

Lower Klamath Sub-Basin Coordination & Planning
FY 2006

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Abstract

This project provided planning and coordination to the Lower Klamath River Sub-basin. This included continued participation in the Lower Klamath Restoration Partnership (LGRP), as well as continued coordination and implementation of watershed restoration activities identified in the Lower Klamath Sub-basin Watershed Restoration Plan (Gale and Randolph 2000).

The Yurok Tribal Fisheries Program (YTFP) and the Yurok Tribal Watershed Restoration Program (YTWRP) conducted three assessments during FY 2006. In particular, YTWRP continued the upslope road assessment in Hunter Creek and YTFP conducted geomorphic assessments of the lower alluvial stream reach in Terwer Creek, as well as initiating the collection of the historic information and baseline hydrologic and geomorphic data necessary to characterize conditions limiting salmonid populations in critical off-estuary habitats of the Klamath River.

YTWRD spent the summer 2006 implementation season decommissioning high priority road segments in the Blue and McGarvey Creek watersheds. This included the treatment of 56 potential failure sites on high and medium priority roads, with a total of 72,627 yds³ excavated and 2.1 miles of road decommissioned.

YTFP continued streambank stabilization and riparian restoration efforts in Lower Terwer Creek during FY 2006. YTFP also planted 5,000 bareroot Douglas fir trees throughout riparian areas in the Terwer Creek drainage. YTFP also worked with YTWRD to transport LWD from road decommissioning projects and stockpile it near the West Fork McGarvey Creek confluence for future instream habitat improvement work.

YTWRD submitted proposals during FY 2006 for upslope implementation funding from the Environmental Protection Agency (EPA), the Bureau of Indian Affairs (BIA), the California Department of Fish and Game (CDFG), the US Fish and Wildlife Service (USFWS), the US Bureau of Reclamation (BOR), and the California State Water Resources Control Board (SWRCB). YTFP submitted proposals during FY 2006 to the BIA, the National Marine Fisheries Service (NMFS), BOR, CDFG, USFWS, and EPA. YTWRP received an additional \$497,000 and YTFP received \$686,722 in grant funds during FY 2006 for implementing watershed restoration, assessment and monitoring projects throughout the Lower Klamath sub-basin.

Both YTWRP and YTFP participated in approximately 30 meetings throughout FY 2006 related to watershed restoration planning, assessment, implementation and monitoring in the Lower Klamath sub-basin.

Future upslope restoration activities will include finalizing road decommissioning in the McGarvey Creek watershed and initiating these activities in the Terwer Creek watershed. In addition, future activities will be focused on continuing streambank stabilization and riparian restoration efforts in the alluvial reach of lower Terwer Creek. In addition, YTFP will begin to focus on instream habitat improvement in McGarvey Creek.

Introduction

Historically the Klamath River Basin contained bountiful anadromous fish runs, supporting indigenous peoples throughout the region. Anthropogenic activities over the last 150 years, coupled with natural events, have resulted in substantial declines in these fish populations and widespread reduction and degradation of associated habitat. Concern over diminishing runs resulted in the 1997 listing of Klamath Basin coho salmon (*Oncorhynchus kisutch*) as threatened under the Endangered Species Act (ESA), Klamath River chinook salmon (*O. tshawytscha*), steelhead (*O. mykiss*) and coastal cutthroat trout (*O. clarki clarki*) populations were also petitioned for ESA listing, and despite the listings being determined “Not Warranted”, concern continues to exist over their status and long-term trends.

The declining health and productivity of the Klamath River’s anadromous fisheries is of great economic and cultural concern to the Yurok Tribe. To proactively address this decline, the Tribe has initiated a large-scale, coordinated watershed restoration effort in the Lower Klamath sub-basin. This sub-basin, as defined in the Klamath Restoration Program's Long Range Plan (Kier and Associates 1991), includes all Klamath tributaries downstream of the confluence of the Trinity River, encompassing a drainage area of approximately 450 square miles. These tributaries have been subjected to substantial timber harvest and related road construction over the last 60 years. These activities, occurring in a region with steep, naturally erodible terrain and high annual rainfall, have contributed to widespread streambed sedimentation and associated habitat degradation and native fish run declines throughout the Sub-basin (Gale and Randolph 2000). The Long Range Plan states that “the low number of anadromous salmonids in the Lower Klamath tributaries is directly related to sediment problems. Only changes in land use management and large scale watershed stabilization efforts can effectively address these problems and begin the process of recovery of the Lower Klamath tributaries” (Kier and Associates 1991).

