Dept. of Commerce upon recommendations of the Pacific Fisheries Management Council [PFMC, 1994]. High seas drift nets in the Northern Pacific ocean are now banned. (SRWRAP Draft #1)

Fish Habitat Findings: (Fish Plan; pp 5-8) Habitat conditions for the spawning, rearing, and holding needs of salmon and steelhead vary widely within the watershed. Some streams or sections of streams affected by little or no development have habitat that is in good condition, such as some of the tributaries located in the canyon. At the other extreme are sites where both quality and quantity of the stream habitat are poor. Habitat conditions in the Scott River and some of its tributaries are not well documented. ***[INFO GAP]*** Questions needing answers are: Is rearing or spawning habitat limiting in the canyon? or is it a problem only in the valley and how important is it in the valley? If there were a self-sustaining fish population, is there enough habitat already? Where specifically are the limitations, what are the limitations, and how do they vary temporally?

Several reports have stated that rearing and spawning conditions for anadromous fish stocks in the Scott River system are affected by: excessive sediment, lack of water, high stream temperatures, and lack of instream cover (CDWR, 1965; CDFG, 1974; CH2MHill, 1985; West et al, 1991; KRBTF, 1991). These conditions are described below:

Fish Habitat Needs: (Water Plan; pp2-3) A chart of spawning, egg incubation, and migration periods for salmon and steelhead in the Scott River is shown in Figure 2 (CDFG, 1974; amended 1994). For the chinook salmon, adults migrate upstream into the Scott system beginning in late September, followed by a spawning period that extends into mid-December. The eggs incubate in the gravels of the redd (nest) from the time of fertilization until emergence, a period which can last until mid-March. The juvenile salmon then migrate downstream. Some of these young fish also reside in the Scott River during the summer months before they migrate into the estuary and ocean in the fall (D. Maria, CDFG, pers. comm.).

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"CDFG-1974 Table 1"

Table 1. Adequacy of 1970s Streamflow and Temperature Conditions for Anadromous Salmonid Population in the Scott River (CDFG, 1974).

Species and Run	Holdover of Adults Prior to Spawning	Spawning	Juvenile Rearing
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Water Supply: Low Streamflow: In prolonged droughts, large portions of the main stem Scott are completely dry (e.g., 1924, 1977, 1991, 1994). Low flows, occurring June to November in most years, are a common condition in the main stem Scott and some major tributaries. While some streams naturally dry up, these low flows are believed to significantly impact salmon and steelhead production. Reports have identified the dewatering of streams in the Scott system to be a problem (CDFG, 1974; West et al, 1990). Dewatering strands many thousands of juvenile salmon and steelhead each year, based on CDFG fish rescue records. Redds are also sometimes dewatered in the autumn when water levels rise and then subside as a result of rainfall patterns in conjunction with diversions (DesLaurier, 1993). The CRMP Water Action Plan is seeking to facilitate increased streamflows and reconnecting stream reaches, with an initial emphasis on fall flows.
Streamflow usually goes subsurface in the lower reaches of Etna, Patterson, Kidder (including Big Slough), Moffett, and Shackleford Creeks each summer through early fall. Most eastside drainages and gulches are considered ephemeral streams, only flowing temporarily during high rainfall periods.

If these flows coincide with salmon and steelhead runs, spawning could occur but rearing would likely occur elsewhere.

Conclusions: *(from FFAP 1999)*

1. Fall streamflow (September - November) in the Scott River Basin is sometimes insufficient to meet the fall needs of spawning salmon and steelhead.
2. Low flows in the Scott River and tributaries have contributed to poor adult salmon holdover until spawning, blocked access to upstream spawning areas, and reduced spawning site availability.

2a. Use of water through surface diversions and ground water pumping appears to reduce fall flows.

[Note: conclusions will be expanded to summarize key points for this topic with Committee input]

Regulatory Framework

[To be prepared with Committee input.]

RCD/SRWC Programs

Unscreened Diversions: Each year many salmon and steelhead juveniles and some adults enter unscreened agricultural diversions and are lost. While a focused fish screen program began for the Scott in 1938 (Figure 2), the effort to screen all ditches is not yet complete. Since the Scott River Adjudication in 1980, river pumps have been replaced with wells and only a very few remaining pumps are still entraining fish. A recent preliminary inventory of diversion ditches possibly affecting anadromous fish reveals an estimated 125 unscreened ditches (Sommarstrom, 1994). While field checking of these diversions is still needed, most will likely need screening. California law requires CDFG to screen and maintain diversions installed before 1972 which are less than 250 cubic feet per second (Fish & Game Code Sections 6020 et.seq.). All diversions in Scott Valley are smaller than this size and almost all were developed before 1972. To date, CDFG has screened 30 diversions throughout the Scott Valley's streams (R. Dotson, CDFG, pers. comm.). Under current budgetary and staffing constraints, CDFG's Yreka Screen Shop is only capable of building two new fish screens each year. In addition, daily and yearly maintenance practices are difficult to sustain by the Department, especially as more screens are added.

Fish screening efforts are currently being expedited through supplemental state grants to Etna High School for student-built screens (1-2 per year), private grants for local-built screens (1-2 /year), and new federal cost-share funds (ASCS, now CFSA) to landowners. Old screens may also need replacing, and alternative technologies to prevent fish losses need to be pursued (Odenweller, 1994). In addition, current screening practices need to be evaluated to determine if they are adequately protecting the fishery resources at screened diversion sites (i.e., are significant numbers of juvenile/adult fish being lost when screens are removed in the fall/winter.)

Fish passage structures: Fish ladders have been placed at permanent stream structures. In 1990, a ladder was built over the City of Etna's diversion dam on Etna Creek. Similar structures were also placed over Young's Dam on the Scott River and over a barrier in Thompkins Creek. Their effectiveness needs to be evaluated and any necessary improvements made. (SRWRAP Draft #1)

2B-3. VEGETATION & HABITAT RESTORATION

Critical Questions

1. What are the current conditions of riparian areas in the watershed? (e.g., examine riparian area width, vegetation types, and vegetation density, stream shading, and the continuity or interruption of the riparian zone from road crossings, streamside roads, and other land uses.)
2. How do the current conditions compare to those potentially present or typically present for the basin?
3. How can the riparian areas be grouped according to priority need for protection, appropriate restoration and/or enhancement?

Wetlands:

1. Where are the wetlands in this watershed?
2. What are the general characteristics of wetlands within the watershed?
3. What opportunities exist to restore wetlands in the watershed?

Sensitive Habitats And Species

[To be prepared with Committee input.]

Land Cover Types

The Scott Valley is characterized by forested slopes with open grasslands on the valley floor.

Vegetation Changes: Much of Scott Valley's native vegetation was gradually cleared for farming of crops and raising of livestock. Before the advent of powerful tractors, farmers disliked tall pine trees casting shadows over fields and keeping the soil frozen longer in the spring. A panoramic photo of the Scott at Horn Lane (County Museum) reveals a swath of riparian woodland and swales of marshy plants in about 1908. In the 1920s, large cottonwood along the Scott's banks were removed for firewood, fuel for steam tractors, and because of disease, according to oldtimers. In June 1934, the Scott River between Fort Jones and Shackleford Ck. was described in a state stream survey as having dense willows along the shore and good to excellent pools and shelter (CDFG, 1934). (SRWRAP Draft #1, J. Marx)

Riparian Habitat Findings: (Fish Plan; pp 11-12) Riparian cover conditions range from poor to excellent in the valley, canyon and upland reaches of the Scott River drainage. As noted in the previous historical discussion, mining, floods, lowering of water tables, changes in the river channel, flood control practices, and some agricultural practices have contributed to lack of riparian cover in many of the valley reaches. This legacy of historic uses and changes is pervasive in the watershed and can forestall recovery of stream habitat without a thorough understanding of their implications.

Current Condition: A recent inventory and evaluation of the Scott River riparian zone was performed for the Siskiyou RCD (Lewis, 1992). As a result, the following information is known about the qualitative condition of the 373 sites evaluated along the main stem in Scott Valley below the dredger tailings to the end of the valley just below Meamber Gulch:

Table 3. Inventory Summary of Scott River Riparian Zone (Lewis,1992)[1/]

1992 CONDITION (% of sites)

Nearly Pristine	Good	Disturbed	Degraded	Severely Degraded
1	54	35	10	0

TREND (% of sites)[2/]

Recovering	Stable	Degrading	Severely Degraded
35	37	28	0

1/ Many additional improvement projects have been completed since 1992 while flood damage in 1995 and 1997 has also occurred. As a result, conditions have changed since this survey.
2/ All but 2 degrading sites are either disturbed or degraded already. All but 2 good sites are stable or recovering.

These figures were calculated for both the left and right banks of the Scott River main stem:

Table 4: Miles of bank treated by fencing and rock stabilization.

	1992 Total Bank Miles	1992 % of Total	1997[1/] Total Bank Miles	1997 % of Total
Fenced banks	26.93	45%	44.8 [2/]	76%
Unfenced banks	32.35	55%	14.5	24%
Riprapped banks	24.90	42%		
Riprap & fenced	13.37	23%		
Riprap & unfenced	11.51	19%		
Total bank miles	59.28	100%	59.3	100%

1/ 1997 data provided by Gary Black, RCD Project Manager, has been added for comparison purposes.
2/ Includes presently proposed and funded fencing.

Recommended practices in the report included:

* Livestock exclusion (with fenced drinking access)
* Fencing
* Riparian planting and irrigation (with cottonwood & willow)
* Flood irrigation tailwater filter control (using vegetative filtering)
* Stream bank protection with large rock
* Off-stream livestock watering (well and tank)
* Fire protection

In addition, landowner "willingness" to participate in these practices was surveyed and rated, and a priority list was made based on a rating evaluation of need. Detailed maps of the river's riparian zone indicate property boundaries, landowner names, dates of previous riprap projects, some fences, soil types, land use, and current riparian condition and trend ratings.

