

Unit Cooperative Agreement No: 14-48-0001-95735

**A Comparative Analysis of the Klamath River Basin Ecosystem—GIS and Technical  
Support for the Klamath River Basin Fisheries Task Force and Technical Work Group,  
Phase III  
97-PC-01**

A Report to the U.S. Fish and Wildlife Service

Cooperators:

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September 1997

## Abstract

The Klamath River Basin Fisheries Task Force Technical Work Group (TWG) contracted with the Spatial Analysis Lab (SAL) at Humboldt State University, to assemble and develop Geographic Information System (GIS) digital data layers for fisheries restoration planning in the Klamath River Basin and to provide technical support for TWG activities including subbasin planning. The TWG Research Assistant at Humboldt State University assisted the Task Force and the TWG in developing a subbasin planning process and format for the plans themselves. Project funding was used to provide map layers and products, maintain the fishery restoration project database, and analyze digital map layers in cooperation with federal, state, Native American tribes and other entities involved with restoration efforts in the Klamath River Basin. The TWG Research Assistant also continued to provide the TWG and its subcommittees with meeting documentation and general support. The majority of GIS efforts lent support to subbasin planning and the continuing cooperative microhabitat and flow study (including water quantity and quality modeling) work between the USGS Midcontinent Ecological Science Center and the U.S. Fish and Wildlife Service. Products from the vegetation mapping of the Klamath Bioregion from Landsat imagery that was completed by the Klamath Bioregional Assessment Project have been incorporated for spatial analysis that will assist the TWG examine parameters affecting anadromous fishery recovery efforts.

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**BACKGROUND**

The Klamath Act of 1986 (16 U.S.C. 460 et seq.) established the Klamath River Basin Conservation Area Restoration Program, a 20-year fishery restoration program for the Klamath River Basin of northern California and southern Oregon (Figure 1). An advisory committee, the Klamath River Basin Fisheries Task Force was established by the Klamath Act to provide guidance in planning and implementing the Restoration Program. The Technical Work Group is comprised of representatives from the Task Force entities (appointed by their Task Force representative) who provide technical support and make recommendations to decision makers regarding the biological needs of anadromous fish.

In 1994 the Task Force Technical Work Group (TWG) contracted with the Humboldt State University Foundation (Unit Cooperative Agreement No: 14-0009-1547; Research Work Order No: 38) to assemble and develop Geographic Information System (GIS) digital data layers for fisheries restoration planning in the Klamath River Basin.

**INTRODUCTION**

The funding provided through this cooperative agreement was used to continue providing the Task Force and the TWG with GIS technical and planning support for fiscal year 1997 and to meet the following objectives:

- A. To continue to provide map layers, fishery restoration data, spreadsheets and other products that assist the Klamath River Basin Fisheries Task Force (KRBFTF), Technical Work Group (TWG), and the U.S. Fish and Wildlife Service-Klamath River Fish and Wildlife Office (USFWS) in reviewing past restoration efforts and prioritizing ongoing fishery restoration within the Klamath River Basin.
- B. To continue to work with the KRBFTF, TWG and the USFWS Klamath River Fish and Wildlife Office in analyzing and disseminating information related to Klamath River Basin fish habitat and fish restoration projects.
- C. To continue to provide general support and documentation of TWG activities.

- D. To coordinate and cooperate in the acquisition and dissemination of geographic information among cooperating entities. This will include providing general GIS support to Coordinated Resource Management Planning (CRMP) efforts in various subbasins of the Klamath Basin and GIS orientation workshops and limited training.
- E. To support the KRBFTF, USFWS, and TWG in the coordination of subbasin restoration plans for the Klamath River Basin.

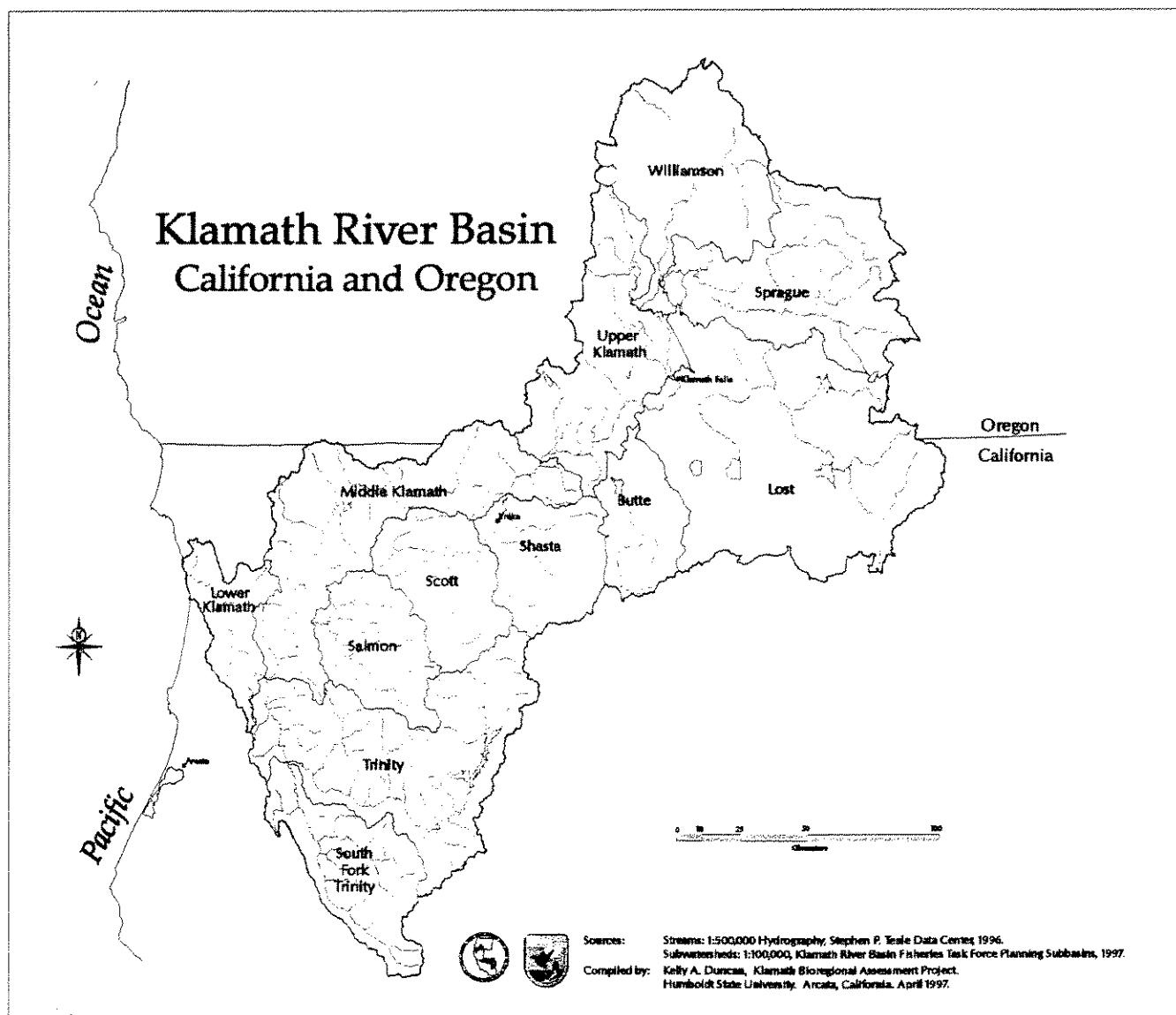


Figure 1. Klamath River Basin, California and Oregon.

## **METHODS AND MATERIALS**

This project focused on support for subbasin planning and efforts surrounding fisheries restoration and flow study work. One way that this was accomplished was through ongoing participation and documentation of TWG meetings and associated subcommittees. The following section provides a list of the meetings attended. Full meeting notes for Technical Work Group and subcommittee meetings are on file at the U.S. Fish and Wildlife Service (USFWS), Klamath River Fish and Wildlife Office (KRFWO) in Yreka.

### **Technical Work Group Meetings:**

1. November 20, 1996. USFWS, Yreka, CA.
2. December 12, 1996. College of the Siskiyous, Yreka, CA. Research and Monitoring Needs Meeting.
3. February 18-20, 1997. Miner's Inn, Yreka, CA.
4. March 14, 1997. Miner's Inn, Yreka, CA. Problem Identification for Flow Study Scoping (development of questions to assist the Task Force at their April IFIM meeting).
5. May 28-30, 1997. Ashland Hills Inn, Ashland, OR. Proposal Ranking Meeting.
6. August 11-12, 1997. Humboldt State University, Arcata, CA. USGS/SIAM Meeting.
7. September 29-30 and October 1, 1997. Ashland Hills Inn, Ashland, OR. Flow Study Plan Development.

### **Subbasin Planning Subcommittee Meetings:**

1. October 30, 1996. USFS Orleans Ranger District, Orleans, CA.
2. November 19, 1996. USFWS, Yreka, CA.
3. May 20, 1997. Klamath National Forest Supervisor's Office, Yreka, CA.
4. July 29, 1997. USFS Happy Camp Ranger District, Happy Camp, CA.
5. August 19, 1997. Humboldt State University, Arcata, CA. Mapping Needs Meeting.
6. September 23-24, 1997. Salmon River Restoration Council Office, Sawyer's Bar, CA.

### **Flow Study Subcommittee Meetings:**

1. July 15-16, 1997. Agricultural Commissioner's Office, Yreka, CA.
2. July 30, 1997. USFWS Forensics Laboratory, Ashland, OR.
3. August 13, 1997. Humboldt State University, Arcata, CA.
4. September 4, 1997. USFS Scott/Salmon River Ranger Districts, Fort Jones, CA.

### **Klamath River Basin Fisheries Task Force Meetings:**

1. October 10-11, 1996. Best Western Inn, Brookings, OR.
2. February 20-21, 1997. Miner's Inn, Yreka, CA.
3. April 18, 1997. Yurok Office, Eureka, CA. Mid-Program Review Subcommittee Meeting.
4. April 23-24, 1997. Red Lion Inn, Eureka, CA. IFIM Meeting.

## **RESULTS AND DISCUSSION**

The following section addresses the tasks identified in the scope of work, including accomplishments and any problems that were encountered.