The Lower Klamath Restoration Partnership (LGRP), composed of representatives of the Yurok Tribe Natural Resources Department, Green Diamond Resource Company (GDRC) (formerly Simpson Resource Company), and the California State Coastal Conservancy was formed in 1995. This Project Advisory Committee was formed in order to facilitate a coordinated approach to watershed restoration planning and to find innovative solutions to resource management issues between private landowners, Tribal interests, and public agencies. The Yurok Tribal Fisheries Program (YTFP) has undertaken extensive watershed assessment efforts throughout all Lower Klamath tributaries to provide necessary physical and biological baseline data for restoration prioritization and planning, as well as preparing a long-term Watershed Restoration Plan for the Lower Klamath sub-basin (Gale and Randolph 2000).

This project provided planning and coordination to the Lower Klamath River Sub-basin for Fiscal Year (FY) 2006, including continued participation in the Lower Klamath Restoration Partnership (LGRP). YTFP continued coordinating the implementation of watershed restoration activities identified in the Lower Klamath Sub-basin Watershed Restoration Plan (Gale and Randolph 2000).

Accomplishments

Note: items marked with a “*” were conducted all or in part using this project’s funding.

- **Assessments**

During FY 2006, the Yurok Tribe Watershed Restoration Department (YTWRD) continued the upslope road assessment in Hunter Creek, as well as entering all collected assessment data into the Department’s database for future restoration planning and implementation. Given the large size of the Hunter Creek drainage, only a portion of the drainage was assessed during FY 2005, with an additional portion surveyed during FY 2006. Approximately 40% of the drainage is remaining to be surveyed but YTWRD presently lacks the funds to complete this assessment. The assessment will be completed as soon as funds can be secured.

The Yurok Tribal Fisheries Program (YTFFP) continued conducting geomorphic assessments of the lower alluvial stream reach in Terwer Creek. The results of this effort were used to prioritize bank stabilization and riparian restoration plans for this stream reach, as well as provide baseline data to assess ongoing and future restoration effectiveness.

YTFFP initiated the collection of the historic information and baseline hydrologic and geomorphic data necessary to characterize conditions limiting salmonid populations in critical off-estuary habitats of the Klamath River. The assessment is assisting the development of water management related recommendations and restoration strategies that provide long-term geomorphic solutions for identified limiting factors. This effort included maintaining YTFFP’s three stream gages in the Salt Creek watershed and installing and maintaining another gage in lower Hunter Creek. Water quality monitoring sites were established in the tidally influenced reaches of Salt Creek, Hunter Creek, and Spruce Creek, and in lower Mynot Creek and Panther Creek. Water quality was monitored on varying tide cycles through the summer and fall. YTFFP also coordinated with the Yurok GIS Program to establish a network of survey control points in the Hunter and Salt Creek valley and conducted topographic surveys to document existing topographic and geomorphic conditions in the Hunter/Salt Creek Valley.

- **Restoration Implementation.**

YTWRD spent the summer 2006 implementation season decommissioning high priority road segments in the Blue and McGarvey Creek watersheds. Blue Creek roads decommissioned during summer 2006 included the PC10 (11 stream crossings and 3 mass movement sites), the PC17 (7 stream crossings and 1 mass movement site), and the C20 (22 stream crossings and 4 mass movement sites). Decommissioning on these three road segments totaled 1.5 miles and a total of 54,851 yds³ excavated.

McGarvey Creek roads decommissioned during summer 2006 included the M1310 (7 stream crossings and 1 mass movement site, 0.6 miles, and 17,806 yds³ excavated).

YTFP continued streambank stabilization and riparian restoration efforts in Lower Terwer Creek during FY 2006. These efforts utilized funds secured through the Klamath Task Force, the California Department of Fish and Game, and the Bureau of Indian Affairs. Restoration techniques included construction of willow siltation baffles and similar willow revetment techniques, as well as planting of native conifer and deciduous tree saplings and removal of invasive/exotic plant species.

