

JUL 27 2001
YREKA FWO

FRENCH CREEK FISH SCREEN FABRICATION PROGRAM

AGREEMENT # 14-48-11333-98-JIB6

98-JITW-24

A FISHERY PROTECTION PROJECT



Fish Screen on North Fork Ditch

Project completed by:
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Abstract: The purpose of the project was to install two fish screens in the French Creek sub-basin which would supplement the fish screening efforts of the California Department of Fish and Game (CDFG). The Fish Screen Program is a major portion of the Siskiyou RCD's mission to screen all active diversions within anadromous use. The purpose of the program is to provide better management of resource use and ensure fishery protection.

The funding was used to construct and install two self-cleaning fish screens in diversions located on French Creek, an important tributary to the Scott River. The fish screens were designed to meet both CDFG and National Marine Fisheries Service (NMFS) specifications. The fish screens were constructed on the Company Ditch which diverts from an important reach of French Creek, while the other was constructed on the North Fork Ditch which diverts from the North Fork of French Creek.

We are confident that the implementation of these screens will protect hundreds of anadromous fish each year. The screens will be a benefit to both the diversion user and juvenile fishery populations. The diversion users have been maintaining the screen and doing a very good job thus far. Screening within French Creek has been a successful event. The RCD has installed three screens on high priority diversions which compliment four screens installed by CDFG. One more screen has been funded and two more are proposed for funding which will screen most of the area within anadromous use.

Background: The Scott River, which runs through Scott Valley, is a major tributary to the Klamath River. The Scott supports wild stocks of chinook, coho, steelhead and rainbow trout. The citizens of Scott Valley are proactive in their efforts to sustain anadromous populations. The Siskiyou Resource Conservation District (RCD), Scott River Watershed Council (SRWC), and responsible agencies have developed plans which site causes and possible solutions to declining fisheries populations. A major goal of the Siskiyou RCD and the Scott River Council is to install and maintain fish screens on all active diversions within the Scott River Drainage.

The Department of Water Resources has listed 152 diversions within the Scott River watershed. The RCD has identified approximately 70 active diversions within anadromous use, of which, only 48 are screened. Because of budget cuts and maintenance costs of existing screens, the California Department of Fish and Game is not able to fabricate and maintain the number of fish screens needed. The Siskiyou RCD is currently implementing an aggressive fish screen fabrication program using technical assistance from the CDFG and Natural Resource Conservation Service (NRCS) to screen more diversions.

Countless juveniles are lost by unscreened diversions in the Scott River Watershed. Few studies have been done on population densities or specie presence in the tributaries to the Scott River. Most diversion take out points are located in the mid and lower reaches of tributaries where anadromous fish spawn and rear. Therefore, we can assume significant numbers of juvenile fish are lost to specific unscreened diversions.

Diversions are important to the agricultural community, which is the predominant economy in Scott Valley. Diversion users are aware of the adverse effects unscreened diversions can have on fisheries and are willing to have screens installed. The cost of fabricating and installing a self-cleaning fish screen composed of stainless steel and aluminum and designed to required specifications is above what most landowners can personally afford. Therefore, many diversions remain unscreened even though most landowners are conscious and concerned about loss of fish.

Screen Construction: The RCD worked with NRCS engineers and the CDFG to refine the designs of the screens. The two diversions screened under this funding were the same size and, therefore the same design was used on both diversions with minor changes. The screen design was reviewed by local CDFG personnel to ensure it met NMFS/CDFG specifications.

Upon design approval, the RCD selected two sub-contractors through the public bid process. One sub-contractor was selected to construct the concrete portions of the screens and another was selected to complete the metal portion of the screens. The RCD wanted to focus on providing construction opportunities to local citizens who possessed the required abilities. This was an effort to privatize the construction of fish screens in order to help the local economy, reduce screen costs and increase local economic niches. A bid package was developed for the screen to be installed on the Lower Franklin Ditch and the

proposed project was publicized in local newspapers. The bid packages were sent out to 16 interested persons. The bid package contained the design drawings, the bid process, needed qualifications, and required insurance and bonding. Research found that a contractor's license was not required, when improving an agricultural water delivery system (State Contractor's Licensing Board), but one was preferred.

The screen design is a self-cleaning screen which has moving brushes that clean the screen surface. The brushes are driven by a paddle wheel. The screen is placed in the diversion ditch rather than the active channel in order to better protect the structure from high flows. The structure has a by-pass pipe which returns the fish in the diversion ditch back to the stream. The by-pass pipe is sized so the diversion user can now return all the flow back to the stream when not needed. The size of the structures was 11 feet wide by 26 feet long. The by-pass pipe was 12" double walled pipe with smooth interior. The by-pass pipe was buried throughout safely returns the fish to the stream downstream of the diversion.

The screen placed on the North Fork Ditch is located in a stream reach which is used by steelhead and possibly coho. The North Fork of French Creek is a very cool stream which is prime over-summering refugia. The diversion take out is located amid some very good habitat, which usually means that loss of fish to the diversion was high before the screen was installed. The screen located on the Company Ditch diverts from French Creek. The stream reach is used by steelhead, coho and chinook. The reach has very good habitat including overhanging vegetation, bedrock pools, large boulder structure, and cool water over the summer.

The diversion users are responsible for maintaining the fish screens. Maintaining the diversion is quite a commitment as the screen needs cleaning at least twice a week. Other than routine cleaning of the screen, the diversion user must lubricate the moving parts of the screen, replace worn parts and remove/replace the screen panels and paddle wheel each year. Thus far, the users of both diversions are very happy with the construction of the screens and their operation. RCD staff has visited the screen numerous times since the screens were installed (April 2001). Maintenance of the screens has been very good each time the RCD has visited the screens.

Conclusion: The Siskiyou RCD is very pleased with the screens which were installed over the past winter (April 2001). We are confident that the screens installed will extend past its estimated lifetime (20 years), barring natural disaster. We are pleased that the diversion users are willing to accept the responsibility of cleaning and maintaining the screens. This provides more funding for screen installation. The RCD has focused on constructing fish screens as the highest priority project type. Previously, the RCD focused on increasing the habitat holding capacity of the watershed, without considering protection of existing species. Now the RCD has focused on protecting existing fisheries then restoring or creating new habitat. Screening diversions and protecting existing habitat will continue to be our lead effort until all over-summering habitat has been protected.

ETNA QUADRANGLE
CALIFORNIA-SISKIYOU CO. 441-
15 MINUTE SERIES (TOPOGRAPHIC)
F18 1:790,000 FEET IN 8 W. 620 122° 4'

North Fork
Ditch
N. Fork French Ck

Company Ditch
French Ck