*Task 1. To continue to provide GIS research and mapping products required by the TWG.*

The TWG Research Assistant continued to provide GIS products to the TWG. Updated maps were created for the water quantity model and microhabitat efforts underway with the USGS (Figures 2 and 3). Additional flow study maps were prepared for the mainstem Klamath River. Planning maps were developed for the lower Klamath River tributaries. New maps were completed for the Request for Proposals packet after the Lower and Middle Klamath Task Force Planning Subbasin boundaries were changed in February 1997 to reflect how the areas are managed (Figures 4, 5, and 6). A database was created from GPS points to represent thermal refugia locations identified during the field season 1996 (Figure 7). Map products representing TWG efforts were also provided to the U.S. Fish and Wildlife Service for grant proposals and their final report.

*Task 2. To continue to provide the TWG with documentation services at TWG meetings.*

The TWG Research Assistant assisted in all aspects of communication with TWG members and cooperators, meeting arrangements and agenda preparation. In addition, the TWG Research Assistant attended and documented full TWG meetings, subbasin planning subcommittee meetings, microhabitat/flow study subcommittee meetings, a TWG research and monitoring meeting and one Task Force subcommittee meeting. These meetings included the continued development of instream flow investigations and significant progress in subbasin planning efforts.

*Task 3. To examine, using GIS and remote sensing technology, spatial, biophysical and cultural parameters affecting anadromous fishery recovery efforts.*

Data development continued this year to assist in examination of the parameters affecting anadromous fishery recovery efforts. A separate effort by the Klamath Bioregional Assessment Project recently completed the map and database of existing vegetation in the Klamath Bioregion derived from 1994 Landsat imagery. This data was then incorporated into analysis examining parameters affecting anadromous fishery recovery efforts. An ongoing project is assessing landscape factors surrounding landsliding and debris torrent events in the Salmon River, home to some of the last best runs of anadromous fish in the Klamath Basin.

## Water Quantity Model Nodes Klamath River Mainstem

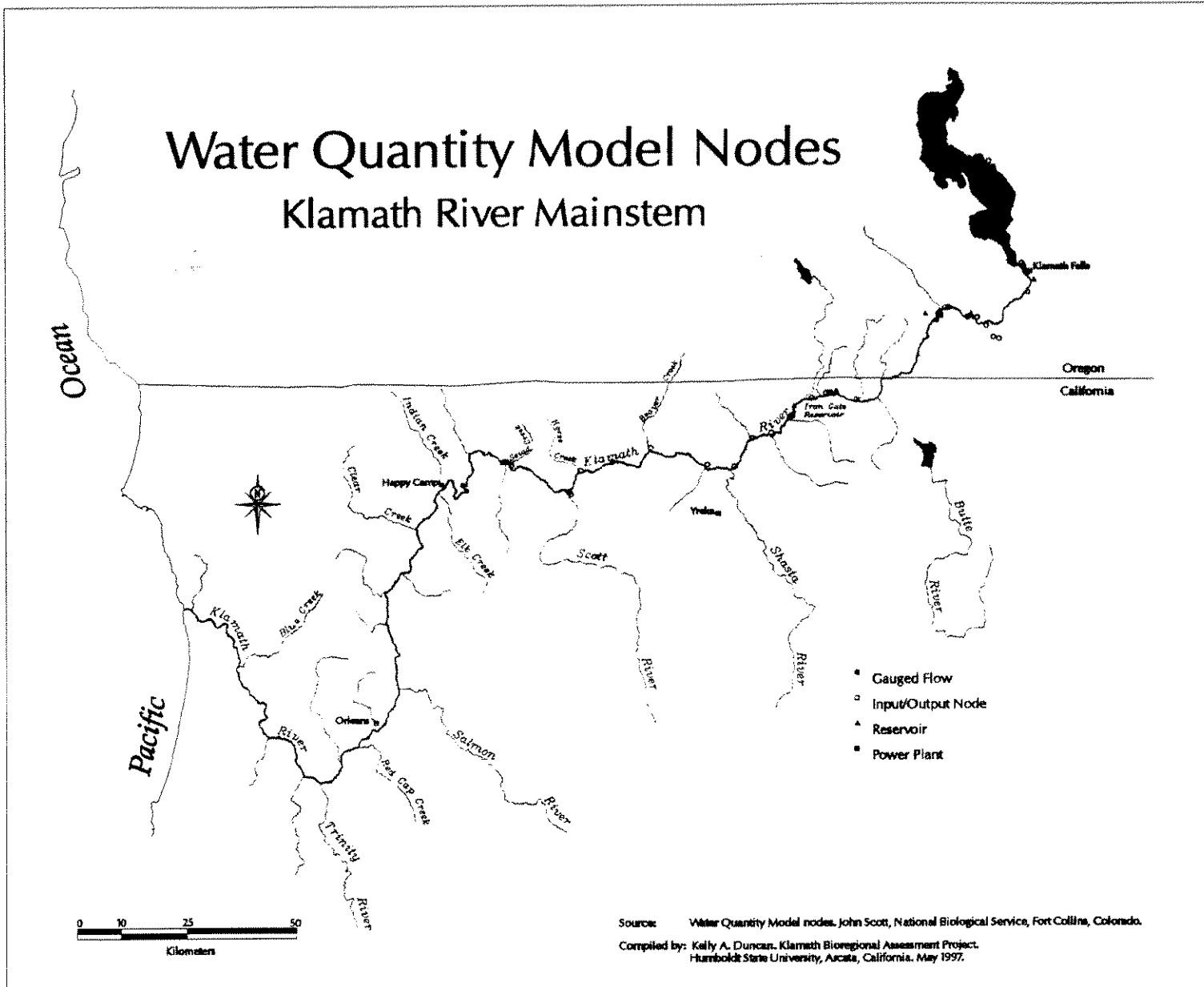
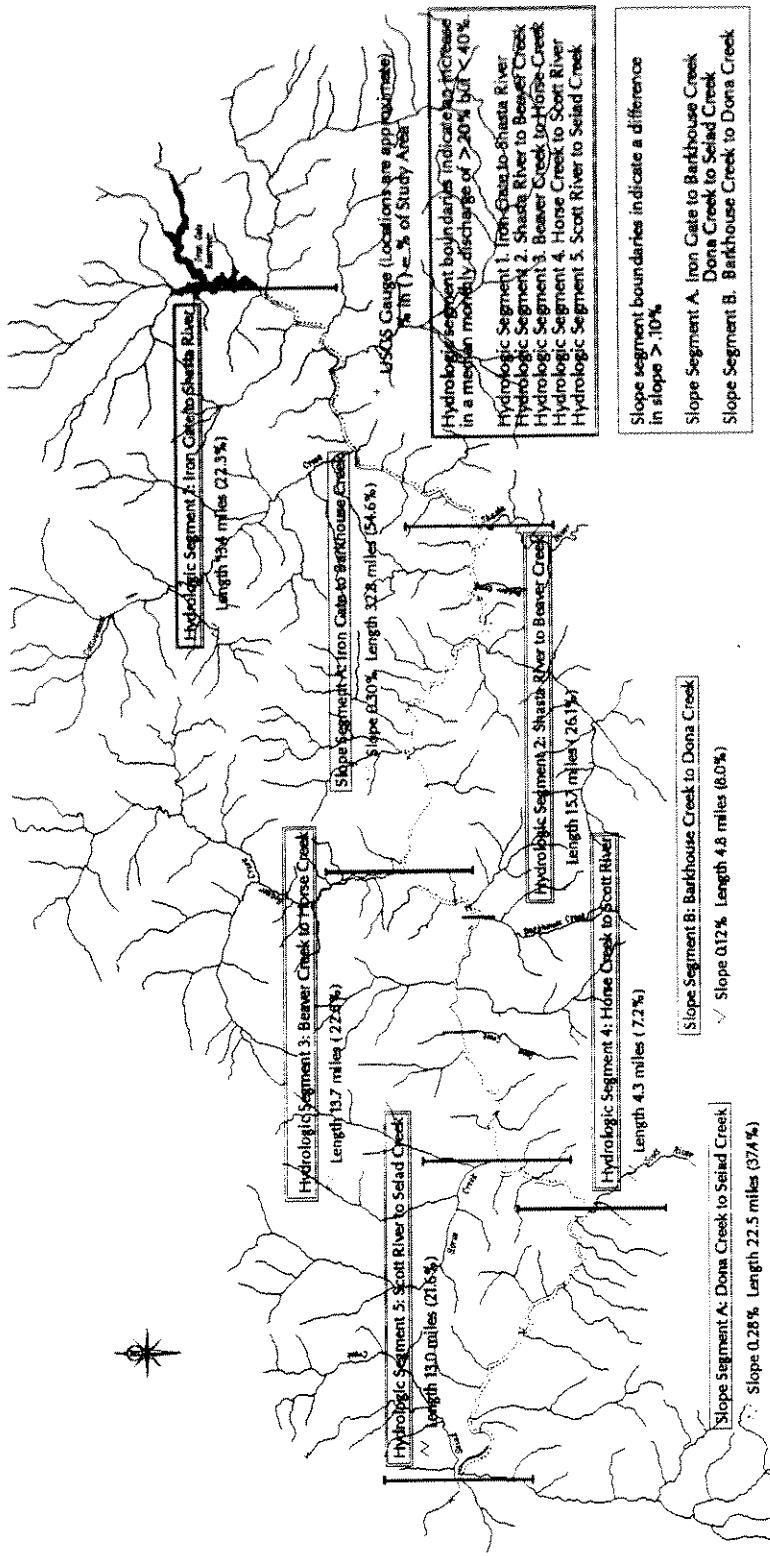


Figure 2. Water Quantity Model Nodes

# Hydrologic Segments and Slope Segments for the Physical Microhabitat Study Area

Klamath River - Iron Gate Dam to Selad Creek (60.1 miles)