This inventory and evaluation needs to be supplemented with riparian forest zone information that addresses fish habitat needs and extended to the major tributaries. Included would be such additional

factors as canopy cover over the stream, riparian forest zone trees (to contribute large woody debris), relation to fish spawning and rearing sites, other riparian-instream relationships, and landowner objectives.

Bank Stabilization: Streambank soil losses have been arrested and reversed in some areas through bank stabilization and riparian planting projects undertaken cooperatively by farmers, the USDA Soil Conservation Service (now NRCS), and Siskiyou Resource Conservation District (RCD) efforts. Between 1957 and 1994, over 170 bank stabilization projects were done on the mainstem Scott, at a funding cost of $1.7 million, plus 137 projects on the tributaries for $1.5 million (private cost-share probably contributed 30-50% of costs on the average) (KRBTF, 1991). Of this amount, the USFWS and CDFG have funded $442,258 on 6 projects to specifically benefit fish, with $252,726 spent on Shackleford Creek's lower end and the balance on the main stem Scott.

The use of large rock riprap was recommended as essential in the Scott River to stabilizing sites for the establishment of permanent riparian vegetation (Lewis, 1992). Fish habitat benefits were documented on the older style (more vertical) riprap projects with established riparian vegetation on the Scott. Deeper water, more shade and more cover were found, especially when 5 to 6 foot large rocks had rolled into the stream (Patterson, 1976). Modifications of riprap, including instream fish structures, are presently being tried by CDFG (Harral, 1993). However, using limited fish restoration dollars (instead of agricultural erosion control dollars) to fund this practice has been in contention.

One type of promising "fish friendly" channel work is called geomorphic restoration. In this work, the present and natural hydrological conditions are evaluated by specially trained geologists and compatible channel alterations are designed and constructed (Rosgen, 1994). The intent is to understand and recreate habitat based on the "big picture" by working with the river's forces. Since the state-of-the-art for this method is still quite young, a few "geomorphic-type" bank stabilization projects along the Scott are planned to demonstrate the applicability and viability of this technique. (SRWRAP Draft #1)

Regulatory Framework

[To be prepared with Committee input.]

RCD/SRWC Programs

Fisheries Habitat Restoration:

Instream structures: When instream habitat is deficient, one strategy is to provide habitat structure artificially instead of waiting for it to naturally recover. The Klamath National Forest has experimented with instream structures for almost a decade, particularly in the Salmon River. The most cost-effective structure was digger logs, which were placed to simulate natural large woody debris and increase rearing habitat for juvenile fish (Olson & West, 1990). How necessary or effective similar structures would be in the Scott is not known. Preferred coho rearing locations are shallow, quiet areas usually associated with backwater pools, dam pools, and beaver ponds but are also found in side channels, along the margins of other types of habitats, and in glides and boulder-cobble riffles (Reeves et al, 1989). Coho are also usually found associated with heavy cover, such as overhanging

banks and canopy, or woody debris and these types of sites are presently quite limited in the Scott system (D. Maria, CDFG, pers. comm.). (SRWRAP Draft #1)

To help compensate for poor quality spawning habitat in the main stem Scott, the Kelsey Creek Spawning and Rearing Channel was built in 1985 by the Klamath National Forest and CDFG. It is designed to provide "near ideal" spawning conditions for 70-80 pair of chinook spawners, which should produce a maximum of 400 adult fish. While chinook, coho and steelhead have created redds in the channel, it does not yet support a self-sustaining return of any of these stocks (USFS, 1992). (SRWRAP Draft #1)

Habitat Evaluation: Habitat typing is the standard evaluation method presently used to identify physical habitat limitations (McCain et al, 1990). Such information is critical to properly site and prioritize rehabilitation and restoration projects. A stream habitat conditions inventory in the Scott drainage needs to be completed since only habitat within the canyon section and lower Shackleford Creek has been systematically evaluated to date (West et al, 1990). (SRWRAP Draft #1)

Habitat Projects: As of 1994, many types of fish habitat and watershed improvement projects have been completed in the watershed. Table 2 summarizes the types, location, funding, and number of known projects funded by the California Dept. of Fish and Game, U.S. Fish and Wildlife Service (through Klamath Fisheries Restoration Program/Task Force), or landowner cost-shared through the California Farm Service Agency (CFSA, formerly ASCS). Many other fish habitat and watershed projects have also been completed on public and private lands, which are not included in Table 2. (Fish Plan, p. 5-8) (SRWRAP Draft #1)

Riparian Revegetation: As part of past fencing and riprap projects, large unrooted cuttings of poplar and willow have been planted (Lewis, 1992). A riparian woodland revegetation project is presently underway at three riparian and floodplain sites along the Scott River, planting rooted cottonwood, willows, and ponderosa pine. Regular summer watering and weeding are found to be essential, along with seedling protectors for deer, rodent, and beaver browse. (SRWRAP Draft #1)

2B-4. GEOLOGY & SOILS

Critical Questions

1. What are important current sediment sources in the watershed?
2. What are important future sources of sediment in the watershed?
3. Where are the most severe (highest priority) erosion problems?

Local Geology

[To be prepared with Committee input.]

Riparian Soils, Erosion, Etc. (Roadcuts?)

The geology of the watershed is characterized by granitic material on steep slopes. Highly erodible decomposed granitic (DG) soils located on the western slopes above Scott Valley are a source sand-sized (<6.3 mm) sediment which poses a significant local fisheries problem (CH2M Hill, 1985). Excessive sediment causes problems for fish because it smothers eggs and aquatic invertebrates in spawning gravels, eliminates bottom cover, and reduces the size and number of pools. Scott Valley exemplifies a low gradient river system, dropping 264 feet in 29 miles, and is a natural area for sediment to deposit (Lewis, 1992).

One recent study identified accelerated DG erosion sources in the Scott to be roads (63% of total), upslope streambanks (23%), and logging skid trails (13%); certain sub-basins also produced more DG sediment than others (Sommarstrom et al, 1990). In one targeted sub-basin, solutions to cumulative granitic sediment problems are being developed and implemented by the French Creek Watershed Advisory Group, which is focusing on road management, fire and fuel management (for erosion prevention), and monitoring. Short-term monitoring results are showing significant reduction in sediment levels in fish rearing pools (Power, 1994). More information on the sedimentation issue can be found in the above referenced studies. (SRWRAP Draft #1)

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-5. WATER (WATER QUALITY & QUANTITY)

Critical Questions

1. What is water's primarily beneficial use in the Scott River Watershed?

Water Quality:

1. What are the designated **beneficial uses** of water for the **river segment**?
2. What are the water quality criteria that apply to the **river/creek reaches**?
3. Are the stream reaches identified as water quality limited segments?
4. Are any stream reaches identified as high-quality waters or Outstanding Resource Waters?
5. Do water quality studies or evaluations indicate that water quality has been degraded or is limiting the beneficial uses?

Water Supply:

a. Is water derived from a groundwater or surface-water source?
b. What type of storage has been constructed in the basin?
c. Are there any withdrawals of water for use in another basin (interbasin transfers)?
d. Is any water being imported for use in the basin?

e. Are there any illegal uses of water occurring in the basin?

Channel Modification:

f. Where are channel modifications located?
g. Where are historic channel disturbances located?
h. What CHTs have been impacted by channel modification?
i. What are the types and relative magnitude of past and current channel modifications?

Groundwater, Surface Water

[To be prepared with Committee input.]

Flows, Floods/Floodwater

[To be prepared with Committee input.]

Stormwater/Sediment Runoff (NPS pollution)

Hydrology: (FFAP 1999) Scott River is a large basin (819 miles^2) with complex and diverse topography. Precipitation varies widely over the basin. The overall understanding of Scott River hydrology is limited by the fact that there is only one long term stream gage and it is located downstream of the valley. Figure 3 shows the total annual runoff for the Scott River, as measured at this USGS gage near Fort Jones for the period of record, 1942-1997. Otherwise, there is limited information on amount of water use and its impact on flows. As of 1998, a Water Budget, to graphically map where the water comes from and where it goes, is being developed and has been fully funded. Also, there is almost no public data on the amount of present and historical flows in the watershed. Also, there is almost no public data on the amount of water used by large irrigation wells.

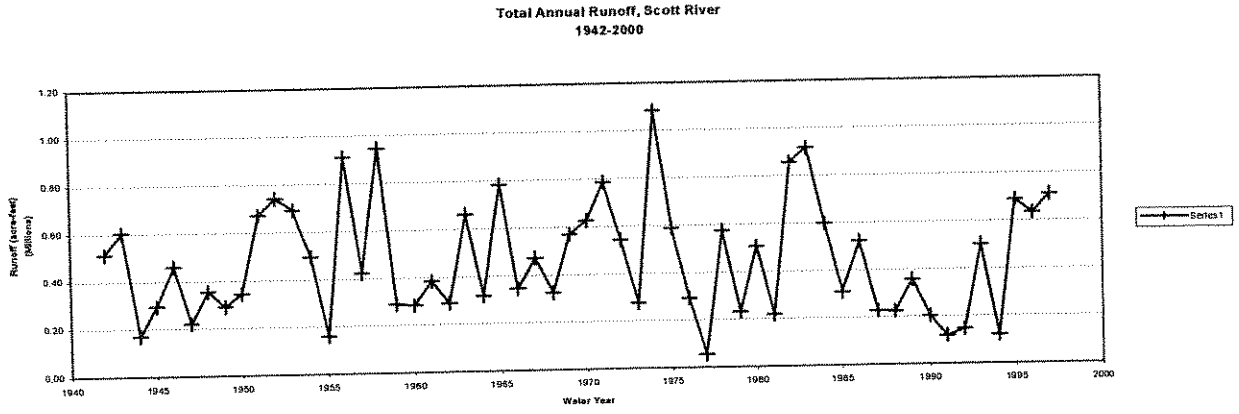


Figure 3. Scott River Total Annual Runoff. Scott River's runoff has ranged from a peak of 1,083,000 acre-feet in water year 1974 to a low of 54,200 acre-feet in water year 1977 for the period from 1942 to 1997. Annual minimum flows (Aug.- Oct.) ranged from 5.4 cfs (1977) to 78 cfs (1982) at the USGS gage station below Scott Valley (USGS, 1997).

