Baker Irrigation Efficiency Project

PROJECT COMPLETION REPORT - BAKER IRRIGATION EFFICIENCY

OWEB GRANT #201-697

Grant Period: 7/15/02 - 12/31/03

Background

There is a concerted effort across the basin to increase summer flows for ESA-listed bull trout and steelhead. Limited instream flow in the summer is the primary factor that harms fish and is primarily due to withdrawals for irrigation. The Walla Walla Basin Watershed Council identified the need to increase instream flows for threatened fish species while protecting the irrigated agriculture that occurs in the basin. The irrigation districts downstream entered into an agreement with USFWS to bypass flows to lessen impacts on bull trout and steelhead while longer-term conservation measures are being implemented. Because the upstream users are not organized into a district, there have not yet been similar efforts to implement conservation measures upriver.

The land area in this project was originally flood irrigated using a furrow system that required more water to reach the ditch ends than was actually needed to irrigate the orchard. In addition to the difficulties of managing the irrigation ditching, a survey of upstream Walla Walla River users and water rights determined that a small part of the irrigated orchard did not have a valid water right and that this issue needed to be addressed. The orchard is located on the South Fork of the Walla Walla River, approximately 6 miles upriver from the previously dewatered stretch of the river that has been the reach of greatest concern to the Federal fish management agencies. The landowner (Robert Baker) installed a headgate and measuring device last year at his diversion point as part of OWEB grant # 99-602. This allows easy and precise monitoring of water withdrawal. A new fish screen has also been installed.

The landowner and the local water master reviewed the situation and decided that the best solution would be to transfer a water right, convert to sprinkler irrigation, and through the grant process return a portion of the water to the river as an instream right.

Project Summary

Mr. Baker applied for a water right transfer involving 6 acres of water right from the next diversion point downstream. The request was approved by OWRD. Although it was an upstream POD change, it involved 0.2 CFS or less than 0.2 % of the low flow volume in the South Fork of the Walla Walla River (average lowest flow is 108 CFS in September).

Mr. Baker converted 24.1 acres of furrow-irrigated orchard to sprinkler application. The project included hiring a CWRE to assist with mapping. John Timmons, irrigation engineering specialist with Pendleton Grain Growers, designed the system and provided technical assistance with the installation. The project included a screened inlet, a pumping station and flowmeter, installation of new electrical service, buried main lines, valves, laterals, and solid set (Nelson Rotator) sprinklers, and pre and post ground leveling. The project was successfully completed. No permits were required.

An estimated 0.3 CFS of water conserved from the project will be submitted as an instream water right by application through the Water Resource Department's Conserved Water Program. The actual total water going to instream flows may change following final OWRD injury review of the application.

This project was an essential step in helping farmer Robert Baker make his irrigation system more efficient while improving instream habitat for fish. The cost share assistance provided by this grant helped Mr. Baker improve his irrigation practices, utilize river water more conservatively, and save water to an instream right. It is a clear example of the success of the Oregon Plan for Salmon(ids) and Watersheds. The OWEB funds were matched by labor and time from Robert Baker, and assistance from OWRD. The results will be monitored for a minimum of five years.

Changes to the original proposal

The original proposal was not approved for funding because it was not a solid set system. This was resubmitted and approved. The project was completed as proposed with only minor modifications to the pump station site location (in consultation with the water master) and some main line and lateral placements.

Recommendations for similar projects

A key component in this project was that the water right transfer was necessary for the project to be economically feasible. It was originally thought that this transfer could be approved on a local level, but it ended up at the state level. Due to the Klamath Basin issues and a lack of communication, this process took much longer than anticipated, as did every other step of the project. It would be helpful if water right transfers associated with projects returning water to the river could be expedited. The landowner reported that the local Watershed Council staff was very helpful and understanding in all aspects of this project.