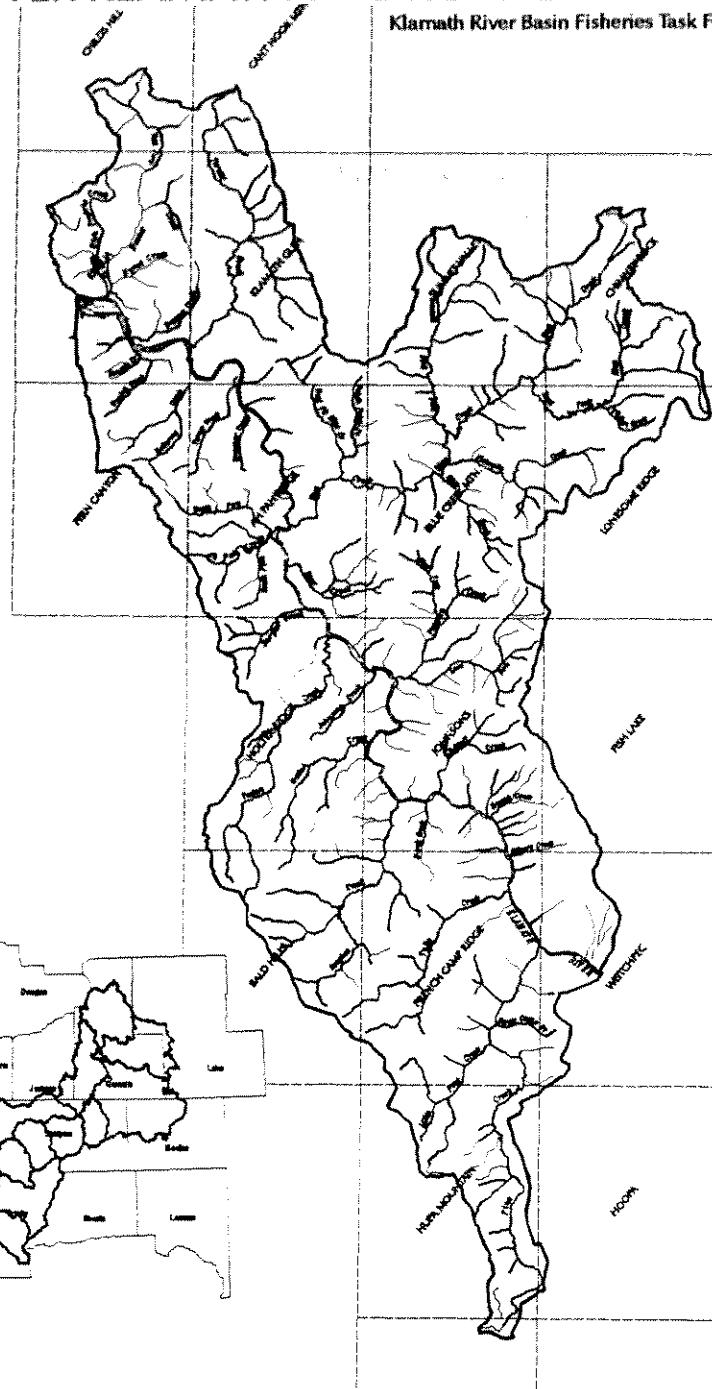


Source: Hydrologic Segments, Slope Segments, and USGS Gauges: Jim Mearns, U.S. Geological Survey, Biological Resource Division, Fort Collins, Colorado.  
Compiled by: Kelly A. Duncan, Klamath Bioregional Assessment Project, Humboldt State University, Arcata, California. March 1997.



# LOWER KLAMATH HYDROLOGIC SUBBASIN

Klamath River Basin Fisheries Task Force Planning Subbasin



Please indicate the location of the proposed project.  
Identify the project location by placing a colored point  
on the base map provided. For projects that are linear in  
nature, please highlight the stream reach of the proposed  
project.

0 2.5 5 10 15 Kilometers

USFWS Project Number: \_\_\_\_\_

CDFG Project Number: \_\_\_\_\_

Project Proponent: \_\_\_\_\_

Project Title: \_\_\_\_\_

Fiscal Year: \_\_\_\_\_

Stream Name: \_\_\_\_\_

Tributary To: \_\_\_\_\_

USGS Quad Name (1:24,000): \_\_\_\_\_

Township/Range: \_\_\_\_\_

Section Number: \_\_\_\_\_

▲ Potential Stream

○ Intermittent Stream

△ Ditch or Canal

◆ 1:24,000 USGS Quad



Figure 4. Lower Klamath KRBTF Planning Subbasin

MIDDLE KLAMATH HYDROLOGIC SUBBASIN Map 1 of 2

## Klamath River Basin Fisheries Task Force Planning Subbasin

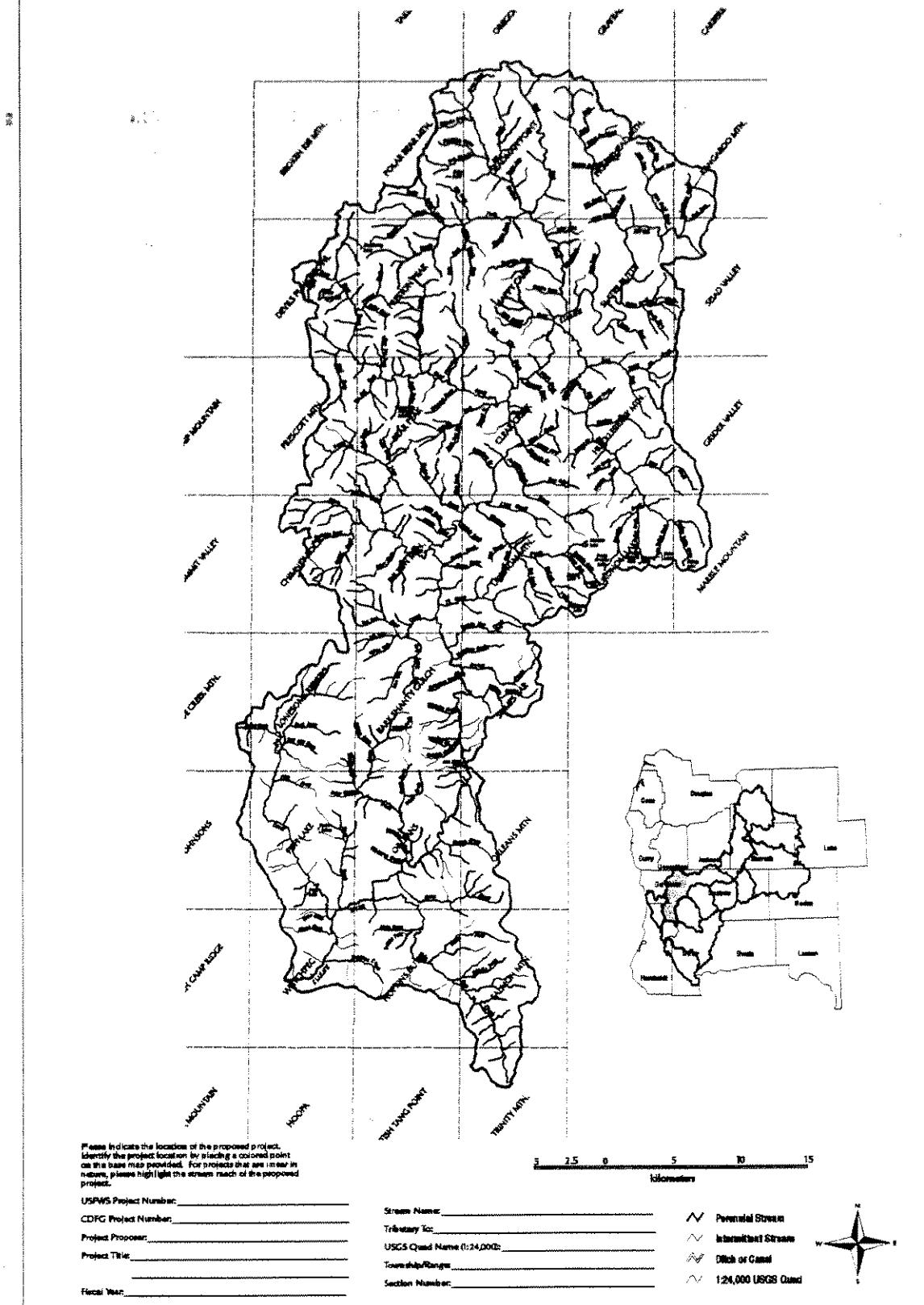


Figure 5. Middle Klamath KRBFTF Planning Subbasin, Map 1 of 2

## MIDDLE KLAMATH HYDROLOGIC SUBBASIN Map 2 of 2

Please indicate the location of the proposed project. Identify the project location by placing a horizontal point on the base map indicated by the two lines in name and place highlight the stream reach of the proposed project.

