SMALL GRANT PROGRAM
PROJECT COMPLETION REPORT

Name of Project: Hudson Bay Automated Water Efficiency  Project Number: 26-06-001
Grantee: Walla Walla Basin Watershed Council  Phone: (541) 938-2170
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PROJECT DESCRIPTION AND RESULTS
Describe the problem(s) you expected to address, the work implemented through this grant, the results shown from implementing the project, and any lessons learned.

Problem:
A limited amount of water is available for Walla Walla River irrigators now that they are bypassing 25 cfs of their water rights downstream for ESA fish habitat and passage improvements. This project ensures accurate and efficient water use by the users on the Hudson Bay District Improvement Company (HBDIC) which diverts water from the Walla Walla River and serves over 120 farms totaling 6,900 acres. Currently a headgate is used to control the water diversions without a direct link to measured flows in the river. Also in-district management is currently all operated manually. Although new pipelines being built in the District to replace some of the old leaky earthen ditches are more efficient than the former ditches, manual operations prevent timely adjustments related to changes in river flow and daily changes in ditch or pipeline uses, or on farm demands for water.

Solution:
This project helped HBDIC purchase and install an automated control and instrumentation system that sends radio signals of river flows and fluctuations for automated management of their headgate and in district diversion points. This project has resulted in better control of the White ditch, Hyline ditch, and the Richartz and Huffman pipelines, which are providing much of the late fall, winter, spring, and early summer bypassed water rights that are maintaining river flows that now allow passage of ESA listed bull trout and steelhead to access excellent upriver habitat.

The following equipment has been purchased for the project: antenna, radio, water flow telemetry software, transducer, water flow controller, and 3 tower antenna mats. The water level sensor equipment will be installed this summer at the Huffman richartz split. BPA and HBDIC funds will install an automated control gate at the Duff weir that divides HBDIC water between the White Ditch to the west and the Hyline, Huffman, and Richartz ditches to the north. Hudson Bay has poured the concrete foundations, and erected the radio towers for the antennas, and installed fences around the base to protect the equipment.
The old structure was adjusted with boards, not an efficient way to adjust water. These boards had to be tied to this structure during stormy weather to hold adjustments to water flow. The new Duff weir and head gate will now be rated and controlled with the use of a stilling basin on the Richartz/Highline side. When the Hyline pipe project is completed this structure will control all waters to the North at the highest efficiency by eliminating any unnecessary spillage at the end of these canals. More Walla Walla River water will thus be made available to other legal water rights holders or remain instream for fish. This is the first step in a multi-phase project.

The next phase of the project will install a telemetry controlled mechanism at the Little Walla Walla headgates that will be responding to signals from flow levels at the HBDIC gate at the Frog, which is a management point on the upper Little Walla Walla in Milton-Freewater. This next phase of the project will provide the efficiency that will allow HBDIC to more accurately and more quickly make adjustments to the amount they withdraw from the river.

This project implements OWRD's Conservation and Efficient Water Use Policy by the elimination of waste and improving the efficiency of water use.

Lessons learned:

Delays in getting the design for this system meant purchases of the automation equipment did not occur until late in the grant period. Installation was delayed because of Cultural Clearances and permits required by the match funding source, Bonneville Power Administration. An additional delay on construction occurred because HBDIC enjoyed an unusually good water year and was able to serve water to their patrons throughout most of the summer. This unfortunately meant that construction at the diversion points was delayed until late summer once the ditches were dry. Match for this project was provided by BPA funds for equipment and HBDIC labor used to install the Duff weir, the water control gates, and the telemetry tower and equipment, and a priority section of the Hyline pipe. These two funding partners created unanticipated delays, as did the year’s unusual weather.

Signed

Date December 12, 2008

REQUIRED ATTACHMENTS:

☑ Photographs of the completed project site
☑ Habitat restoration reporting form
Photographs

Huffman/Richartz Diversion: Future site of automation equipment

Huffman/Richartz Diversion: Foundation poured, antenna and tower erected
White Ditch splits from the Hyline/Huffman/Richartz at the Duff Weir Diversion: Duff Weir being reconstructed for telemetry automated gate

White Ditch splits from the Hyline/Huffman/Richartz at the Duff Weir Diversion: tower being constructed
White Ditch splits from the Hyline/Huffman/Richartz at the Duff Weir Diversion: Weir completed, foundation poured, antenna and tower erected