The typical yearly runoff pattern for the Scott River is shown in Figure 4 as measured at the USGS gage. Summer runoff (July - September) is low due to low precipitation, high temperatures, and consumption. There is no large scale surface storage that modifies flows.

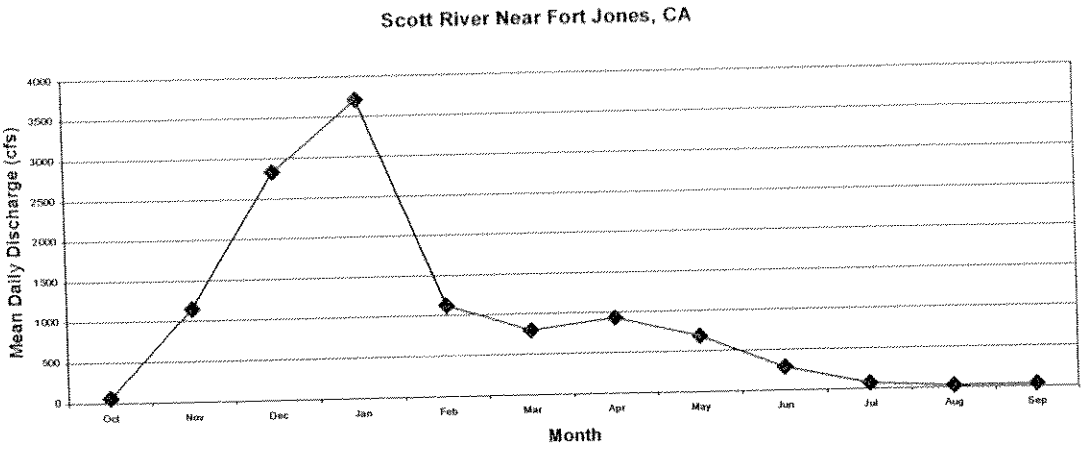


Figure 4. Period of record (1942-1997) average of daily discharge. The annual pattern illustrates the seasonal variation of surface water flow. Typically, low flows occur during the summer and fall; high flows occur in the winter and spring.

Large total annual runoff for the basin does not necessarily translate to high fall flows. Figure 3, Total Annual Runoff, shows the largest annual runoff in 1974 while Figure 5, Mean September Flows, shows September flow larger in 1978 than in 1974. High peak flows with short duration contribute significant amounts of runoff in the Winter/Spring. Fall flows depend on snowpack and seasonal storms in the Summer/Fall. Figure 6, Total Summer Discharge, shows the volume of water that passed by the USGS gage near Fort Jones in July, August and September. Averaging this summer volume of water over five years levels out annual variations. The purpose of Figure 6 is to show the volume of base flow which appears to indicate a downward trend, whether it be due to climactic trends or usage. *(FFAP 1999)*

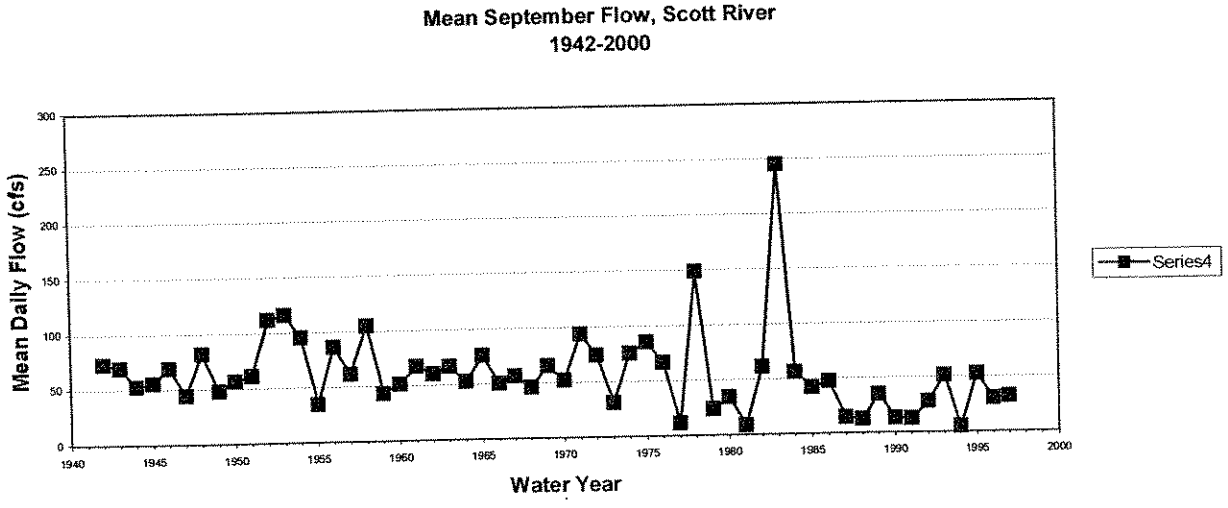


Figure 5. Mean September flows are used to illustrate the cumulative effect of the dry season. October flows are also significant for fall Chinook salmon, as they are migrating upstream. October flows are slightly higher than September flows due to rainfall influence and lower evapotranspiration.

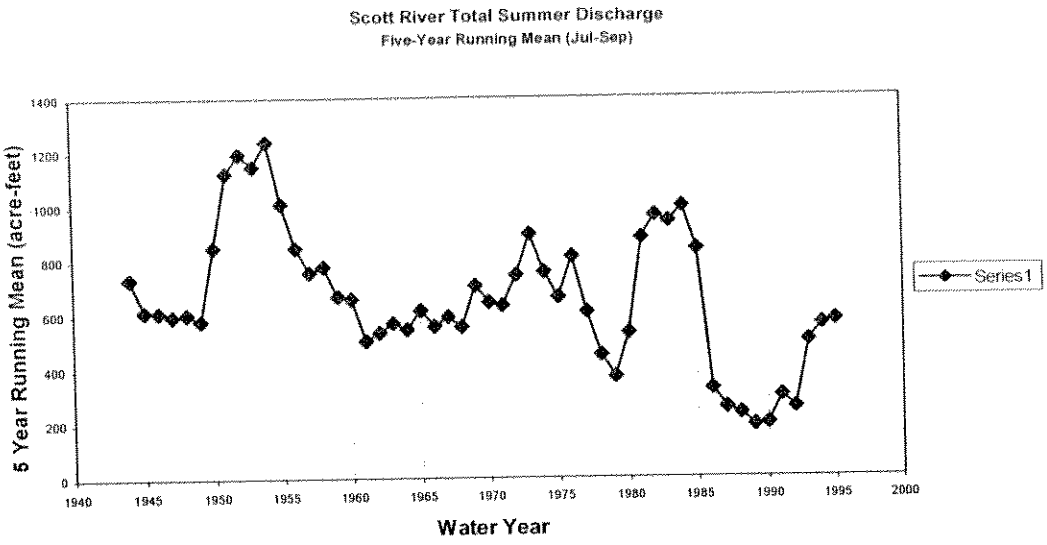


Figure 6. Summer discharge patterns for five-year running average shows a trend of reduced runoff with periodic peaks.

Scott Valley's ground water aquifer stores an estimated 400,000 acre-feet of water (Mack, 1954). In general, Scott Valley's ground water basin is interconnected with the local perennial, intermittent and ephemeral stream systems (CSWRCB, 1975). The Scott River Adjudication recognizes a zone of interconnected ground and surface waters in its water rights determination in the Scott River watershed below Fay Lane (see discussion below). During the summer, it appears that water use in the Scott Valley lowers ground water levels which creates a reduction in streamflow. Figure 7 shows that ground water levels are reduced each summer and then recover the following fall/winter.