USFWS Project Number: \_\_\_\_\_

CDFG Project Number: \_\_\_\_\_

Project Popular: \_\_\_\_\_

Project Title: \_\_\_\_\_

- Potential Stream
- Instream Green
- Ditch or Canal
- 124,000 USGS Quad

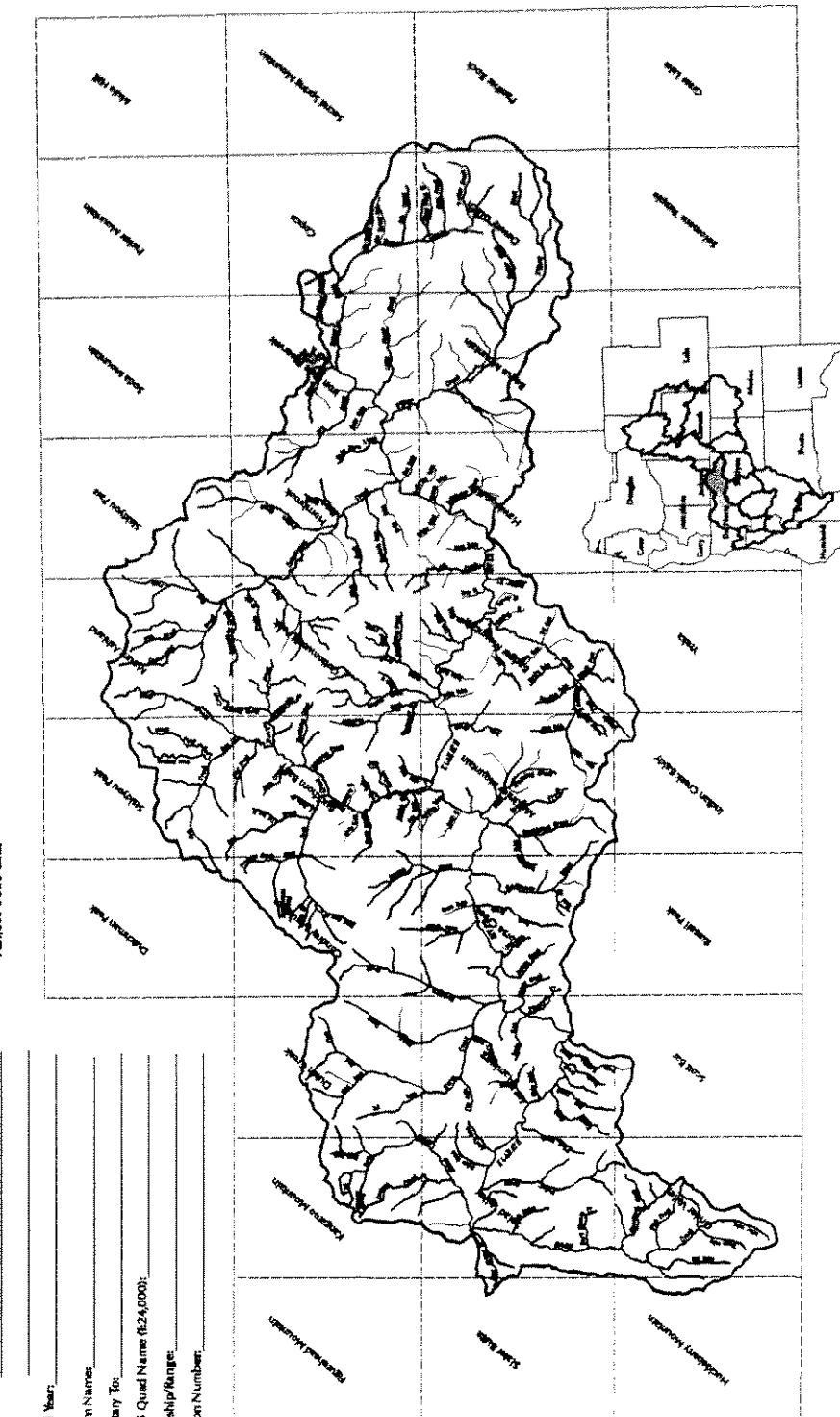


Figure 6. Middle Klamath KRBFTF Planning Subbasin, Map 2 of 2

# Cool Water Areas in the Klamath River Mainstem, 1996

Iron Gate Dam to Seiad Creek

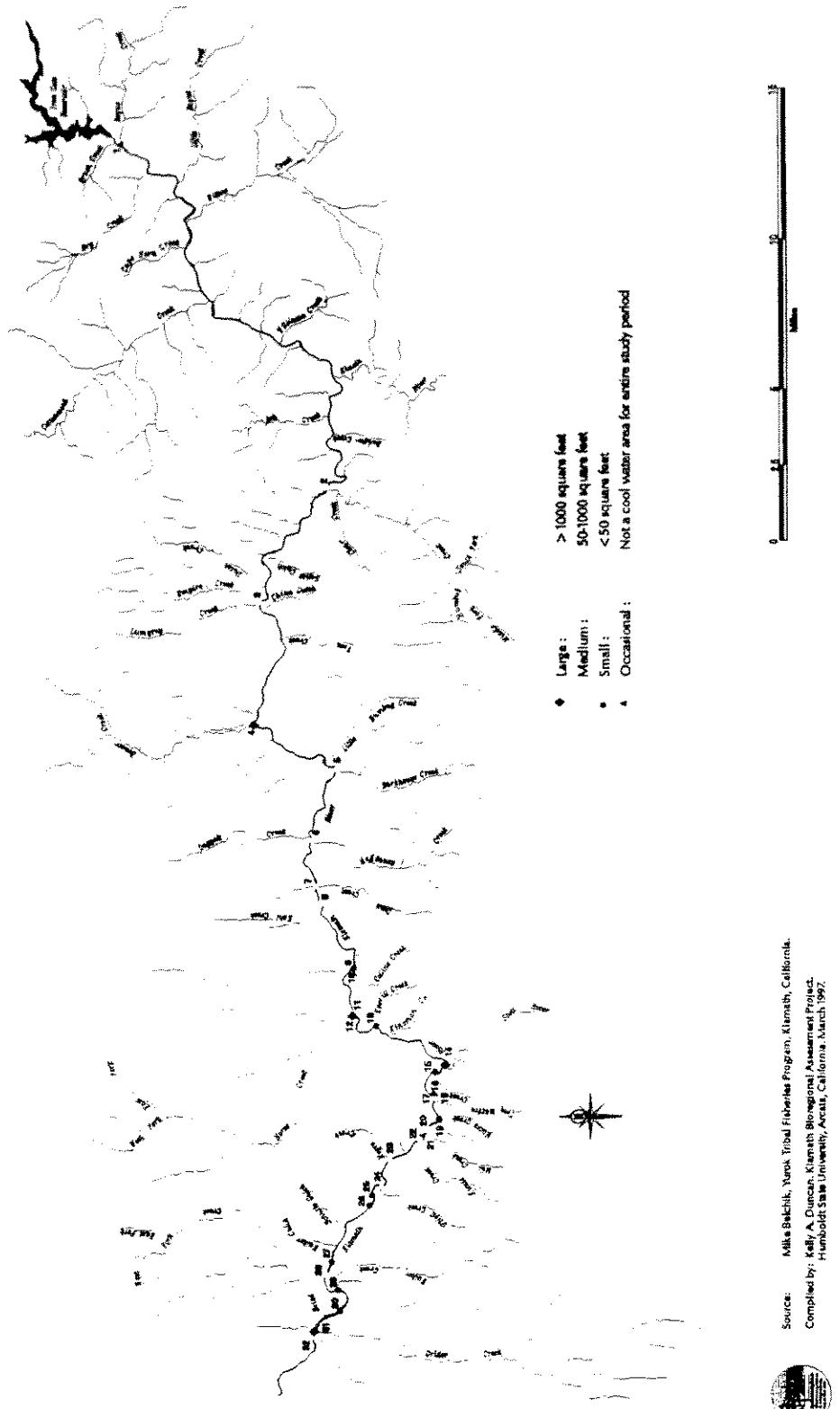


Figure 7. Cool Water Areas in the Klamath River Mainstem, 1996

*Task 4. To coordinate GIS data collection and dissemination among GIS cooperators in the Klamath Basin.*

GIS data sets and product transfers occurred throughout the past year of this project. The Klamath Bioregional Assessment Project kept a record of many of these data transfers (Appendix B). Research was conducted to determine available data sources from around the area and metadata for available layers was collected. A “mapping needs” meeting was held at Humboldt State University in conjunction with subbasin planning to determine and begin to meet the additional GIS needs of the individual subbasins.

*Task 5. To facilitate digital data transfers among GIS cooperators and end users, such as CRMP projects and, when appropriate, the Klamath Resource Information System (KRIS).*

Data transfers between GIS cooperators and end users were provided in a number of different ways throughout this project. Hardcopy maps of such things as subbasins, modeling efforts, and basin-wide layers were distributed to TWG members, the USGS Midcontinent Ecological Research Center, and the USFWS (Arcata and Yreka offices). The Klamath Resource Information System and the USFWS offices have been on the receiving end of digital data created by the Klamath Bioregional Assessment Project, including annotated stream layers and the KRBFTF Restoration Project Database. See Appendix B, for a comprehensive list of data transfers.

Many different levels of technology are being utilized throughout the Klamath Basin by TWG cooperators. This can create challenges for sharing data between user groups. The Salmon River Restoration Council (SRRC) and the Karuk Tribe have relied on Humboldt State University for assistance in converting data that they received from the USFS, Klamath National Forest.

*Task 6. To assist the Scott, Shasta, and newer CRMPs with ARCVIEW orientation and training in conjunction with the implementation of KRIS.*

The TWG decided that specific ArcView orientation for CRMPs should not be a priority for this position, but the research assistant has been available to the subbasin groups for some GIS assistance and to provide products as needed.

*Task 7. To assemble additional data sets provided or required by cooperators.*

New data sets were developed for the water quantity and water quality models, the microhabitat study area, and the thermal refugia locations. Data sets are planned for incorporating the mesohabitat typing currently underway on the mainstem Klamath River. The instream flow study efforts have increased the need for additional data on the mainstem Klamath, as well as the Scott and Shasta Rivers. The latest focus has been on sections of the mainstems of the rivers by anadromous species and life stage. This allows TWG members to concentrate on one need at a time in a particular area (Figure 8).

*Task 8. To identify data gaps for TWG review, and, as is possible, to coordinate the filling of the data gaps.*

Cooperative efforts with Siskiyou County, the North Coast GIS Cooperative, the U.S. Forest Service (Six Rivers and Klamath National Forests), and the USGS helped to identify what is available currently as well as what data is currently under development in the form of digital orthophoto quadrangles, parcel level ownership, and other data layers. Efforts have been made to acquire available needed data and begin coordination to fill data gaps. For example, digital orthophoto quadrangles covering several subbasins within the Klamath River were purchased this year. Data for areas not yet completed will be obtained early in 1998.

*Task 9. To assist the KRBFTF and TWG in the identification of anadromous fishery restoration priorities for FY98 funding.*

New subbasin boundaries were identified (Task Force Planning Subbasins) for the lower and middle Klamath River (Figure 1). The Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program contains an outdated version of the subbasin boundaries that is an artifact of the earlier CH2M Hill plan. These new boundaries will be placed in the digital version (with KRIS) of The Long Range Plan. The restoration project maps that were distributed with the Request for Proposals for FY98 funding already reflect the boundary change (Figures 4, 5, and 6).

Work was continued this past year with the Restoration Projects Database, including locations and information about proposed projects for FY98 (Figure 9). The TWG Research Assistant worked interactively with the TWG at their annual proposal ranking meeting to highlight locations of proposed and previously funded projects. Plans are currently underway to further improve this spatial database and its usefulness in ranking projects.