YTFP planted 5,000 bareroot Douglas fir trees throughout riparian areas in the Terwer Creek watershed.

YTFP worked with YTWRD to transport and stockpile large woody debris (LWD) pieces located during McGarvey Creek road decommissioning. The LWD was stockpiled near the confluence of West Fork McGarvey Creek for use on upcoming instream structure projects in both the lower mainstem and West Fork of McGarvey Creek.

*Note: Oversight of all above implementation projects occurred in part using this project's funding.

- **Proposals Submitted**

*YTWRD submitted the following proposals during FY 2006 for upslope implementation and assessment funding:

Environmental Protection Agency (EPA):

- Non-Point Source Sedimentation Prevention in the Terwer Creek Watershed - \$150,000
- Terwer Creek Upslope Erosion Control (part of the Tribe's Targeted Watershed Grant submission) - \$210,000

Bureau of Indian Affairs (BIA):

- Roaches Creek Watershed Analysis and Training - \$150,000

California Department of Fish and Game (CDFG):

- Mainstem Terwer Creek Upslope Implementation Project - \$590,321
- East Fork Terwer Creek Upslope Implementation Project - \$350,000

U.S. Fish and Wildlife Service (USFWS):

- Lower Roaches Creek Assessment and Training Project - \$48,613
- Terwer Creek Upslope Implementation Project - \$150,399

U.S. Bureau of Reclamation (BOR):

- Lower Klamath Sub-Basin Upslope Erosion Control Project - \$111,483

California State Water Resources Control Board (SWRCB):

- Terwer Creek Watershed Restoration Project - \$550,000

*YTFP submitted the following proposals during FY 2006:

California Department of Fish and Game (CDFG):

- Instream and Riparian Restoration of Mainstem McGarvey Creek - \$70,978
- A Complete Life History Monitoring of Salmonids in McGarvey Creek - \$148,556
- Lower Terwer Creek Riparian Restoration and Bank Stabilization Project - \$99,738

Bureau of Indian Affairs (BIA):

- Lower Terwer Creek Riparian Restoration Project - \$109,614
- Restoration of Lower McGarvey Creek - \$84,325

U.S. Bureau of Reclamation Native American Affairs Funding (NAAP):

- Evaluation of Current and Historical Habitat Condition and Water Quality in Off-Estuary Habitats of the Klamath River - \$75,606

USFWS Partners for Fish and Wildlife Funding:

- Instream Restoration of Lower West Fork McGarvey Creek - \$25,000

USFWS Private Stewardship Grants Program:

- Instream Restoration of Lower West Fork McGarvey Creek - \$64,235

USFWS Tribal Landowner Incentive Program:

- Lower Terwer Creek Bank Stabilization and Riparian Restoration Project - \$137,407

NOAA Fisheries Community-Based Habitat Restoration Program:

- Terwer Creek Bank Stabilization and Riparian Restoration Project - \$73,672

Environmental Protection Agency (EPA):

- Instream and Riparian Restoration in Terwer Creek (part of the Tribe's Targeted Watershed Grant submission) - \$90,000

- **Funding Secured**

YTWRD received \$157,000 in funding from CDFG to conduct road decommissioning in Terwer Creek. In addition, YTWRD received \$150,000 from the EPA Partnership Program and \$190.00 from the EPA Targeted Watershed Program to conduct road decommissioning in Terwer Creek.

YTFP received \$94,614 in funding from the BIA to implement riparian restoration and bank stabilization projects in Lower Terwer Creek, as well as \$84,325 from the BIA to implement Instream and riparian restoration in lower McGarvey Creek.

YTFP received \$69,000 during FY 2006 from the NMFS Tribal Pacific Salmon Funds for Lower Klamath tributary outmigrant trapping.

YTFP received \$75,606 from the Bureau of Reclamation's Native American Affairs Program to conduct an evaluation of current and historic habitat condition and water quality in off-estuary habitats of the Klamath River.