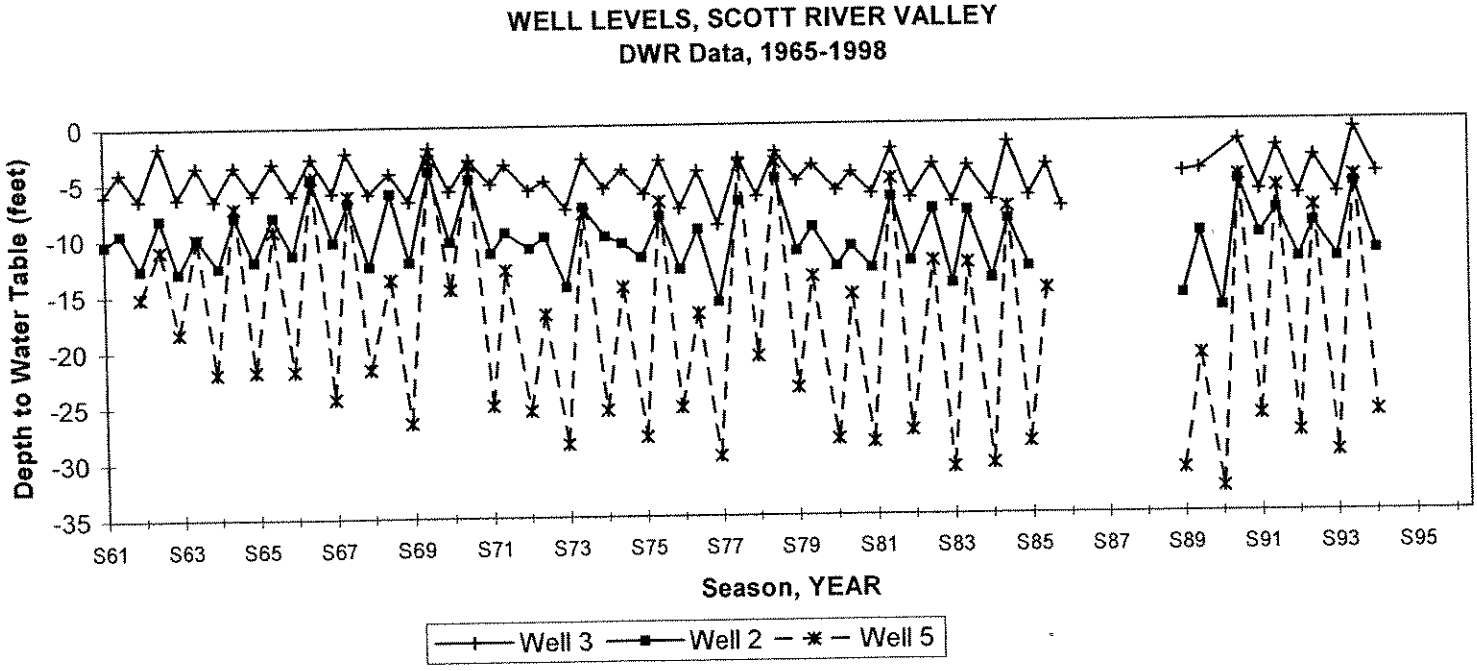


Figure 7. Fluctuation of water level in wells. Ground water levels have remained fairly constant and have recharged for the most part each year for monitoring wells (#1 and #3) near the Scott River, and one well (#5) 1 mile from the river. However, long-term changes in the water table need to be evaluated with data going back to 1950s (well data is not available pre-1950). Lack of data is shown as periods with no seasonal variation (CDWR, 1999). (S= Spring; see well locations on the map on the first page of the document.)
(FFAP 1999)

Hydrology: (Water Plan; pp3-5) Understanding the cause of streamflow fluctuations and how it relates to the current decline of fish populations is important. To help find the answers, various graphs were compiled to evaluate the available water data for the Scott River. Based on these data and published reports, the following conclusions can be reached:

Figure 3: Scott River's runoff has ranged from a peak of 1,083,000 acre-feet in water year 1974 to a low of 54,200 acre-feet in water year 1977 for the period from 1945 to 1994. Annual minimum flows (Aug.-Oct.) have ranged from 5.4 cfs (1977) to 78 cfs (1982) at the USGS gage station below Scott Valley.

Figure 4: April 1st snowpack in the upper Scott watershed (Middle Boulder 3) and the lowest flow in late summer/early fall of the same year is not directly correlated. Complicating factors may be involved: spring, summer, and early fall rains; the amount of snowpack in other headwater areas of the basin; and other factors.

Figure 5: Summer discharge patterns for 5 year running averages show a continuing trend of below average runoff since 1961 (with the exception of the 1980-1984 period).

Figure 6: Ground water levels have remained fairly constant and have recharged for the most part each year (1981-1993) for monitoring wells (#1 & 3) near the Scott River, but one well (#5 - 1 mile from the river) did not recharge from Spring 1991 until Spring 1993. However, long-term changes in the water table need to be evaluated with data going back to 1950s (well data is not available pre-1950).

In general, Scott Valley's ground water basin is interconnected with the local perennial, intermittent and ephemeral stream systems (CSWRCB, 1975). This interrelationship means that excessive ground water pumpage can create reduced surface flows in the Scott River. As a result, the Scott River Adjudication recognizes a zone of interconnected ground and surface waters in its water rights determination for the Scott Valley below Fay Lane (see discussion below.)
(Water Plan, p. 3-5) (SRWRAP Draft #1)

Water Quality Indicators – sediment load, fine sediment pools, etc.

[To be prepared with Committee input.]

Water Use – diversion, irrigation, stockwatering

Historical Water Use: (Water Plan; bottom p 6) Until the late 1960s, agricultural water was mainly derived from surface water diversions from Scott River and its tributaries; flood irrigation was the

primary application method (McCreary-Koretsky, 1967).Most wells were shallow and only used for domestic and stock supplies (Mack, 1958). The main source later changed to wells using interconnected ground/surface water and the method changed to sprinkler irrigation for alfalfa and grain fields. State data on well drilling in the Scott Valley indicate an increase in the number of new wells each year during the 1970s, a peak after the 1976-77 drought, and a drop to lower annual levels in the 1980s. A small increase again occurred in 1992, in another drought period (CDWR, 1993b). (Water Plan, p. 6, last par.) (SRWRAP Draft #1)

Water Management: agricultural and non-agricultural

Local residential and commercial water use data is sparse. However, municipal records indicate that recent improvements to the water systems, such as correcting leaking pipes and metering users, have significantly reduced usage. In 1990, average water use in Etna was about 266 gallons/person/day, while in Fort Jones use was about 170 gallons/person/day (reflecting drought-induced water restrictions). The City of Etna pipes water from Etna Creek, while the City of Fort Jones pumps the underflow of Moffett Creek and Scott River. Domestic users are scattered throughout the valley and foothills and usually use ground water from individual wells for household and landscaping water needs, though some use springs and creek diversions. (Water Plan; p 7)

Summary of 1990 Use: Net annual use for stock water is estimated at 336 acre feet, assuming 30,000 head maximum (including calves) in Scott Valley at 10 gal/head/day average. (The gross use for stockwater, which includes the amount diverted for ditch delivery, is not known.) For irrigated agriculture, a reasonable estimate of the amount of applied water (gross water use) in Scott Valley is 98,100 acre-feet, with ET or net water use at 78,000 acre-feet. Assuming an average local water demand of 200 gallons/person/day, the total urban (domestic/residential/ municipal) water use amounted to about 1,800 acre-feet in 1990 for Scott Valley. The irrigated agriculture acreage has reached its apparent maximum at about 34,000 acres while domestic/urban acreage is slowly expanding. *(FFAP 1999)*

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-6. FIRE

Critical Questions

No critical questions found in the Watershed Assessment Manual

Current Conditions

The most extensive studies on fuel loads and wildfire potential in the Scott River Watershed are the

Callahan and Lower Scott Ecosystem Analyses (Scott River Ranger District, 1997, 2000). These analyses areas cover approximately 38 % of the watershed. The results indicate that 36 % of the analysis area is considered to have low fire behavior potential, 45 % has moderate fire behavior potential, and 15 % has high fire behavior potential.

Organizations currently responsible for fire management and suppression in the watershed include the Scott Valley Fire Protection District, California Department of Forestry and Fire Protection, local fire departments in Etna and Fort Jones, and the US Forest Service, Klamath National Forest.

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-7. LAND USE

Critical Questions

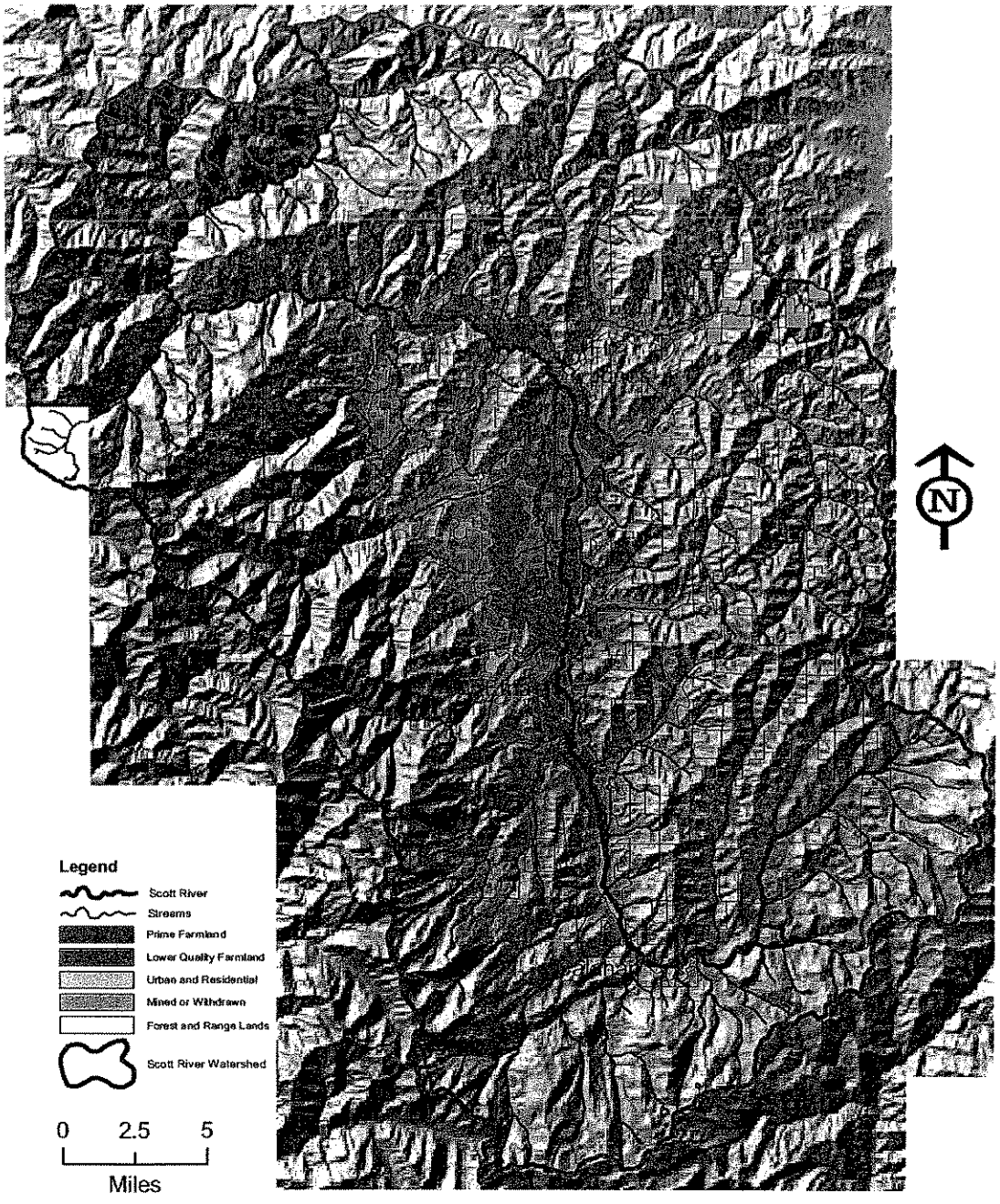
1. What are the predominant land uses?
2. What is the flood history?
3. Which land uses have a significant effect on peak flows?
4. Which land uses have a significant effect on low flows?