## KLAMATH RIVER - SCOTT RIVER TO SALMON RIVER

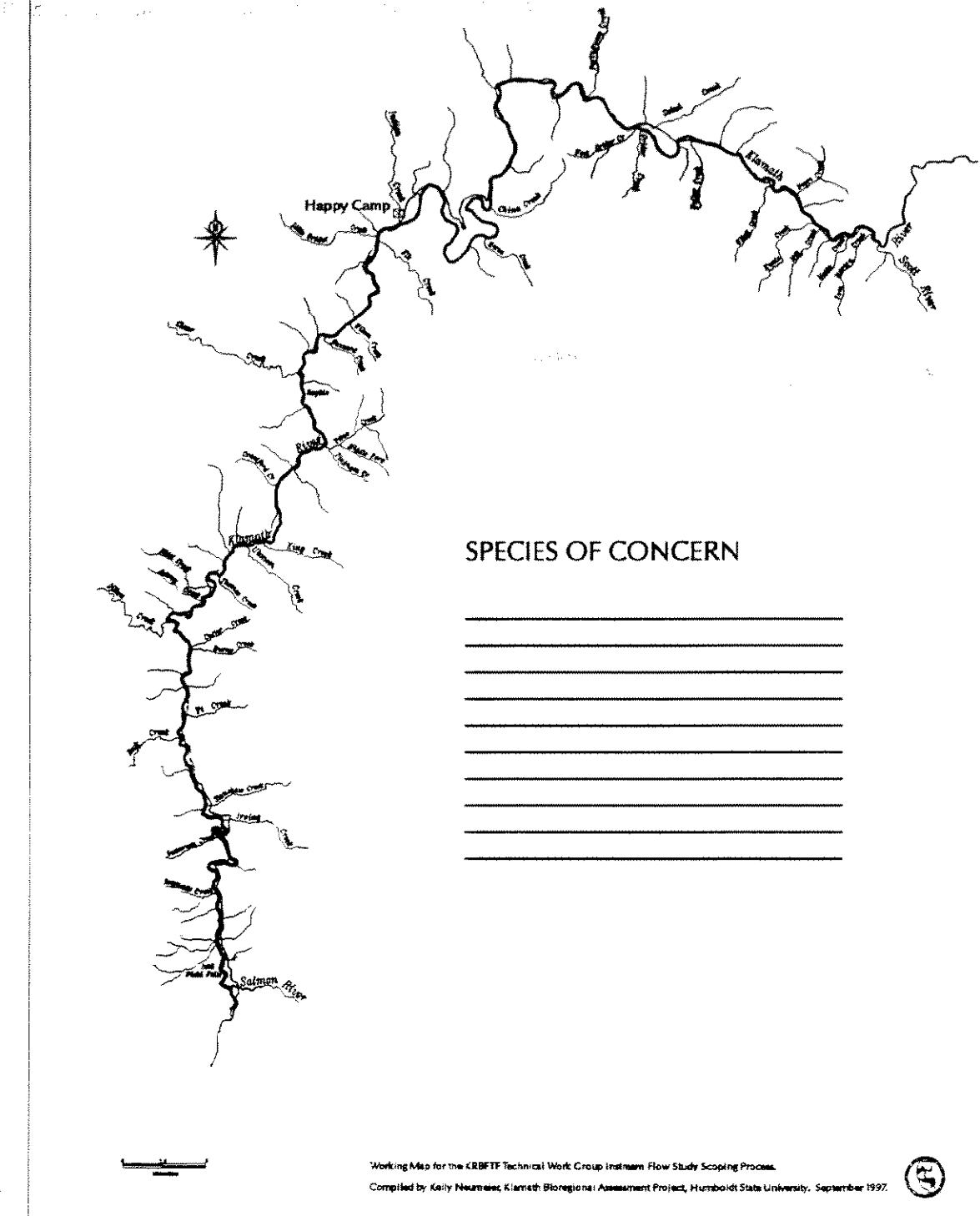


Figure 8. Flow Study Planning Map: Klamath River - Scott River to Salmon River

## Restoration Activities in the Klamath River Basin

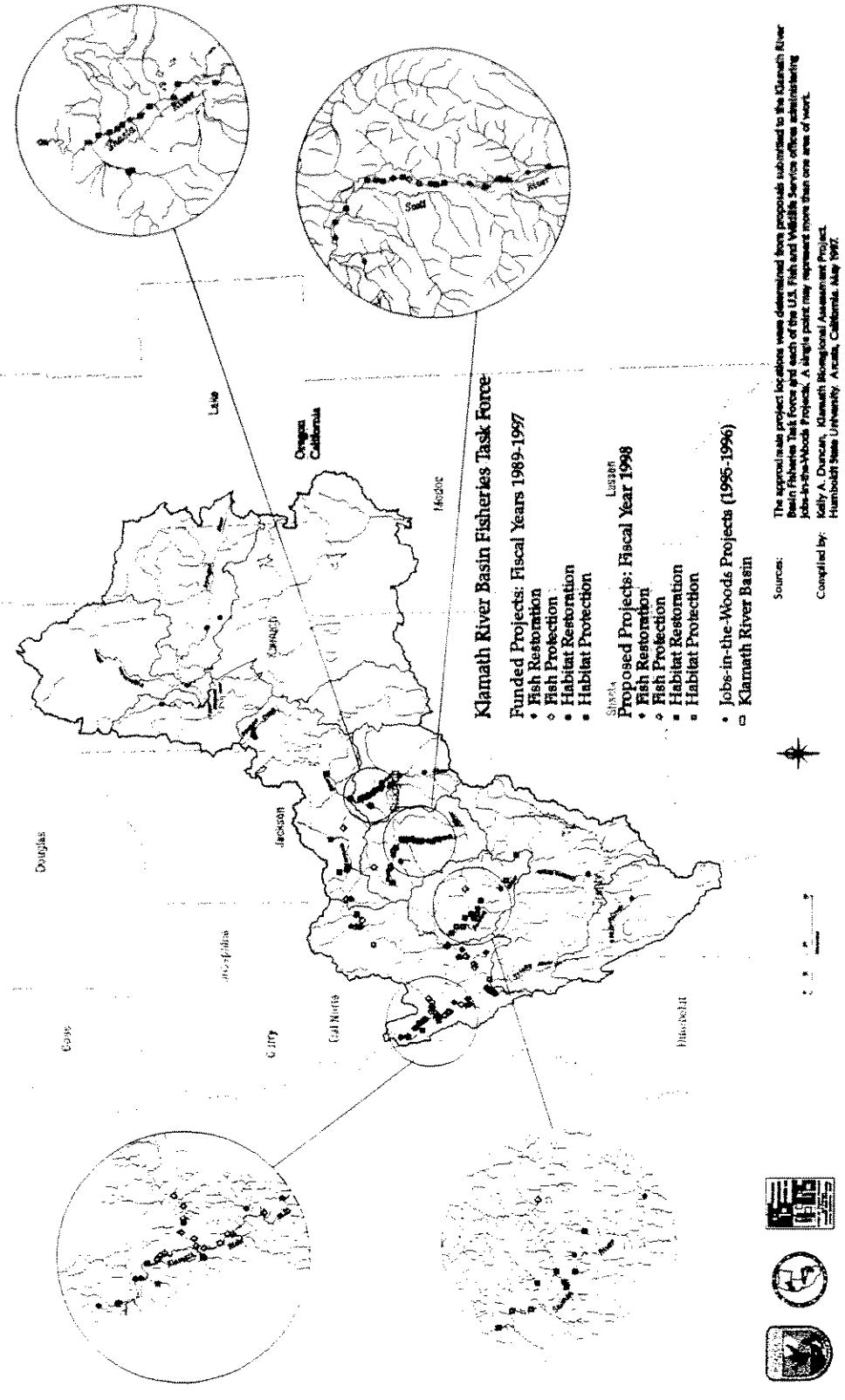


Figure 9. Restoration Activities in the Klamath River Basin

Task 10. *To continue to update the TWG on digital biophysical data compilation and modeling efforts of the Klamath Basin Bioregional Assessment Project of the HSU Foundation and to utilize this information in KRBFTF, USFWS, and TWG efforts.*

The Klamath Bioregional Assessment Project at Humboldt State University completed its vegetation classification of the Klamath Province this year. Vegetation maps and ArcView projects utilizing the new vegetation grids have been distributed to the USFWS Yreka office to assist in their efforts. Ongoing data compilation efforts have also been used to provide products for the USFWS-KRFWO year-end report and grant proposals. Data sets created for the Klamath River Instream Flow Study have been used to assist with KRBFTF meetings, including the IFIM meeting held in Eureka, CA in April 1997 where Dr. Tom Hardy facilitated.

Participation in the Klamath Basin Restoration and Management Conference March 11-13, 1997 furthered the education of many cooperators, including the Task Force, TWG, and the USFWS, as to the efforts of the TWG Research Assistant and the Klamath Bioregional Assessment Project at Humboldt State University.

Task 11. *To provide the KRBFTF, USFWS, and TWG a comprehensive view of the full range of past and present restoration efforts and to help develop procedures to monitor each project's effectiveness.*

Kier and Associates has a contract to fulfill this role as part of the Task Force Mid-Program Review. The TWG Research Assistant did attend and document a Task Force Mid-Program Review subcommittee meeting with Kier and Associates and has provided the needed restoration project information to Kier and Associates to assist in their review of projects' effectiveness.

Task 12. *To provide a long-range program of digital data development needs and to investigate mechanisms for the completion of the tasks.*

This is an on-going process that will continue into Phase IV of this agreement. An investigation was started to identify what digital data is available locally for the Klamath River Basin. Metadata was gathered for these layers and efforts were made to obtain the data that the Klamath Bioregional Assessment Project at Humboldt State University did not already have.

- Task 13. *To support the KRBFTF, USFWS, and TWG in the development of subbasin restoration plans for the lower and mid-Klamath subbasins.*
- Task 14. *To provide technical support for the coordination of these two plans with other subbasin plans in the Klamath River watershed.*

The TWG Research Assistant has been an important part of the Subbasin Planning Subcommittee this past year. The TWG decided to form this committee and pursue developing a format for Subbasin Action Plans and the Basin Strategic Plan as they were directed to by the Task Force. This was in lieu of developing plans for individual subbasins. It was determined through the subcommittee that each subbasin would be better suited to develop or continue to develop their own plans. The TWG will provide format and guidelines in order to assist the Task Force in using the plans for establishing restoration priorities. Appendix A provides a detailed look at what the subbasin planning subcommittee has developed. The TWG Research Assistant also helped with the editing and formatting of the Draft Shasta Action Plan. Assisting with meeting preparation, facilitation and documentation was another way that support was provided for the subbasin planning effort. A mapping needs meeting (subcommittee of the Subbasin Planning Subcommittee) was held at Humboldt State University to determine GIS needs within each of the subbasins.

## **SUMMARY AND CONCLUSIONS**

GIS database and mapping efforts continued this year for the TWG. Emphasis was placed on subbasin planning and flow study components. Updates occurred for the water quantity and quality model efforts, the microhabitat study, and the restoration projects database. New efforts were started for thermal refugia and other flow study components as well as subbasin planning.

A long-term method of storing and maintaining the restoration projects database and other data created specifically for the TWG still needs to be decided upon. GIS data is being maintained at Humboldt State University for the individual subbasins addressed by subbasin planning.

Documentation services at meetings for the TWG continued this year. The increase in meeting frequency over the past several months in particular, has taken time away from GIS efforts in favor of meeting attendance. Data development, research, and analysis efforts that could really help support the future of the Restoration Program have suffered because of this. The TWG Research Assistant position is in the process of being revised to provide more GIS and truly technical research support. Subbasin planning and the flow study could both dominate the coming year. Clear priorities need to be established by the Technical Work Group in order for them to get what they want out of this relationship with Humboldt State University.