YTFP received \$83,511 in funding from CDFG to implement riparian restoration and bank stabilization projects in Lower Terwer Creek. YTFP also received \$48,671 to conduct Instream and riparian restoration in West Fork McGarvey Creek, as well as \$29,240 to conduct restoration planning in Lower Blue Creek. CDFG also funded YTFP \$141,863 to conduct life cycle population monitoring in McGarvey Creek.

YTFP received \$9,892 in funding from USFWS/Klamath Task Force to assist with adult salmon spawning surveys in Blue Creek

YTFP received \$50,000 in funding from the NOAA Restoration Center (Community-Based Habitat Restoration Program) to conduct riparian restoration in lower Terwer Creek.

- **Meetings Attended**

*YTFP and YTWDRD held monthly meetings throughout FY 2006 to coordinate ongoing and future watershed restoration, assessment and monitoring activities throughout the Lower Klamath Sub-basin.

*YTFP and YTWDRD held ongoing meetings with Green Diamond Resource Company (GDRC - formerly Simpson Resource Company) throughout FY 2006. These meetings were held to discuss ongoing and proposed watershed restoration, assessment and monitoring projects within the Lower Klamath sub-basin.

YTFP and YTWDRD met on a regular basis with the Yurok Tribal Council during FY 2006 to hold fisheries and watershed restoration-relation planning sessions, as well as discuss with and seek approval from the Council for proposed watershed restoration, assessment and monitoring projects within the Lower Klamath sub-basin.

*YTFP and YTWDRD staff met with representatives of the CDFG on a quarterly basis throughout FY 2006 to discuss and coordinate ongoing and future watershed restoration plans.

*Dan Gale met with Scott Bauer of the California Conservation Corps on several occasions to coordinate 2006 & 2007 restoration work plans for the Lower Klamath.

Dan Gale attended a meeting with NOAA Fisheries on Oct 13-14, 2005 in Portland OR to review reporting metrics for the Pacific Coast Salmon Restoration Funding (PCSRF).

YTFP staff attended and participated in the California Department of Fish and Game's (CDFG) Citizen's Advisory Peer Review Committee (PRC) on Salmon and Steelhead Restoration meeting in Sacramento, CA during November, 2005. This meeting is held annually for the PRC to rank project proposals submitted to CDFG's Fisheries Restoration Grants Program (FRGP).

*Dan Gale met with Ken Farley (Terwer Creek landowner) on Jan 20, 2006 to discuss proposed bank stabilization and riparian restoration work on Mr. Farley's property in lower Terwer Creek. An additional meeting was held with Mr. Farley and John Schwabe (CDFG) on Feb 1, 2006 to review ongoing emergency bank stabilization work.

*Dan Gale met with Greg Gray (USFWS) in Arcata on Mar 20, 2006 to discuss proposed projects and work plans for summer 2006 and beyond

Dan Gale participated in a teleconference meeting of the Californian State Coho Recovery Team (CRT) Large Woody Debris Sub-Committee on Mar 22, 2006. This meeting was held to discuss strategies and recommendations for the CRT on retaining and restoring in-channel LWD in coho-bearing rivers and streams.

Dan Gale attended a meeting of the Californian State Coho Recovery Team (CRT) in Santa Rosa CA on Mar 28, 2006. This meeting was held to update CRT members on the current status of the State's Recovery Strategy for Coho Salmon.

*Dan Gale attended the Klamath Task Force Technical Work Group Meeting on Apr 26-27-9, 2006 and provided a Lower Klamath sub-basin update. This meeting was also held to rank proposals submitted to the USFWS for FY 2006 Task Force funding.

Dan Gale participated via teleconference in a mid-term meeting of CDFG's Citizen's Advisory Peer Review Committee (PRC) on Jun 1-2, 2006. The meeting was held to discuss the upcoming FRGP proposal ranking meeting in fall 2006 and determine ranking strategies and resolve other PRC-related matters in advance of the annual meeting.

*Dave Hillemeier and Dan Gale attended the Klamath Task Force Meeting on Feb 21-22, 2006 in Yreka CA and provided a sub-basin update.

*Dan Gale and Dave Weskamp held a field meeting with Matt House and Darold Perry of GDRC to review ongoing and proposed restoration activities in Terwer and McGarvey Creeks.