Land ownership in the valley proper is predominantly private dating back to Homestead Act acquisitions. Bureau of Land Management owns parcels of land both within and on the eastern mountains surrounding the valley. U.S. Forest Service ownership predominates in the mountainous areas to the north, west, and south. Valley lands are used primarily for agricultural purposes with limited residential use. *(CAP 1994)*

Public lands surrounding the valley have traditionally provided forage & timber, as well as recreational opportunities for visitors and residents. Timber harvest levels have declined drastically over the last 4 years as a result of changes in forest management policies. Other resource issues center around declining fish populations and irrigation water use. The Marble Mountain Wilderness area is a popular destination for hikers, packers, fishermen, and hunters. Use has increased slightly in the last 10 years, but is still low compared to other areas in California. *(CAP 1994)*

Figure 2-3. Scott Valley – Land Uses

Land Uses - Scott Valley



Planwest Partners, 2002

Timber

Logging: In the upland and canyon riparian zones, some riparian cover has been removed as a result of flooding and logging. Research has indicated that aquatic invertebrate diversity can be affected when too narrow buffers (less than 100 feet) are left along streams during logging (Erman et al, 1977). In addition, the removal of forest canopy eliminates large woody debris from the stream for habitat cover and increases temperature stress in cold winters (Beschta et al, 1987).

Currently when logging on private land in California the State Board of Forestry rules mandate stream zone management to protect all the beneficial uses of water. This protection includes water temperature control, streambed and flow modification by large woody debris (LWD), filtration of organic and inorganic material, upslope stability, bank and channel stabilization, and vegetation structure diversity for fish and wildlife habitat. Buffer zones varying in size from 25 feet on ephemeral draws up to 150 feet or more on either side of class 1 fish bearing streams are required to protect water quality and beneficial uses. The state regulations require that within these buffer zones no heavy equipment is allowed, at least 75% surface cover and undisturbed area as well as 50% of both overstory and understory vegetation be retained, and at least two living conifers per acre 16" diameter or greater be retained for LWD recruitment. In addition, no new roads can be constructed in these stream zones and any area where bare mineral soil exceeding 800 sq.ft. is exposed will be treated to reduce soil loss. Further, a watershed can be classified as sensitive and even more restrictive measures enacted. The current regional forest plan (Option 9) for public lands establishes riparian reserves which in most cases will not be logged (USFS, BLM, 1994). (Fish Plan,p.11-13) (SRWRAP Draft #1)

Agriculture

Agricultural crops include alfalfa, hay and grain, with limited fruit, vegetable and herb crops. Cattle are raised primarily for meat with some dairy operations active in the valley. Public lands provide an important summer range for local cattle ranchers. *(CAP 1994)*

Stockwater. During the fall and winter months in Scott Valley, the majority of diverted water use is for the purpose of livestock watering. Cattle need from 10-20 gallons of water per day (with highest demand during hot days). The source is mostly from surface water diverted into ditches for gravity delivery to and within fields. Due to seepage loss and flow needs in the ditches, more water is diverted than used. An example given by the Scott Valley Irrigation District illustrates how much some diversions can exceed actual requirements. If 10 cubic feet per second (cfs) needs to be continually diverted solely for stockwater use during the fall and winter months to achieve reliable delivery to the last user, this amounts to 6,048,000 gallons per day. For 3,000 cows drinking 15 gallons per day, the water need is 45,000 gallons per day, or less than 100 fold the amount diverted. During the irrigation season, however, it is difficult to separate out ditch loss from subsurface irrigation needs for pasture. (Water Plan; pp 5- top6) *(SRWRAP Draft #1)*

Conclusions: *(from FFAP 1999)* 3. Stockwatering is the primary use of diversions during the late fall spawning period, mainly because of the amounts needed to be diverted for inefficient delivery through leaky ditches rather than the small amount livestock need to drink. While the ditch water loss returns to the ground water and may eventually return as surface flow, concern is raised by fishery

biologists over the timing and location of this return flow and the impact on spawning conditions. ***[INFO. GAP]*** More information is needed on the return rate, quantity, and location of ditch seepage to streams during the fall months. *(FFAP 1999)*

Irrigation. Next to natural vegetation, agriculture is the single largest annual water user in Scott Valley. The earliest estimate of irrigated acreage was in 1953, which claimed 15,000 acres irrigated by surface water, 15,000 acres by natural subirrigation, and 370 acres by wells, for a total of 30,370 irrigated acres (Mack, 1958). Based on periodic land use surveys, the amount of irrigated farmland in the valley has not changed significantly since 1958 as seen in Table 2 (CDWR, 1965; CDWR, 1993). However, the amount of acreage by crop has changed, with grain decreasing from over 7,000 acres in 1955 to less than 2,000 acres in 1990, while alfalfa has increased from 10,000 acres to 14,000 acres in the same period.

Table 1. Scott Valley Irrigated Acreage, 1958-1991.

CROP	1958	1968	1978	1991
Grain	3,570	5,027	3,681	1,757
Alfalfa	9,850	9,032	10,405	14,313
Pasture	16,000	19,294	15,971	16,070
Other	2,803	446	1,607	303
TOTAL	32,223	33,799	31,664	32,443

(Water Plan; pp 5-top 6) *(SRWRAP Draft #1) and (FFAP 1999)*
The crop and weather determine water needs. The amount of water to apply (gross water demand) should account for crop water needs plus non-uniformity and other inefficiencies in the irrigation system. Irrigation efficiency varies with irrigation system (i.e., wheel line, center pivot, flood) and the soil type of a specific field. The primary irrigated crops in Scott Valley are alfalfa, pasture, and grain. Figure 8 shows the evapotranspiration (ET) rate for these crops. The amount of applied water was estimated by assuming an irrigation efficiency of 75% for applied groundwater (mostly sprinklers) and 65% for applied surface water (primarily flood)(CDWR, 1993a). The actual amount of water applied per season can vary considerably depending on precipitation and is often less than the values stated in Figure 8. Actual groundwater use will increase in low rainfall years and decrease in wet years. Water application rates also vary considerably between fields depending on soil texture and drainage conditions. *(FFAP 1999)*

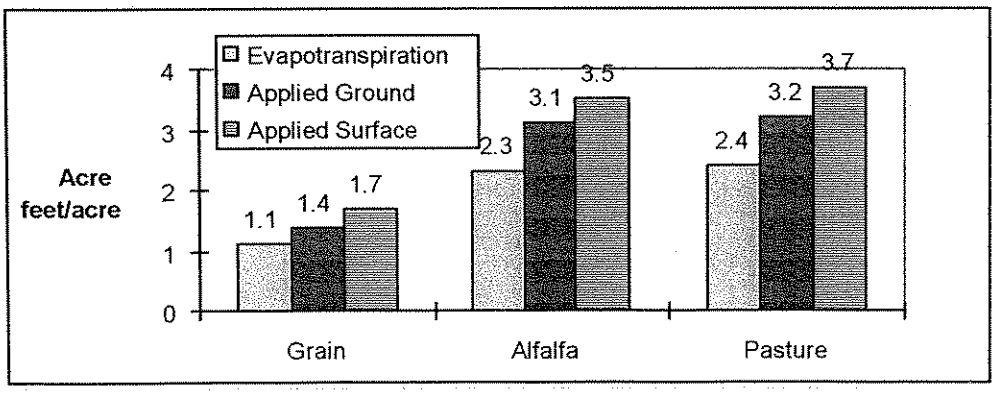


Figure 8. Average Annual Water Use per Acre by Crop in Scott Valley (CDWR, 1993a).

Table 3. Scott Valley estimated annual water usage (acre feet) by crop per year based on Table 2 and figure 8.

