

Lower Klamath Sub-Basin Coordination & Planning - FY 2012

Annual Progress Report: 07/25/12 – 9/30/12



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Project Accomplishments

This progress report documents watershed assessment, planning, coordination, and restoration efforts conducted by the Yurok Tribal Fisheries Program (YTFP) and the Yurok Tribe Watershed Restoration Department (YTWRD) in the Lower Klamath River Sub-basin from July 25, 2012 (FY12 Agreement Start Date) through September 30, 2012.

- **Restoration Planning & Assessments**

During the project period, YTFP continued conducting geomorphic assessments and monitoring salmonid populations throughout the Lower Klamath River Sub-Basin. YTFP and our restoration specialist Rocco Fiori (Fiori GeoSciences - FGS) have been using these studies and results from the Klamath River Coho Salmon Ecology Study, led by YTFP and the Karuk Tribe, to plan, prioritize, implement, and assess restoration in the sub-basin. During this period, YTFP and FGS focused on several high priority Lower Klamath tributaries: Hunter Creek, Terwer Creek, McGarvey Creek, Waukell Creek, and Blue Creek.

YTFP and FGS continued updating the Lower Klamath River Sub-basin Restoration Plan (Gale and Randolph 2000) and the Lower Klamath River Habitat Restoration Planning Database. The database includes descriptions of restoration techniques and a set of prioritized Lower Klamath restoration projects (ongoing and future). Restoration priorities and techniques were based on current fisheries research conducted by YTFP and other basin partners (e.g. Karuk Tribe & Mid-Klamath Watershed Council) and more up to date physical habitat data. YTFP continues to update the database to help plan and track fisheries restoration in the Lower Klamath River.

YTFP and FGS continued developing wetland, stream, and floodplain enhancement strategies in the Waukell Creek watershed, a priority off-estuary tributary. Fisheries research conducted in off-estuary watersheds over the last several years have revealed significant use of these tributaries by both natal and non-natal juvenile coho salmon (Soto et al. 2008; Hillemeier et al. 2009; Hiner 2009; Silloway 2010; Silloway and Beesley 2011). Restoration objectives include improving hydrologic, geomorphic, and riparian function to increase juvenile salmonid rearing capacity and productivity. YTFP and FGS continued working with Aldaron Laird (Environmental Planner), multiple landowners, and resource agencies to develop and permit restoration designs for two proposed reaches in Waukell Creek (Upper and Lower) (Figure 1).

YTFP crews continued conducting topographic surveys of fluvial habitats within the Lower Klamath Sub-basin to document baseline conditions and to assess habitat changes associated with implementation of instream enhancement efforts. Topographic monitoring data allows us to quantitatively assess channel changes and project effectiveness, and to guide future restoration. During this annual reporting period, YTFP survey crews completed the following topographic surveys: 1) post-project surveys of the 2011-2012 wood loading reach in East Fork Hunter Creek (Figure 2); 2) baseline surveys of three project reaches in Hunter Creek: CDFW wood loading, USFWS wood loading, and USFWS Off-channel reach (Figure 2); and 3) a re-survey of Lower Blue Creek for fisheries restoration planning purposes.



Figure 1. Map depicting restoration reaches in Waukell Creek, Lower Klamath River.