**APPENDIX A**  
**Subbasin Planning Document**

Klamath River Basin Fisheries Task Force  
Technical Work Group

# Subbasin Planning

1997

**Goal:** To protect and restore anadromous fish ...

**Need:** Determine how best to protect and restore ...

**Purpose:**

- To determine the factors limiting anadromous fish production basin-wide and prescribe and prioritize solutions
- To develop an on-going coordinated planning process
- To identify and prioritize the limiting factors affecting anadromous fish production within the subbasins

**Objectives:**

- To develop subbasin action plans
- To develop a basin-wide strategic plan

# What is a Subbasin Action Plan?

- Background / Current Status
  - Physical/Biological
- Describes important problems and needed remedial actions
  - Protection -Restoration -Education
- Prioritizes Actions
- Describes Cooperators' Roles
- Estimate Costs

## What are its uses?

- Provides basis for informed decisions by the Technical Work Group
- Allows Program to write directed RFPs
- Allows basin-wide planning and implementation decisions
  - Permits TWG to define basin-wide priorities
- Tool for Task Force to assess Program funding deficiencies
- Allows use of adaptive management
- Provides opportunity for input from cooperators

Continued...

- May facilitate development of  
Endangered Species Act Take Permits  
where needed for restoration work
- Tool for the Task Force to monitor  
progress of the Program
- Provides guidance for local private  
sector involvement

## What are the benefits?

- Plans reflect input from subbasin residents
- Levels the RFP “playing field”
- Validates ongoing, independent planning efforts
- Optimization of benefits derived through the RFP funding process
- Enables the Task Force to support requests for appropriation of additional federal money with accurate cost analysis information

# What are fundamental/shared elements?

- Flexibility/Adaptability
  - Plans will be reviewed and revised on a regular basis
- Plans will be consistent/complementary with basin-wide strategy
- Common Format and Language
- Subbasin data will be maintained in a geographical database (GIS/KRIS)

# **Subbasin Action Plan Outline**

## **Preface: Restoration Program Information**

- 1. Introduction**
  - 2. Subbasin Introduction**
  - 3. Subbasin Objectives**
  - 4. Actions**
- Glossary**
- Appendices**

# Preparation Roles and Responsibilities

## A. TWG

- ◆ Develop plan: Direct, coordinate, compile/standardize existing information, and identify new information needed
- ◆ Stay with the science (Optimize objectivity)
- ◆ Evaluate scientific soundness and quality
- ◆ Engage in dialog with cooperators

## **B. Program Cooperators**

- ◆ Provide initial information and interpretation
- ◆ Engage in dialog with TWG
  - Advice and recommendations
- ◆ Designate liaisons

## **C. Task Force**

- ◆ Fund Planning Process
- ◆ Review and APPROVE Subbasin Action Plans

# Propose Process for Plan Development

- Funding
- Personnel
- Timelines
- Public Meetings
  - Local to each subbasin

## **Subbasin Action Plan Outline**

**Preface: Restoration Program Information:** Goals, Task Force Authority, Basin Map

**I. Introduction:** Describe subbasin planning process and why the Plan is needed; Uses of the Plan (same for all subbasins)

### **II. Subbasin Introduction**

A. Background -Subbasin map; Stakeholders/resource users; cultural and resource history, etc.

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

1. Geology (landslides, background geology, and geomorphology)
2. Fish (fish species, population dynamics, and fish habitat)
3. Hydrology
4. Vegetation
5. Fire
6. Land Uses (agriculture, forestry, mining, roads, ownership, dams, diversions, municipal, hydropower)
7. Wildlife
8. Urban
9. Cultural
10. Present water rights and fish protection laws (appendix?)
11. Education/Cooperation
12. Current Environmental Baseline Matrix

### **III. Subbasin Objectives**

Integration of Background and Current Status Information (Example: On Shasta River historic records indicate >80,000 fish. Currently, 3,000. Objective: Increase fall chinook to a minimum of 5,000 over the next 5 years.)

### **IV. Actions**

A. Matrix Description

B. Matrix Elements:

Priority Level, Project, Estimated Costs, RFP Possible, Comments

### **Glossary of Terms**

### **Appendices**

1. Subbasin Contacts -Interested Parties; Former Contractors; Agencies; Roles of Contacts

2. RFP Process Information

3. Other Funding Sources

4. Additional Subbasin Information Sources

5. List of Surveyed Streams -Would include information provided by cooperators i.e. 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.)

**APPENDIX B**  
**Klamath Bioregional Assessment Project Data Transfer Log**

Humboldt State University			HSU GIS Lab (707) 826-5417 fax (707) 826-4145
Natural Resources Planning & Interpretation Department			
Forestry Department			
Arcata, California 95521			
<b>Klamath Bioregional Assessment Project at Humboldt State University</b>			
10/1/96	Dianne Osborne	Georgia Trehey	Classified Imagery, (7) 100k quads, matching 100k quad boundary coverage (1) 8mm tape
10/08/96	Karen Kovacs CDFG - Eureka	Georgia Trehey	Unsupervised classified 7.5 quads (2) Lord Ellis Summit, Bull Creek (2) hardcopy maps
10/31/96	Mike Belchik Yurok Tribe	Kelly Duncan	Cold Water Refugia Study Area Map (1) Large hardcopy map
11/5/96	Mike Neuman Klamath Falls, OR	Kelly Duncan	Jobs-in-the-Woods Map (1) Large hardcopy map
11/11/96	Dan Gale	Kelly Duncan	Blue Creek and Lower Klamath Maps (1) Large hardcopy map (1) Small hardcopy map
11/20/96	TWG Members: Mark Pisano, Bob Rohde, Dan Gale	Kelly Duncan	Subbasin Ownership Maps Hardcopy maps
11/25/96	John Hamilton USFWS - Yreka Office	Van Hare	ArcView Project of Klamath Subbasins (Base Layers and TE Species Data) (1) QIC-80 250 mb tape
11/26/96	Mike Belchik Yurok Tribe	Kelly Duncan	Cold Water Refugia Study Area Map (1) Large hardcopy map (1) Small hardcopy map
11/27/96	Jack Booth CDFG - Ukiah	Georgia Trehey	Unsupervised classified 7.5 quads (4) Noyo Hill, Northspur, Brushy Mountain, Jamison Ridge (4) Large hardcopy maps
12/11/96	Alan Cooperider ERO - Ukiah	Georgia Trehey	Supervised classified map (1) Big River Watershed (1) Large hardcopy map
12/16/96	Mike Neuman	Barb Kinison Brown	shaded relief map clipped to the ecoregion (ecolimage.tif) and cgm file for domains (domain.cgm) copied to Mikes directory
12/18/96	Mike Neuman	Barb Kinison Brown	hillshade of ecoregion (ke_hshd) copied to Mikes directory
12/18/96	Tom Shaw USFWS - Arcata	Kelly Duncan	Updated Microhabitat Study Area Map (1) hardcopy map
1/2/97	Mike Neuman	Barb Kinison Brown	satellite imagery covering the upper lake kimbd and kimbd3 copied to Mikes directory
1/2/97	Pam Halstead Fortuna Union High School 1 each forwarded to Nadananda, Friends of the Eel River	Georgia Trehey	Unclassified (raw) imagery maps , Eel River Watershed, (2) clipped to watershed boundary, (2) unclipped (4) Hardcopy maps
1/6/97	Pat Higgins	Kelly Duncan	Updated Subbasin Watershed Boundaries (1) 3.5" floppy diskette
1/10/97	Jim Henriksen USGS Biological Resources Division (NBS) Ft Collins, CO	Kelly Duncan	Updated Microhabitat Study Area Map (2) hardcopy maps
1/10/97	Dan Gale Yurok Tribe	Kelly Duncan	Lower Klamath Tributary Maps (5) Small hardcopy maps (4) Large hardcopy maps
1/10/97	Forest Science Project H.S.U.	Kelly Duncan	Klamath Economic Zone Ownership ftp
1/10/97	Tim Burton CDFG - Montague	Georgia Trehey	Supervised classification map (1) , (2) eik model maps, weighted & unweighted (3) Large hardcopy maps

1/12/97	Forest Science Project H.S.U.	Van Hare	Klamath Economic Zone 1:100K streams	ftp
1/13/97	Bill Kier	Kelly Duncan	Database items for the Task Force Restoration Projects Database	Fax
1/15/97	USFWS-KRFWO	Kelly Duncan	Klamath Basin Restoration Activities map compositions	Hardcopy maps
1/15/97	Andy Draper UCD, Dept. Land, Air and Water Resources	Darian La Brie	Data Layers: basin boundaries, counties, DEMS,lakes, ownership, quad index, soils, streams, and watersheds	ftp
1/15/97	Dave Mauser KBNWR	Darian La Brie	Maps for Klamath Basin National Refuge data: roads, hydro,PLSS, waterfowl surveys	(3)large hardcopy maps (2)small hardcopy maps
1/15/97	Mike Neuman	Barb Kinison Brown	Lan file for shaded relief map (kzimage.lan)	Copied to Mikes directory
1/16/97	Forest Science Project H.S.U.	Van Hare	Klamath Economic Zone Roads (kzroads) California Roads (caroads) Oregon/California Cities (orca_pt & orca_poly)	ftp
1/17/97	Mike Neuman	Barb Kinison Brown	Lan file for shaded relief map clipped to the ecoregion (keimage.lan)	Copied to Mikes directory
1/24/97	Terry Roelofs Fisheries Department H.S.U.	Andy Bartson	Smith River Watershed Maps	(4) Large hardcopy maps
1/24/97	Jim Waldvogel Sea Grant Office Crescent City, CA	Andy Bartson	Smith River Watershed Map	(1) Large hardcopy map
1/27/97	Larry Evans Tree Foundation	Barb Kinison Brown	Available DOQs Map	(1) Large hardcopy map
2/10/97	Pat Higgins KRIS	Van Hare	Scott Valley Vegetation Map for KRIS poster session at Klamath Restoration Conference	(1) Large hardcopy map
2/26/97	Tim Burton CDFG - Montague	Georgia Trehey	Elk model 7.5 quad maps (5) Hayfork, Hayfork Summit, Papoose Creek, Trinity Dam, Weaverville	(5) Large hardcopy maps
2/28/97	Ron Iverson/John Hamilton USFWS - KRFWO Yreka	Kelly Duncan	Subbasin Maps for the 1998 RFP	(6) 11x17 hardcopy maps
2/28/97	Bethany Reisberger Humboldt Bay National Wildlife Refuge	Georgia Trehey	Vector map (1) "Watersheds of Humboldt Bay"	(1) 8 1/2 x 11 hardcopy map
3/4/97	Ron Garrett ERO - Klamath Falls, OR	Georgia Trehey	Supervised classified map showing problem of overlapping classifications	(1) Large hardcopy map
3/10/97	Dave Best / North Coast GIS Cooperative	Kelly Duncan	Spatial Analysis Logo for an "Interagency Cooperation" Poster	ftp .gra file
3/10/97	Melissa Faga Foster Wheeler Environmental Corporation	Darian La Brie	Data Layers for Headwaters Reserve EIS/EIR: roads, soils, streams,watersheds,vegetation	tar file on 8mm tape
3/12/97	Tim Burton CDFG, Shasta Valley Wildlife Area	Darian La Brie	Vegetation Layer, Two 7.5' Quads	(2) Large hardcopy maps (1) digital Erdas Imagine file
3/18/97	Greg Goldsmith USFWS - Arcata	Kelly Duncan	Annotated (partial) stream coverages for the Klamath Basin and Ecoregion 100k and 500k	ftp export files
3/10/97	Jennifer Silveira USFWS, Yreka Office	Van Hare	Vegetation Maps of the Scott Valley and Shasta Subbasins	(6) Large hardcopy maps, 3 of each subbasin.