CROP	1958	1968	1978	1991
Grain	3927	5530	4049	1933
Alfalfa	22655	20773	23932	32920
Pasture	38400	46306	38330	38568
Total Water Usage (af)	66940	74577	68289	75412

Until the late 1960's, agricultural water was mainly derived from surface water diversions from Scott River and its tributaries; flood irrigation was the primary application method (McCreary-Koretsky, 1967). Most wells were shallow and only used for domestic and stock supplies (Mack, 1958). The main source later changed to wells using interconnected ground/surface water and the method changed to sprinkler irrigation for alfalfa and grain fields. State data on well drilling in the Scott Valley indicate an increase in the number of new wells each year during the 1970's, a peak after the 1976-77 drought, and a drop to lower annual levels in the 1980's. A small increase again occurred in 1992, in another drought period (CDWR, 1993b). *(FFAP 1999)*

Electricity records from Pacific Power for agricultural pumping in the Scott Valley for the drought years 1988 through 1992 reveal strong annual fluctuations in power use, ranging from 318,360 kwh in 1989 to 512,156 kwh in 1990. These variations most likely reflect the soil moisture levels affected by the amount and timing of annual precipitation. *(FFAP 1999)*

Grazing Management: While many historic causes have degraded the Scott's riparian zone, concern is expressed over the present effect of livestock on the riparian zone. In a study of Scott Valley's streambank protection projects, unmanaged browsing of established riparian vegetation can inhibit growth while browsing of seedlings and saplings can kill the plants (Patterson, 1976). Lewis (1992) also recommends livestock exclusion to allow for adequate riparian plant survival and growth. Proper grazing management through stream corridor fencing can be used to restore and protect the riparian area and water quality while still intensively grazing adjacent pastures (Chaney et al, 1993). *(SRWRAP DRAFT #1)*

Uncontrolled access to the streambed of the Scott and its tributaries can cause problems for fish, particularly during spawning season. Disruption of chinook salmon redds (nests) can dislodge and destroy deposited eggs. Although 45% of the main stem is fenced, no corridor is yet fenced from bridge to bridge, and on both sides of the bank. With access points available, livestock can wander in the stream channel to neighboring fenced properties and still browse riparian plants in supposed "livestock exclusion" sites. Carefully managed seasonal grazing within the fenced riparian zone can be compatible with revegetation once plants are established. *(SRWRAP Draft #1)*

Residential/Urban Development

Local residential and commercial water use data is sparse. However, municipal records indicate that recent improvements to the water systems, such as correcting leaking pipes and metering users, have significantly reduced usage. In 1990, average water use in Etna was about 266 gallons/person/day, while in Fort Jones use was about 170 gallons/person/day (reflecting drought-induced water restrictions). The City of Etna pipes water from Etna Creek, while the City of Fort Jones pumps the

underflow of Moffett Creek and Scott River. Domestic users are scattered throughout the valley and foothills and usually use ground water from individual wells for household and landscaping water needs, though some use springs and creek diversions. *(FFAP 1999)*

Water Quantity/Conservation

Studies have been conducted over the past few years to evaluate the effectiveness of conserving water in the Scott Valley utilizing small gravel dams. One project known as Beaver Dams was intended to slow the Scott River's flow and allow more water to percolate into the underground aquifer. In theory, this underground source of stored water would be available for release during the primary chinook spawning period (October - November). Results of the well monitoring showed an increased water surface elevation over 2000 feet from the river. The demonstration project showed that Scott River flow was doubled for 17 days. This project had problems with the sustained discharge of relatively high-temperature water below the dams and problems with fish passage. Small, temporary dams are now being proposed with riparian planting on the banks, and with only the deepest, coolest water released. These dams will help determine overall merits of this water conservation strategy. *(FFAP 1999)*

Numerous projects related to fish habitat restoration, such as fencing and planting, were accomplished in the Scott River watershed over the past few decades. Only recently have efforts directly addressed water management through increasing the available supply or reducing the current demand. In 1991, the California Dept. of Water Resources evaluated several water management alternatives in the Scott River Flow Augmentation Study, including water conservation, water transfers and water development. The Department concluded that there are no inexpensive or simple solutions. Two alternatives, to pump water stored in the dredger tailings and to pump ground water into streams during low flow periods, were evaluated by the CRMP Water Subcommittee and found not to be feasible. Pumping water from the dredger tailings raised water rights issues and pumping ground water proved to be too costly. *(FFAP 1999)*

Water conservation was evaluated by the Scott Valley Irrigation District's (SVID, 1995) Stockwater for Chinook ditch study to determine the feasibility of providing stockwater from wells rather than diverted surface water during the post-irrigation season. The SVID board chose to take no action at that time regarding an alternative stockwater program. This decision was based on the result that only a few of the 25 irrigation users were interested in participating. The staff of the CRMP has prepared an inventory of diversion ditches in Scott Valley which identifies the location and gross diversion of 155 ditches used for irrigation, stockwatering, municipal, and domestic purposes. Water loss from ditches remains in the ground water and may eventually return as surface water downstream. However, concern is raised by fishery biologists over the timing and location of this return flow, since alteration of streamflow may occur in certain reaches during critical life stages. *(FFAP 1999)*

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-8. COMMUNITY RESOURCES AND SOCIO-ECONOMICS

Critical Questions

No critical questions found in the Watershed Assessment Manual.

The community's economic base is primarily agriculture and timber products, and small retail businesses. A significant number of residents are employed in Yreka, located approximately 30 miles northeast. Local elementary and high schools serve as major employers along with the U.S. Forest Service, California Department of Forestry and Fire Protection, and Siskiyou Telephone. Tourism is a small but growing component of the area economy. Recreational opportunities lie in the wilderness resources and outstanding lakes, rivers, and scenery. *(CAP 1994)*

Transfer payments in the form of income support and retirement benefits contribute to the economic base of the area. Yreka, Redding, California and Medford, Oregon, are large regional retail sales areas. There is a significant loss of sales to these retail locations. Local retail establishments include restaurants, hardware stores, video rental, groceries, gas/convenience, beauticians and barbers, real estate, auto parts, automotive repair, building supply, farm equipment, and tire stores. The local economy continues to experience economic distress and instability. *(CAP 1994)*

Timber harvest on Klamath national Forest has declined dramatically, from a high of 240 MMBF in the mid 1980's to 50-70 MMBF at present. However, recent high timber prices have caused many private timber owners to harvest their trees. These harvests have somewhat buffered the local economy. *(CAP 1994)*

The Economic Development Administration has classified Siskiyou County as being in Long Term Economic Distress (LTED) with a 24-month unemployment rate of 14.3 percent. The most recent estimates (July 1993) from the California Employment Development Department indicate that this rate is currently between 14 and 17 percent for the months of April, May, and June of 1993. Median household income for the area was $26,073 per family and $21,921 per household in Siskiyou County. *(CAP 1994)*

2000 Census data for a selected number (1,883) of households in the watershed area shows the following income distribution:

Table 4 Income Distribution for Selected Households

Income Range	# of Households
Less than $10,000	269
$10,000 to $14,999	211
$15,000 to $19,999	122
$20,000 to $24,999	196

$25,000 to $29,999	85
$30,000 to $34,999	101
$35,000 to $39,999	139
$40,000 to $44,999	103
$45,000 to $49,999	76
$50,000 to $59,999	148
$60,000 to $74,999	134
$75,000 to $99,999	148
$100,000 to $124,999	70
$125,000 to $149,999	37
$150,000 to $199,999	27
$200,000 or more	17

The Quartz Valley Rancheria has recently developed a retail business specializing in sale of Native American arts and craft items. Each year, local Tribes sponsor a Pow Wow to celebrate native culture. *(CAP 1994)*

Local community values center on physical work, family, and self-reliance. The rich, deep-seated cultural identity of many residents is represented by the annual Scott Valley Pleasure Park Rodeo in Etna. *(CAP 1994)*

A third social category within the community is retirees and urban refugees. These persons have attained an economic, occupational, or retirement status that affords mobility in residential location. Retirees, and semi-retired persons from large metropolitan areas comprise the greatest number of new residents. Many located in Scott Valley due to its slow pace of life. This group brings significant business to realtors, contractors and local retailers, and they are frequently among the most active citizens. Many seek to preserve small town qualities, but also desire responsible planning and zoning, cultural opportunities and good public services. *(CAP 1994)*

Another group consists of commuters who live in Scott Valley and work elsewhere, primarily Yreka. There is an increasing population of persons on government assistance. Downtown merchants appear to have a unique identity and set of interests. *(CAP 1994)*

Because of the lower cost of living, Scott Valley is an attractive place of residence for those on a subsistence level of income. There is substandard housing, substance abuse, child neglect, illiteracy, poor nutrition, and inadequate health care. Below average household incomes and an unemployment rate well above average make acute social problems more difficult to solve. *(CAP 1994)*

2B-9. COMMUNITY RELATIONS AND EDUCATION

Critical Questions

No critical questions found in the Watershed Assessment Manual.

Community Relations and Education Characteristics

[To be prepared with Committee input.]

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-10. LEGAL ASPECTS

Critical Questions

No critical questions found in the Watershed Assessment Manual.

Present Water Rights and Fish Protection Laws: (Water Plan; pp7-8) and (FFAP 1999)
Adjudications: All surface water rights in the Scott River above the USGS gage station are adjudicated, which means a decree of the Superior Court of Siskiyou County has defined: 1) the amount of water each user is entitled to divert from surface streams or to pump from the interconnected ground water supplies near the river; 2) the area where such water may be used; 3) the priority of each water right as it relates to other water rights on the same source; 4) the purpose for which the water is used (e.g., irrigation, municipal, domestic, stockwater); and 5) the diversion season. Use of ground water (not considered interconnected with the Scott River) does not currently require state water rights permits and is not adjudicated. *(FFAP 1999) and (SRWRAP Draft #1)*

In 1980, the Scott River Adjudication was decreed by the Court. It was based on a legal determination by the Division of Water Rights of the State Water Resources Control Board (CSWRCB, 1974; CSWRCB, 1975). This adjudication applied to all water right holders in Scott Valley, with the exception of those in Shackleford/Mill Creek and French Creek drainages. Separate adjudications were previously decreed for these two watersheds in 1950 and 1958, respectively. The Scott River Adjudication recognized 680 diversions, which could cumulatively divert 894 cfs from the Scott River and its tributaries (CH2M-Hill, 1985). Riparian, pre-1914 claims, and appropriative rights are included in all of these decrees. *(FFAP 1999) and (SRWRAP Draft #1)*

Since 1989, Scott River, French Creek, Kidder Creek, Shackleford Creek, and Mill Creek have been considered fully appropriated (i.e., no new water appropriation permits for additional surface or interconnected water can be issued) for the period 4/1 to 11/30 (except Mill Creek), by order of the State Board. Even though the adjudications specify a right to use a certain amount of water, this amount is not always naturally available, particularly in below-average runoff years. *(FFAP 1999) and (SRWRAP Draft #1)*