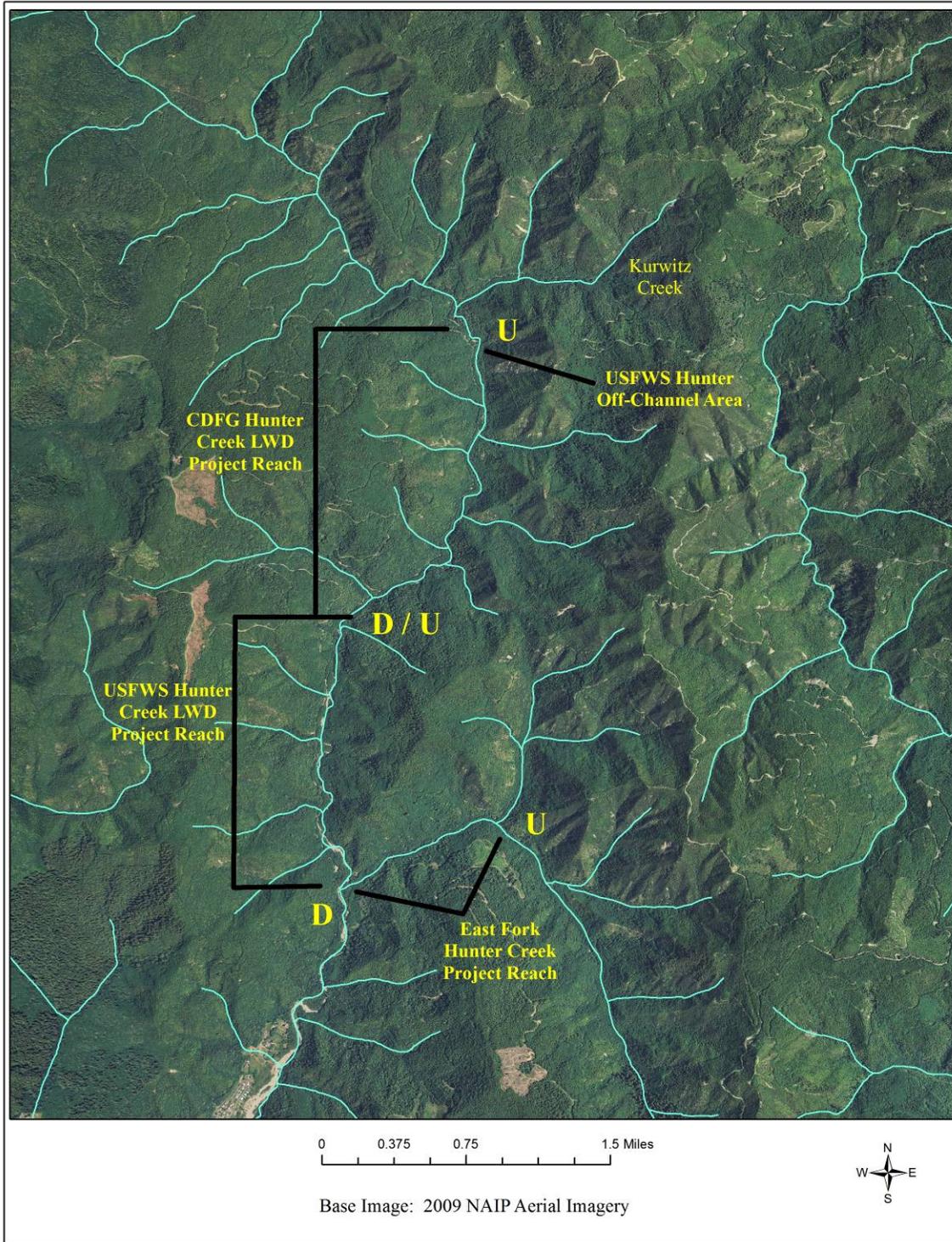


Figure 2. Map depicting several restoration reaches in Hunter Creek, Lower Klamath River.

YTFP and FGS initiated the Terwer Creek Off-channel Habitat Restoration Feasibility Study with funding from the California Department of Fish and Wildlife's (CDFW) Fisheries Restoration Grant Program (FRGP). Project goals are to explore the feasibility of increasing off-channel rearing habitat in lower Terwer Creek and using collected information to develop potential restoration alternatives for lower Arrow Mills Creek (Lower Terwer Creek tributary). In August 2012, we formed the project's Technical Advisory Committee with staff from YTFP, FGS, CDFW, Green Diamond Resource Company (GDRC - landowner), the U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA).

- **Fisheries Restoration Field Tours & Presentations**

In July 2012, YTFP and FGS coordinated with the Yurok Tribe Environmental Program (YTEP) and other Tribal departments to host a group of students interested in sustainable land management. The day included presentations from Yurok natural resource staff and field visits to the Klamath overlook to discuss estuaries and then to a YTFP restoration site in lower Terwer Creek. Discussions focused on long-term, sustainable management and watershed restoration.

In July 2012, Rocco Fiori (FGS) led YTFP Fisheries Restoration Technicians (Heavy Equipment Operator Trainees) on a field tour of a Trinity River restoration project site to provide the crew an opportunity to observe a larger-scale stream restoration operation in progress.