3/21/97	Melissa Faga Foster Wheeler Environmental Corporation	Darian La Brie	vegetation layer, 7.5' quads: Eureka, Arcata So, McWhinney Creek, Fields Landing, Hydesville, Fortuna, Scotia, Bull Creek, Tayors Creek, Myers Flat, Weott, Bridgeville, Redcress, Yager Junction, Mad River Buttes, Jacko uttes. Maple Creek, Korbel, Owl Creek	
3/27/97	Karen Lee Klamath Tribes	Georgia Trehey	Final supervised classification, scene 4530	(1) 8mm tape
3/31/97	Robert Parker Trees Foundation	Darian La Brie	Subset of the NDDB - permission granted by Ken Hershagen at NHD coverage included 4 7.5' quads including the Headwaters Reserve	floppy
4/4/97	Ron Garrett ERO - Klamath Falls, OR	Georgia Trehey	Supervised classification map, Version 1.0, Williamson River Watershed	(5) Large hardcopy maps
4/16/97	Ron Garrett ERO - Klamath Falls, OR	Georgia Trehey	Supervised classification map, Version 1.0, Sprague River Watershed	(5) Large hardcopy maps
4/7/97	Ruth Blyther RCAA Natural Resources Div.	Van Hare	Copies of Humboldt Bay watershed Vector map that were originally created for the Humboldt Bay Symposium. Also vector files of the watershed boundaries within Humboldt County in Adobe Illustrator format.	(1) Large hardcopy map (2) 8.5 X 11 hardcopy maps floppy disk
4/17/97	Eric Haney/Craig Martz CDFG, Region 1	Darian La Brie	Veg classification, subset of 45_31fhr.img quads included: Mt Eddy, City of Mt Shasta, Seven Lakes Basin, Chicken Hawk Hill, Dunsmuir, Girard Ridge, Tombstone Mtn	digital - zip disk
4/27/97	Collin Bode UC Davis/JC Berkely	Darian La Brie	datasets for Klamath Basin Wildlife Refuges all datasets for Tule Lake and Lower Klam	ftp
4/28/97	John Hamilton, USFWS-KRFWO	Kelly Duncan	Klamath Basin maps with special sites identified for a 319h Grant Proposal	Hardcopy maps
5/1/97	Ron Garrett ERO - Klamath Falls, OR	Georgia Trehey	Supervised classification map, Version 1.0, Lost River Watershed	(5) Large hardcopy maps
5/7/97	Thomas Dunklin Mattole Restoration Council & HSU Geology Graduate Student	Van Hare	Streams w/in Mattole & Eel watersheds (1:100k) Roads w/in Mattole & Eel watersheds (1:100k) Mattole and Eel watershed boundaries	ftp export files
5/7/97	Karen Lee	Georgia Trehey	Various supervised classifications .img files. 4530, 4430, 4531, 4431	(1) 8mm tape
5/9/97	Pat Higgins KRIS	Van Hare	Copy of subbasins ArcView project that was originally created for Yreka USFWS Office (excluding all TE Species data).	(1) zip disk used to transfer.
5/1/97	Tim Burton, Shasta Valley WA, CDFG	Darian La Brie	Veg maps for the Willow FlyCatcher study quads included: Ashe Creek Butte, Bartle, Bray, DeadHorse Summit, Elk Spring, Garner Mtn., Horse Peak, Kinyon, Little Shasta, Penoyer, Rainbow Mtn., Tennant	digital images and hardcopy maps
5/13/97	Tim Burton, CDFG, Shasta Valley WA	Darian La Brie	all classifications in final ... 45_31fhr.img, 46_31fhr.img, 46_32fhr.img	
5/13/97	Tim Burton CDFG - Montague	Georgia Trehey	Elk model maps	(2) Large hardcopy maps
5/13/97	Mike Neuman Klamath Falls, OR	Georgia Trehey	Supervised classifications, GRID and tif formats portions of all 9 TM scenes	(1) Zip disk
5/15/97	Ron Garrett	Georgia Trehey	Supervised classification maps, Version 1.0 Lost, Sprague, Williamson Watersheds	((15 (5 each of 3 )) large hardcopy maps
5/19/97	Jennifer Silveira USFWS, Yreka Office	Van Hare	Scott and Shasta Vegetation grids and Arcview project. Supporting documents inc.	(1) zip disk
6/2/97	Mike Neuman	Georgia Trehey	GRID mosaic of all 9 classified scenes	ftp transmission

	Klamath Falls, OR		
6/9/97	Tim Burton CDFG - Montague	Georgia Trehey	158 class vegetation 7.5 quads (3) Dos Rios Noyo, Logandale; 158 class vegetation 30x30 quad McArthur West
6/15/97	Dave Webb Shasta CRMP	Van Hare	Maps of Scott and Shasta SHR classification 1.0 and map of ownership and riparian buffer in Scott and Shasta subbasins.
6/15/97	Mark Pisano CDFG - Yreka	Van Hare	Maps of Scott and Shasta SHR classification 1.0 and map of ownership and riparian buffer in Scott and Shasta subbasins.
6/20/97	Terri Weist CDFG - Montague	Georgia Trehey	Accuracy assessment points over color comp. image, 7.5 quads (3) Big Bend, Shoelhorse Mountain, Yellowjacket Mountain
6/25/97	Terri Weist CDFG - Montague	Georgia Trehey	Accuracy Assessment points over color comp. image, 7.5 quads (2) Burney Falls, Skunk Ridge
7/16/97	Terri Weist CDFG - Montague	Georgia Trehey	158 class vegetation 7.5 quads (5) Big Bend, Burney Falls, Shoelhorse Mountain, Skunk Ridge, Yellowjacket Mountain
7/21/97	Ron Garrett ERO - Klamath Falls, OR	Georgia Trehey	158 class vegetation GRIDS of 18 Hucs: butte, idam, kw_id_west, up_idam, chetco, mattole, smith, upperdamik, illinois, lost, salmon, sprague, will, kw_id_east, scott, sth_fk_tr
7/25/97	Trees Foundation	Curtice Jacoby	KBERO GIS Database
7/28/97	Chris Curtis USFS Remote Sensing Lab	Georgia Trehey	158 class vegetation .img of 4531
7/29/97	Colin Brooks Hoplard Research & Extension Center Hoplard, CA	Georgia Trehey	158 class vegetation GRID of 4533
7/30/97	David Mauser Lower Klamath Refuge	Isabella Johannes	Set of 12 Water Contour Maps
8/1/97	Andy Peavy Winnema National Forest	Georgia Trehey	158 class vegetation GRID Sprague Huc
8/10/97	Jennifer Silveira USFWS-Yreka	Van Hare	90m dems for the Klamath Basin clipped by subbasin
8/1/97	Colin Brooks Hoplard Research & Extension Center	Van Hare	ArcView legend file for SHR classification Arcinfo shaderset for use with SHR classification
8/1/97	Colin Brooks Hoplard Research & Extension Center	Georgia Trehey	159 class vegetation GRID of 4532
8/1/97	Nadananda Friends of the Eel River, Willits	Georgia Trehey	Raw Imagery clipped Eel River Watershed Map
8/29/97	Chris Wayne, Oregon State University	Kelly Neumeier	Vector coverages for ownership, streams, roads and watershed boundaries
9/24/97	Chris Stiemer CDFG - Montague	Georgia Trehey	159 class vegetation GRID mosaic of 4533, 4532, 4532, 4531, 4531 - "westgrid"; 158 class vegetation GRID mosaic of 4530, 4430, 4431, 4432 - "eastgrid"
9/30/97	Tom Lupo CDFG - Sacramento	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg
9/30/97	Ralph Warlington/Chris Curtis USFS Remote Sensing Lab	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg
9/30/97	Curt Mullis ERO - Klamath Falls, OR	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg

9/30/97	Mark Kildow FWS - Portland	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/30/97	Charles Haughton FWS - Region 1	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/30/97	Mike Spear FWS - Region 1	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/30/97	David Harlow FWS	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/30/97	Steve Lewis ERO - Klamath Falls, OR	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/30/97	CJ Ralph and Sherry Miller USFS Redwood Sciences Lab, Arcata	Georgia Trehey	"westgrid", "eastgrid", and companion color, text, and dbf files, in other words, all the classified veg	(1) 8mm tape
9/29/97	Technical Work Group	Neumeier/Hare	Flow Study Planning Maps	hardcopy maps
10/1/97	Jennifer Silveira USFWS-Yreka	Van Hare	ArcView project of entire Klamath Basin and its separate subbasins. Includes all base layers, data from Klamath NF and SHR classification v1.0a	(4) zip disks