During the non-irrigation season (defined as "from about October 15 to about April 1" for most water users), water right holders in the 1980 Adjudication are allowed to divert, for domestic and stockwatering uses, a "sufficient amount of water in their priority class to offset reasonable conveyance losses and to deliver 0.01 cfs at the place of use" (Para. 36). The statement on reasonable diversion and use (Para. 15) states:

> "Nothing herein contained shall be construed to allot to any claimant a right to waste water, or to divert from the Scott River stream system at any time a quantity of water in excess of an amount reasonably necessary for his beneficial use under a reasonable method of use and a reasonable method of diversion, nor to permit him to exercise his right in such a manner as to unreasonably impair the quality of the natural flow." (*FFAP 1999*) and (Water Plan; pp7-8) *(SRWRAP Draft #1)*

Watermaster Service: To help assure water right holders that the adjudicated amounts are fairly distributed each year, the State watermaster service (through the Dept. of Water Resources) is available. The watermaster helps avoid court litigation and violent conflict, and assists with managing the available water supply. The costs of the service are split evenly between the State general tax fund (1/2) and the water right holders in the service area. Watermaster service is presently used for 102 decreed water right holders in French Creek, Oro Fino Creek, Shackleford Creek, Sniktaw Creek, and Wildcat Creek during the period from April 1 to September 30 (CDWR, 1992). Watermaster service on the Scott River has not been implemented since the minimum number of water users (15%) has not supported the service. (Water Plan; pp7-8) *(SRWRAP Draft #1)*

Instream flows: Instream water needs for fish upstream from the U.S. Geological Survey (USGS) gage station were not addressed by any of the adjudications. The U.S. Forest Service was allotted minimum flows for the Scott (at the USGS Gage Station) to protect the fishery resource. However, summer and fall flow minimums have only been met for 3 years (1982-84) of the last 15 years (J. Power, USFS, pers. comm.). Prolonged drought from 1987 through 1994 (excluding 1993) has exacerbated this deficiency. It is not known whether other water users in this reach obtained their adjudicated allowable flows during this period. *(SRWRAP Draft #1)*

Another streamflow requirement comes from Section 5937 of the State Fish and Game Code , which states that the owner of any dam must "allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam." This regulation is applicable to permanent dams as well as seasonal gravel diversion dams in the Scott River and its tributaries. (Water Plan; pp7-8) *(SRWRAP Draft #1)*

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-11. SUB-WATERSHED CHARACTERISTICS

Critical Questions

No critical questions found in the Watershed Assessment Manual.

Description of Sub-Watersheds

[To be prepared with Committee input.]

RCD/SRWC Programs

[To be prepared with Committee input.]

Regulatory Framework

[To be prepared with Committee input.]

2B-12. REGIONAL AND AGENCY COORDINATION

Critical Questions

No critical questions found in the Watershed Assessment Manual.

Brief Description of Agencies

[To be prepared with Committee input.]

Coordination Efforts and Opportunities

[To be prepared with Committee input.]

RCD/SRWC Programs

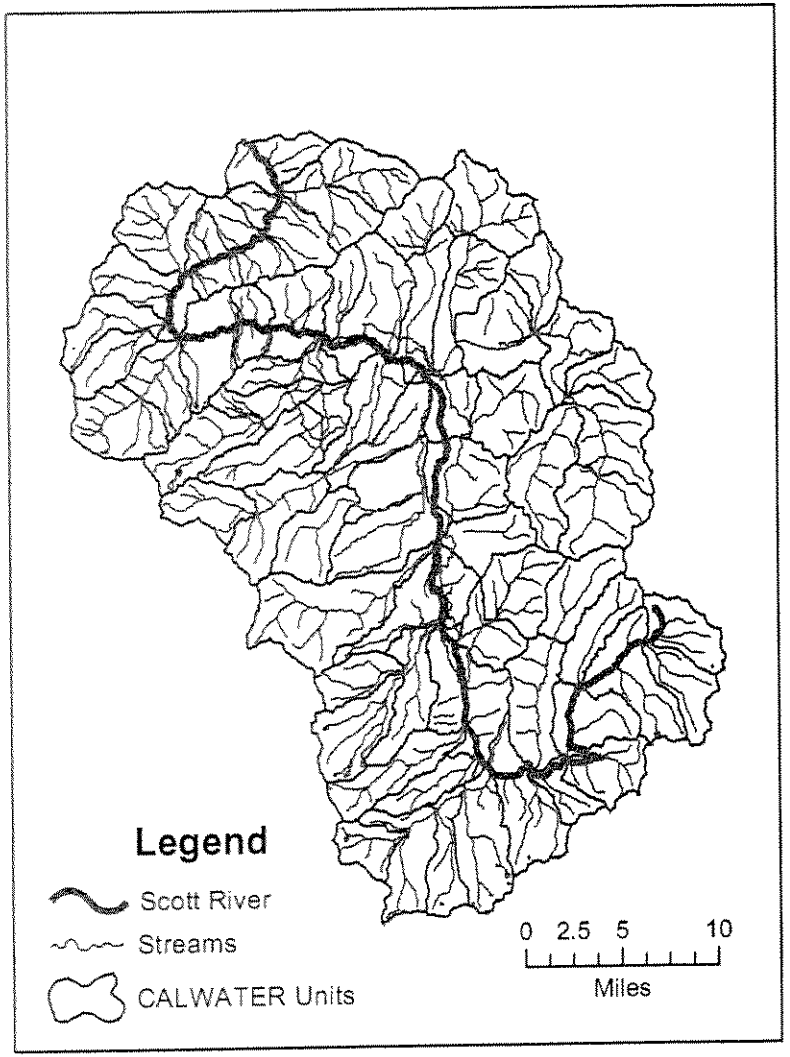
[To be prepared with Committee input.]

Regulatory Framework

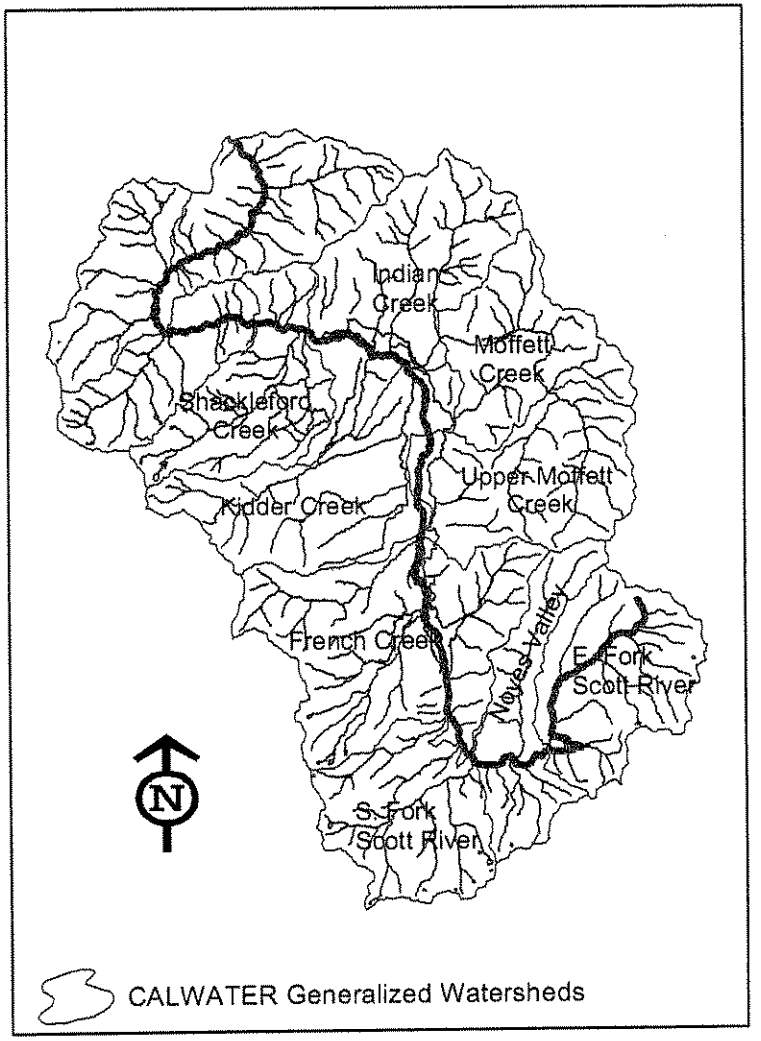
[To be prepared with Committee input.]

Figure 2-4. Scott River – State Watershed Boundaries (*insert .pdf file here.)*

Scott River Strategic Action Plan - State Watershed Boundaries



Planwest Partners - 2002



NOTE: All boundaries and names are as defined by the state of California Teale Data Center.

Scott River Watershed Council/CRMP Plans & Related Reports

Index of Plans and Reports Received by Planwest

2002- (a) Scott River Watershed Restoration Action Plan, Draft #1, by Jeffy Marx, c. 11/02
(b) Sediment Status of the Scott River System (1 page abstract prepared by Sari Sommarstrom for SRWC Workshop on Ongoing Monitoring Efforts, May 13, 2002)

2001- Scott River Watershed Council & Siskiyou RCD Monitoring & Project Information Management Policy (Draft)

2000- State of Watershed Annual Report 2000

1999- Scott River Fall Flows Action Plan, 1999 Action Plan Update (Draft)

1998- (a) Scott River Watershed CRMP Upland Management Action Plan, Approved 1/12/98
(b) Scott River Watershed CRMP Monitoring Plan 1998 (Approved 7/21/98)

1997- (a) Scott River Watershed Fish Population & Habitat Plan, 1997 Working Plan
(b) Scott River Watershed CRMP 5-Year Work Plan, Approve 11/18/97

1996- Scott River CRMP Ag Committee–Goals, Objectives & Plan of Action, Approved 7/16/96

1995- Scott River Fall Flows Action Plan, 1995 Working Plan (Same)

1994- Community Action Plan for Scott Valley, February 9, 1994 → not adopted by anyone! Ad Hoc

1993- A Scott Valley Survey, circa September 1993 ?