The Yurok Tribe is working with Western Rivers Conservancy (WRC) to generate funding opportunities to acquire portions of Blue Creek and other adjacent lands (Phase II Acquisition). In August 2012, YTFP and FGS coordinated with Western Rivers Conservancy to lead a group of potential funders on a field tour of lower Blue Creek. YTFP and FGS discussed the importance of Blue Creek to the health of the Yurok People and anadromous fish of the Klamath Basin, and the Tribe's plan to initiate comprehensive watershed restoration once the land can be purchased. YTFP led the group on snorkel surveys of "Blue Hole" and "Pularvasar Pool" where divers got to observe juvenile salmonids, older age coastal cutthroat, Klamath small-scale suckers, three-spine stickle back, and other native fish and amphibians. The group then hiked upstream to the campground for more presentations and a traditional Yurok salmon dinner.

In September 2012, YTFP led staff from the Quartz Valley Tribe (Upper Klamath Tribe) on a field tour of fisheries monitoring and restoration projects in the Lower Klamath. Quartz Valley is very interested in building their capacity as environmental and fisheries resource managers.

- **Fisheries Restoration Implementation**

Stream and Floodplain Enhancement

During this period, YTFP and FGS conducted the following restoration activities: 1) installed two additional constructed wood jams (CWJs) in the East Fork Hunter Creek project reach; 2) installed 19 CWJs in the mainstem Hunter Creek project reaches and enhanced Hunter Alcove I; and 3) installed 15 CWJs in lower McGarvey Creek and constructed McGarvey Alcove II.

Riparian Forest Restoration

YTFP continued operation of the Yurok Tribal Native Plant Nursery (YTNP) at the Yurok Fisheries office in Klamath. The nursery and greenhouse provides quality employment opportunities with staff receiving training in native seed collection, germination and propagation, and other related nursery skills (e.g. installing water lines and operating greenhouse systems, maintaining stock, conducting inventories). The YTNP currently provides hundreds of native conifer and deciduous saplings and shrubs each year for Lower Klamath watershed restoration projects. During this reporting period, crews re-organized the nursery stock, set up water lines and shade covers, transplanted seedlings into larger containers, and conducted stock inventories.

Restoration Wood Timber Harvest

A critical limitation to implementing instream habitat restoration projects in the Lower Klamath is the difficulty obtaining high quality, whole tree materials, especially long stems with rootwads attached (Figure 3). We continued working with GDRC (local timber company/primary landowner), YTWDR, and other organizations to obtain whole tree materials from local projects. In summer 2012, YTFP hired a local, Indian-owned company to harvest over 200 whole trees from a GDRC timber harvest unit for YTFP restoration projects.



Figure 3. Whole tree materials being used to construct wood jams in Terwer Creek.

- **Proposals Submitted**

YTFP Lower Klamath Division (LKD) submitted the following proposal:

National Fish and Wildlife Foundation Funding:

- Instream Restoration Designs for Lower Blue Creek - \$41,766

- **Coordination Meetings**

YTFP and YTWRD held regular meetings throughout the project period to coordinate ongoing and future sub-basin assessment, monitoring, and restoration activities.

YTFP and YTWRD held regular meetings with GDRC to discuss ongoing and future watershed assessment, monitoring, and restoration activities within the Lower Klamath River Sub-basin.

YTFP and YTWRD met on a regular basis with the Yurok Tribe Council to discuss and seek approval for proposed watershed restoration, assessment, and monitoring projects.

YTFP and YTWRD worked regularly with Rocco Fiori (FGS) to plan ongoing and future restoration, assessment, and monitoring projects in the Lower Klamath River Sub-basin.

YTFP and YTWRD met regularly with CDFW, U.S. Bureau of Reclamation (BOR), NOAA, U.S. Environmental Protection Agency (EPA), and USFWS to discuss ongoing and future restoration projects/proposals, and to conduct pre- and post-project field reviews.

YTFP met with the Resighini Rancheria Tribal Council and their Environmental Program Director to try to coordinate road improvement and restoration efforts in Waukell Creek.

YTFP worked closely with staff from the BOR, Karuk Tribe, Larry Lestelle, U.S. Geologic Survey, and CDFW to plan and implement the Klamath River Coho Salmon Ecology Study.

YTFP restoration staff continued participating in professional committees such as the Peer Review Committee for CDFW's FRGP, the California Coho Salmon Recovery Team, the Pacific Marine and Estuary Fish Habitat Partnership, and the North Coast Resource Partnership.

Literature Cited

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