Dan Gale attended two weeks of fluvial geomorphology training provided by Wildland Hydrology (Dave Rosgen) in Pagosa Springs, Colorado from Aug 22-31, 2006. This training was on River Restoration & Natural Channel Design and is the final of four classes in Wildland Hydrology's Applied Fluvial Geomorphology course series.

*Dan Gale met with Rocco Fiore (Fluvial Geomorphologist) on Sep 26, 2006 to discuss past and proposed gravel mining in Hunter Creek. This was followed up with a meeting

between YTFP, U.S. Army Corps of Engineers, and NOAA Fisheries to discuss past and proposed future gravel extraction plans in Hunter Creek.

Dave Hillemeier and Dan Gale participated in meetings with BOR, Larry Lastelle (BOR Consultant) and Steve Cramer and Associates (BOR Consultant) in Klamath CA on Sep 27-28, 3006 to discuss the proposed coho salmon overwintering study in the Lower Klamath and also to discuss BOR's ongoing coho modeling efforts.

*Dan Gale met with Rocco Fiori (Fluvial Geomorphologist) on Sep 29, 2006 to discuss upcoming Instream and riparian restoration projects in McGarvey and Terwer Creeks.

Discussion

Fiscal Year 2006 proved to be a productive year for watershed restoration-related activities in the sub-basin. YTFP and YTWDRD continued two ongoing assessments during FY 2006, as well as initiating a large-scale assessment of habitat conditions and restoration needs in and around the Klamath Estuary. In addition, YTFP and YTWDRD decommissioned several high priority road segments in the Blue and McGarvey Creek watersheds, continued streambank stabilization and riparian restoration efforts in Lower Terwer Creek, stockpiled LWD recovered from road decommissioning for future use in McGarvey Creek instream restoration activities, and planted 5,000 bareroot Douglas fir trees throughout riparian areas and decommissioned roads in the sub-basin. In addition, the two departments brought in a combined total of \$1,183,722 in grant funds during FY 2006 for implementing watershed restoration, assessment and monitoring projects throughout the Lower Klamath sub-basin. Green Diamond Resource Company also donated \$100,000 to implement restoration projects on their property in the sub-basin.

Funding continues to be the primary limiting factor to implementing the Lower Klamath Sub-basin Watershed Restoration Plan. In particular, the uncertainty of available funds on an annual basis makes planning projects difficult, as well as funding fluctuations resulting in a high rate of attrition among trained employees and restoration practitioners in the sub-basin. Road decommissioning is the primary restoration activity required throughout the sub-basin. While the Tribe has had fairly good success in securing funds to implement these activities, this work is extremely expensive due to heavy equipment requirements, and the incoming funds are still only a small fraction of the annual funds necessary to treat sub-basin sediment sources on the necessary timeframe for fish habitat recovery. Additionally, funds to implement monitoring projects have become increasingly scarce due to a priority emphasis being placed on available funds for implementing restoration projects. A sound, long-term monitoring program is essential to properly measure restoration effectiveness and fish population status and response. We have been forced to abandon several key and/or long-term monitoring projects in the sub-basin at a time when we need to be increasing the number and diversity of such projects.

Future YTWDRD restoration efforts will focus on finalizing road decommissioning throughout the McGarvey Creek watershed and initiating similar upslope treatment in the

Terwer Creek watershed. Both of these drainages are ranked as top priority in the Lower Klamath Sub-basin Watershed Restoration Plan. YTFP restoration efforts in the near future will be focused on continued streambank stabilization and riparian restoration efforts in the alluvial reach of lower Terwer Creek. In addition, YTFP will begin to focus on instream habitat improvement in McGarvey Creek. As detailed in the sub-basin plan, the approach is to treat upslope sediment sources in a given high priority drainage as a precursor to instream habitat improvement projects. YTWDRD is scheduled to complete road decommissioning activities in McGarvey Creek by 2007 and GDRC is on schedule to complete road upgrading in the watershed on a similar time scale.

Budget

Project Funding:

Personnel Costs

Salaries	\$17,162
Staff Benefits @33%:	<u>\$5,664</u>
Total Personnel Costs:	\$22,826

Project Subtotal:	\$22,826
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Administrative Overhead @31.43%:	<u>\$7,174</u>
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Total Funds Expended:	\$30,000
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