**APPENDIX C**  
**HSU Klamath Bioregional Assessment Project GIS Coverage Log**

## HSU Klamath Bioregional Assessment Project

10/3/97

### GIS Coverage Log

Cover Theme	Cover Description	Cover Name	Metatext File	Geographic Extent	Topology	Scale
boundary	Boundary of Klamath Basin Proper (KB)	kbbnd	kbbnd.txt	basin	polygon	1:100k
boundary	Boundary of Klamath Ecoregion (KE)	kebnd	kebnd.txt	ecoregion	polygon	1:100k
boundary	Boundary of Klamath Basin Below Iron Gate R.	klibbnd		lower basin(IG)	polygon	1:100k
boundary	Boundary of Klamath Province (KP)	kpbind	kpbind.txt	province	polygon	1:100k
boundary	Boundary of Klamath Province & State line	kpstbdy		province	line	1:100k
boundary	Boundary of Klamath Basin Above Iron Gate	kubbind		upper basin(IG)	polygon	1:100k
boundary	Boundary of Klamath Economic Zone (KZ)	kzbind	kzbind.txt	economic	polygon	1:100k
boundary	Boundary of KI. Economic Zone & State line California/Oregon State line	kzstbdy		economic/OR-CA bdy	line	1:100k
boundary	California/Oregon	statebnd		california/oregon	line	1:2m
<hr/>						
cities	City points within the Klamath economic zone	kzcty_pt		economic	point	1:100k
cities	City points w/in a buffered area of the KZ	kzbuf_pt		economic + a buffer	point	1:100k
cities	City polys of Northern California	nca_cty		northern california	polygon	1:100k
cities	City points of OR & CA	orca_pt		california/oregon	point	1:100k
cities	City polys of Klamath Economic Zone	kzcity		economic	polygon	1:100k
cities	City polys of OR & CA	orcapoly		california/oregon	polygon	1:100k
*Note: Clipped extents of the point and poly city covers are maintained for all of the KRBFTF defined subbasins of the Klamath.						
<hr/>						
counties	Counties of the Klamath Province	kpcounty		province	polygon	1:100k
counties	Counties of the Klamath Economic Zone	kzcounty		economic	polygon	1:2m
counties	Oregon/California Counties	orcacnty		california/oregon	polygon	1:2m
<hr/>						
grids	30m DEMs of Klamath Economic Zone	kz30lat.tar.Z	compressed	economic	grid	1:24k
grids	90m DEMs of the Klamath Basin	kb_lat		california/oregon	grid	1:250k
grids	90m DEMs of the Klamath Province	kp_lat		province	grid	1:250k
grids	90m DEMs of the Klamath Economic Zone	kz_lat		economic	grid	1:250k
*Note: Clipped extents of the 90m DEMs are maintained for all of the KRBFTF defined subbasins of the Klamath.						

**HSU Klamath Bioregional Assessment Project**

<b>GIS Coverage Log</b>							
<b>Cover Theme</b>	<b>Cover Description</b>	<b>Cover Name</b>	<b>Metatext File</b>	<b>Geographic Extent</b>	<b>Topology</b>	<b>Scale</b>	
<b>lakes</b>	Lakes of Klamath Basin	kbikes	kzlakes.txt	basin	polygon	1:2m	
<b>lakes</b>	Lakes of Klamath Province	kplakes	kzlakes.txt	province	polygon	1:2m	
<b>lakes</b>	Lakes of Klamath Economic Zone	kzlakes	kzlakes.txt	economic	polygon	1:2m	
<b>lakes</b>	Waterbodies of Klamath Basin	kbjak100	kblak100.txt	basin	polygon	1:100k	
*Note: Clipped extents of the 1:100k waterbodies are maintained for all of the KRBFTF defined subbasins of the Klamath.							
mines	points mining	camining		california	point		
mines	Mines within the Klamath Province	kpmines	kpmines.txt	province	point		
mines	Mines within the Klamath Economic Zone	kzmines	kzmines.txt	economic	point		
mines		ormining		oregon	point		
mines		placer		province	point		
*Note: The attributes for the point locations are stored in the Minerals Availability System (MAS) database							
ownership	Dept. of Fish & Games Administered lands	dfglands_utm		california	polygon	1:100k	
ownership	Boundary of Karuk reservation	karukbnd		california	polygon	1:100k	
ownership	Administrative Ownership w/in Klamath Ec. Zone	kzown	kzown.txt	economic	polygon	1:100k	
ownership	Administrative Ownership w/in Klamath Basin	krown	krown.txt	california	polygon	1:100k	
ownership	Boundary of Yurok reservation	yurokbnd		california	polygon	1:100k	
*Note: Clipped extents of the 1:100k Administrative Ownership cover are maintained for all of the KRBFTF defined subbasins of the Klamath.							
quad index	1:24k quad sheet index for State of OR	or_q24k_utm		oregon	polygon	1:24k	
quad index	1:24k quad sheet index for State of CA	ca_q24k_utm	ca_q24.txt	california	polygon	1:24k	
quad index	1:100k quad sheet index for Klamath Province	kp_q100	kp_q100	province	polygon	1:100k	
quad index	1:24k quad sheet index for Klamath Province	kp_q24	kp_q24	province	polygon	1:100k	
quad index	1:250k quad sheet index for Klamath Province	kp_q250	kp_q250	province	polygon	1:100k	
quad index		tm_quads		special	polygon	1:100k	
*Note: Subset extents of the 1:24k Quad sheet index are maintained for all of the KRBFTF defined subbasins of the Klamath Basin.							

## HSU Klamath Bioregional Assessment Project

### GIS Coverage Log

10/3/97

Cover Theme	Cover Description	Cover Name	Metatext File	Geographic Extent	Topology	Scale
roads		kzcalnds		CA/economic	line	1:100K
roads		kzcaltrtl		CA/economic	line	1:100K
roads		kzroad		OR/economic	line	1:100K
roads	Roads w/in Klamath Economic Zone	kzroads	kzroads.txt	economic	line	1:100K
roads	Roads w/in Klamath Basin	kbroads	kzroads.txt	basin	line	1:100K
roads		orcards2m		california/oregon	line	1:2m
roads		ordstutm		oregon	line	1:100K
*Note: Clipped extents of the 1:100k roads layer are maintained for all of the KRBFTF defined subbasins of the Klamath Basin.						
soils	soil map delineations for CA	casolidata.tar	compressed	california	polygon	1:250K
soils	soil map delineations for Klamath Economic Z.	cast_utm		california	polygon	1:250K
soils	soil map delineations for OR	kzsols		economic	polygon	1:250K
soils	soil map delineations for OR	orsolidata.tar	compressed	oregon	polygon	1:250K
soils		orst_utm		oregon	polygon	1:250K
*Note: These covers do not contain attributes. All attributes are stored in relational tables of STATSGO database						
spectral	Landsat TM image summer 1994: path44 row30	tm94_4430.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path44 row31	tm94_4431.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path44 row32	tm94_4432.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path45 row30	tm94_4530.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path45 row31	tm94_4531.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path 45 row32	tm94_4532.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path45 row33	tm94_4533.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path46 row31	tm94_4631.img		special	grid	1:100K
spectral	Landsat TM image summer 1994: path46 row32	tm94_4632.img		special	grid	1:100K
streams	Streams within Klamath Basin	kbstm100	stm100.txt	basin	line	1:100K
streams	Streams within Klamath Basin	kbstm500	stm500.txt	basin	line	1:500K
streams	Streams within Klamath Basin	kbstm2m	stm2m.txt	basin	line	1:2m

All data layers maintained in UTM Zone 10, NAD27, Clarke 1866 coordinates.

## HSU Klamath Bioregional Assessment Project

10/3/97

### GIS Coverage Log

Cover Theme	Cover Description	Cover Name	Metatext File	Geographic Extent	Topology	Scale
streams	Streams within Klamath Province	kpstm100	stm100.txt	province	line	1:100k
streams	Streams within Klamath Province	kpstm500	stm500.txt	province	line	1:500k
streams	Streams within Klamath Province	kpstm2m	stm2m.txt	province	line	1.2m
streams	Streams within Klamath Economic Zone	kzstm100	stm500.txt	economic	line	1:100k
streams	Streams within Klamath Economic Zone	kzstm500	stm500.txt	economic	line	1:500k
streams	Streams within Klamath Economic Zone	kzstm2m	stm2m.txt	economic	line	1.2m
*Note: Clipped extents of the 1:100k streams layer are maintained for all of the KRBFTF defined subbasins of the Klamath Basin.						
te_species		ca_nso_bdy		california	point	1:24k
te_species		mamu_u		california	point	1:24k
te_species		nso_prov		california	regions	1:24k
te_species		nso_u		northern california	point	1:24k
te_species		nddb		northern california	point	1:24k
te_species		ndbptnt				
tools		biglogo		GIS Lab Logo	polygon	
tools		blmlogo		BLM	polygon	
tools		dfglogo		CDFG	polygon	
tools		fslogoblk		USFS	polygon	
tools		fslogogram		USFWs	polygon	
tools		fwslogo		Klamath Task Force	polygon	
tools		krbtflgo		KRIS	polygon	
tools		krislogo			polygon	
tools		north			polygon	
tools		smallogo			polygon	
tools		lablogo			polygon	
watersheds	Subbasin level hucs named w/ *huc convention	*huc		subbasins	polygon	1:100k
watersheds		caonwshd		california/oregon	polygon	1:100k
watersheds		huc500ku		oregon	polygon	1:500k

All data layers maintained in UTM Zone 10, NAD27, Clarke1866 coordinates.

**HSU Klamath Bioregional Assessment Project****GIS Coverage Log**

<b>Cover Theme</b>	<b>Cover Description</b>	<b>Cover Name</b>	<b>Metatext File</b>	<b>Geographic Extent</b>	<b>Topology</b>	<b>Scale</b>
watersheds		hucs		california	polygon	1:100K
watersheds	KRBTF defined subbasins w/in Klamath Basin	kbsubwsd	kbsubwsd.txt tfsbwsd.txt	basin	polygon	1:100K
watersheds		kesbwsd		basin	polygon	1:100K
watersheds		kpsbwsd	kpsbwsd.txt kzsbwsd.txt	ecoregion	polygon	1:100K
watersheds	All USGS HUCs within Klamath Economic Z.	kzsbwsd		province	polygon	1:100K
watersheds	Calwater modified (includes RWQCB basins)	master	master.txt	economic	polygon	1:100K
*Note: Subset extents of the 1:100k KRBFTF individual subbasins are maintained.						
VEG/SHR types	SHR classified paths 44 & 45 (v 1.0a) west	44_45_shr_v10a	44_45v10a.txt	western TM scenes	grid	30m cells
VEG/SHR types	SHR classified paths 45 & 46 (v 1.0a) east	45_46_shr_v10a	45_46v10a.txt	eastern TM scenes	grid	30m cells
VEG/SHR types	Klamath Basin clipped SHR v1.0a classification	kbshr_v10a	kbshr_v10a.txt	basin	grid	30m cells
VEG/SHR types	Klamath Basin box-clipped SHR v1.0a class.	kbbxshr_v10a	kbbxshr_v10a.txt	basin	grid	30m cells
VEG/SHR types	Subbasin Clipped hucs (USGS & KRBFTF)	*shr_v10a	*shr_v10a.txt	subbasins	grid	30m cells
VEG/SHR types	Box clipped subbasins (USGS & KRBFTF)	*bxshr_v10a	*bxshr_v10a.txt	subbasins	grid	30m cells