Unknown- Scott Valley Area Plan, County Area Plan No. 1, adopted 1980
Siskiyou County General Plan

Other Related Reports

Shasta Watershed Restoration Plan, Shasta River CRMP Committee, Revised 11-97

No "Using Scientific Input in Policy and Decision Making" By P.W. Adams & A.B. Hairston, Oregon State University Extension Service, Reprinted August 1995

"Crisis to Consensus–Restoration Planning for the Upper Klamath Basin" prepared by the Upper Klamath Basin Working Group, August 2002

(continued on next page)

From documents listed in "Abstracts Referenced from the Scott River Watershed Master Document List," Planwest has copies of:

(1) MDL21-A – 1999 Fall Flows Action Plan
(2) MDL27-A – 1997 Fish Population & Habitat Plan

Same as on.

Watershed Plans that may be helpful for Overviews, but which Planwest <u>does not</u> have copies of:

available @ RCD libram

Callahan and Lower Scott Ecosystem Analyses (Scott River Ranger District, 1997, 2000)

+ on the USFS website (ask Jim or Jay,

And:

<u>These were noted in Sari Sommarstrom's table, "Meshing Current & Future Watershed Assessment, Planning & Program Efforts":</u>

(1) French Creek Watershed Road Management Plan (WAG)
(2) French Creek Watershed Fire & Fuel Management Plan (WAG) (Fire Safe Council)
(3) Scott Water Temperature Analysis — see Daniell
(4) RCD Long Range Plan — See Carolyn
(5) French Creek Watershed Monitoring Plan (WAG)

binder @ RCD

Scott River Watershed Council ~ Strategic Action Plan

Task 2. Overviews: potentially relevant information sources from Scott River Master Document List-Abstracts

		T O P I C S											
DOCUMENT	(notes on document)	1. Overall watershed	2. Fisheries & Wildlife	3. Vegetation & Habitat restoration	4. Geology & Soils	5. Water (quality, quantity)	6. Fire	7. Land Use (agric, timber,etc)	8. Commty Res. & Socio-economic	9. Commty Relations & Education	10. Legal Aspects	11. Sub-watershed Character-istics	12. Regional & Agency Coord'n
MDL1-A			X										
MDL4-A										?			
MDL7-A								X					
MDL9-A	N/A												
MDL11-A						X							
MDL12-A			X										
MDL13-A	old 1962-1988		?										
MDL15-A				X									
MDL19-A	no date							?	?				
MDL20-A			X										
MDL21-A	**PW HAS**	X	X			X		X			X		
MDL27-A	**PW HAS**		X			?							
MDL28-A	N/A												
MDL30-A												X	
MDL31-A			?			?	?					X	
MDL32-A												X	
MDL33-A	old - 1958				?	?							
MDL34-A	history												
MDL35-A	old - 1972	X	X	X	X	X		X					
MDL38-A	N/A												
MDL41-A			X										
MDL42-A								X					
MDL43-A	N/A												
MDL45-A	we have a newer one		X										

MDL46-A	Klam. R. Basin		X										
MDL48-A												?	
MDL49-A			X			X							
MDL57-A						X							
MDL59-A			X										
MDL60-A					X	X							
MDL65-A					?	?							
MDL67-A			X										
MDL70-A	old - 1980		X			X					X		
MDL72-A			X			X							
MDL75-A			X			?							
MDL76-A	N/A												
MDL77-A		?											
MDL78-A			?			X							
MDL79-A	monitoring												
MDL82-A				X									
MDL84-A				X									
MDL85-A	ripar. zone inventory						?	?					
MDL88-A						X							
MDL91-A	date unknown					?							
MDL93-A						X							
MDL94-A			X			X		X					
MDL95-A	N/A												
MDL97-A	no date, no author												
MDL98-A	N/A												
MDL101-A	old - 1976					?		?					
MDL105-A		?		?	X	?			?				
MDL106-A	RCD 5-Yr Plan												
MDL108-A			X										
MDL109-A			X			X		X					
MDL115-A						X							

MDL119-A	Upland Mgt Action Plan												
MDL126-A						X							
MDL127-A	strategic planning OLD-1971				?	?		?	?				
MFL128-A MDL129-A MDL130-A	strategic planning OLD-1971				?	?		?	?				
MDL131-A									X	X			?

ROLES AND RESPONSIBILITY

The Planner/Coordinator role will be the primary responsibility of the SRWC Coordinator. In the event assistance becomes necessary, the SRWC Coordinator will acquire support for the purpose of note taking, to schedule meetings, and potentially facilitate meetings.

Technical experts are local professionals who are familiar with the Scott River watershed. A minimum of two professionals will be consulted for each Plan topic to prevent the appearance of or potential for 'personal agendas' being achieved through the Plan.

The Technical Writing team will consist of the SRWC Coordinator and qualified individuals having experience in technical writing, the ability to organize content in a readable format, and excel in editing or proof-reading skills.

All products are subject to review and approval by the Executive Committee and the Council where necessary prior to public distribution. The Executive Committee will continue to provide oversight of the activities and material produced by the efforts of the participants.

SCOPE OF WORK

[*brackets*] denote responsible party

Summary of Approach and Timeline:

March 2003: Reiterate the purpose of a Strategic Action Plan (Plan) and describe the intent.
[Council meeting]

March 2003: Revise the outline to include specific content and format of each section. The purpose for the revision is to ensure the flow of information is easy for the reader and the content is in a logical order.
[Planner/Coordinator with Council approval]

April 2003: Review the information we have so far and refine it to fit into the new outline for the purpose of producing a draft plan (even if in skeletal form).
[Technical Writing team]

April 2003: Define prioritization criteria.
[Executive Committee]

April 2003: Prioritize the objectives and recognize strategic actions that are currently in process. Identify the remaining strategic actions as immediate, short, mid, and long term actions.
[Council/Active Committee members]

May-June 2003: Identify areas needing improvement, data gaps, and expected outcomes for each strategic action.
[Planner/Coordinator with Technical Experts]

May-June 2003: Obtain technical expertise to review strategic actions and identify the processing steps required for implementation.
[Planner/Coordinator with Technical Experts]

July 2003: Complete/update summary of tabular and GIS files and committee specific plans.
[Planner/Coordinator, Committees, RCD Staff, and Technical Writing Team]

September 2003: Complete Draft Plan for review by Executive Committee and Council
[Technical Writing Team]

October 2003: Develop and incorporate the Monitoring Plan into the overall Plan.
[Planner/Coordinator and Monitoring Committee]

October-November 2003: Public review of Draft Strategic Action Plan with Monitoring Plan
[Planner/Coordinator and Public]

November-December 2003: Incorporate public comment into Strategic Action Plan
[Planner/Coordinator and Technical Writing Team]

December 31, 2003: Deliver Final Strategic Action Plan!!!

What we have so far:

Master Document List and key reference list
Vision Statement
Goals
Objectives
Action items
Information to compile introduction and overviews
List of GIS data to include
List of projects to reference
List of local technical experts

What we need to do next:

Modify outline to comply with expected results of Plan [Planner/Coordinator]
Completion of committee plans (i.e. Fish Plan, Flows Action Plan, etc.) [Committees]
Prepare Introduction [Technical Writing team]
Refine Overviews [Technical Writing team and Technical Experts]

Prioritize Objectives using predefined criteria [Committees]
Identify Strategic Actions as immediate, short, mid, or long term milestones [Council/Active Committee members]
Describe the expected outcome for each Strategic Action [Committees and Technical Experts]
Identify processing steps for achieving actions with technical experts [Planner/Coordinator]
Complete applicable standards and measures of success (i.e. monitoring plan, protocols) [Planner/Coordinator and Monitoring Committee]

Analysis of information:

Compile draft plan outline using information from above [Technical Writing team]
Review for gaps and the need for improvements [Planner/Coordinator and Technical Experts]
Refine draft plan using input from analysis [Technical Writing team]

Format Overviews [Planner/Coordinator and Technical Experts]:

The overviews should be short and concise. They must include a brief history statement, description of current conditions and issues, indicate a summary of limiting factors, and lessons we may have learned from past experience (synthesis of findings/desired future conditions). References to specific projects and plans will be indicated as well.

Format Goals, Objectives, and Action Items [Technical Writing team]:

The organization of this section would indicate three levels and will also reflect the originating committee.

1. State the goals by topic (same topic headings as indicated in overviews).
2. Prioritize the Objectives using a predefined set of criteria (still need to define the criteria).
3. Review and mark immediate, short, mid, and long term indicators on Strategic Action Items.

Define Strategic Action Processes [Planner/Coordinator and Technical Experts]:

A table format would be used to list the strategic actions. The actions will reference the objectives for which they apply using the Action #. Each action will indicate an expected outcome, identification of the type of technical expertise necessary for review (and possibly name of expert), and the logical processing steps needed for implementation.

Identification of common steps may result in an overall format layer instead of steps per action.

Example of Processing Steps (not to give detail but identify need):
Define purpose
Identify expected results
Select locations

Obtain landowner access
Acquire funding
Etc……

Develop Monitoring Plan [Planner/Coordinator and Monitoring Committee]:

This section is currently being worked on by the Monitoring Committee and will be integrated into the Plan.

Glossary of Terms [Technical Experts and Technical Writing team]:

Using technical expertise, compile a list of terms and their definition.

Appendices [Planner/Coordinator and Committees]:

Compile list of appendices and review with Council for approval. Suggested items currently include the Flows Action Plan, Fish Population and Habitat Plan, GIS maps, Sub-basin contacts and information sources, funding sources, and pertinent regulation information.