

# Wasco Riparian Buffer Project

**Annual Report  
2002 - 2003**



This Document should be cited as follows:

*Graves, Ron, "Wasco Riparian Buffer Project", 2002-2003 Annual Report, Project No. 200201900, 9 electronic pages, (BPA Report DOE/BP-00009502-2)*

Bonneville Power Administration  
P.O. Box 3621  
Portland, OR 97208

This report was funded by the Bonneville Power Administration (BPA), U.S. Department of Energy, as part of BPA's program to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities on the Columbia River and its tributaries. The views in this report are the author's and do not necessarily represent the views of BPA.

WASCO RIPARIAN BUFFER PROJECT  
BPA CONTRACT NO. 00009502  
PROJECT NO. 2002-019-00

ANNUAL REPORT  
FOR THE PERIOD May 1, 2002 TO April 30, 2003

Prepared for

**Bonneville Power Administration**

by

**Wasco County Soil and Water Conservation District  
2325 River Rd.  
The Dalles OR 97058**

**Wasco Riparian Buffer Project  
BPA Contract 2001-019-00**

**ABSTRACT**

This project implements riparian buffer systems in the Mid-Columbia, addressing limiting factors identified in the Deschutes River Sub-basin Summary, March 2, 2001. This project will provide the technical planning support needed to implement at least 20 riparian buffer system contracts on approximately 800 acres covering an estimated 36 miles of anadromous fish streams. During this first year of implementation, 9 buffer contracts were established on 56,364 ft. of stream (10.7 miles). Acreage included in the buffers totaled 392 acres. Average buffer width was 151 ft. on each side of the stream.

Actual implementation costs, lease payments, and maintenance costs will be borne by existing USDA programs: Conservation Reserve (CRP) and Conservation Reserve Enhancement Programs (CREP). The lease period of each contract may vary from 10 to 15 years. During this year, the average lease period exceeded 14 years. The total value of contracts established this year is \$498,183 compared with \$47,825 in BPA contract costs to provide the technical support needed to get the contracts implemented.

This project provides technical staffing to conduct assessments and develop conservation plans required for riparian buffer systems to help keep pace with a growing backlog of potential buffer projects. This project meets a critical need in the lower Deschutes and lower John Day River basins and complements the Riparian Buffer project approved for Fifteenmile watershed begun in fiscal year 2001.

This project supports RPA 150 and 153 as required under the Federal Hydropower System biological opinion and benefits the mid-Columbia ESU of steelhead.

**Introduction**

Wasco County SWCD provides local leadership in implementation of several full-scale watershed enhancement projects focused on improving watershed health. Working in close partnership with NRCS, our team's strength is our ability to develop and implement scientifically sound, economically feasible resource management plans for private landowners.

This project to implement riparian buffer systems in the Mid-Columbia addresses limiting factors identified in the Deschutes River Subbasin Summary, March 2, 2001. It provides for the technical planning support needed to implement at least 20 riparian buffer system contracts on approximately 800 acres covering an estimated 36 miles of anadromous fish streams. Buffer widths range between 35 and 180 ft. on each side of the stream. Implementation included prescribed plantings, fencing, off-stream water developments and related practices. Actual implementation costs, lease payments, and maintenance costs are borne by existing USDA programs: Conservation Reserve (CRP) and Conservation Reserve Enhancement Programs (CREP). Lease periods are for 10-15 years. This program meets a critical need in the lower Deschutes and lower John Day

River basins. This project helps provide technical support to conduct assessments and develop plans enabling the growing backlog of applications for the buffer program to be addressed.

### **Description of Project and Project Area**

Fish production in most of the lower Deschutes River subbasin is limited by water quality and quantity. Habitat problems identified as limiting steelhead and redband trout production in the tributary streams such as Buck Hollow, Bakeoven, Trout, and Shitike Creeks include low stream flow, unstable stream banks, inadequate stream shading, shallow pools, elevated water temperature, low amount of pool habitat, and gravel impacted by fine sediment. (Nelson, 2001. Deschutes River Subbasin Summary).

Channel degradation, due in part to over 100 years of livestock impacts on riparian vegetation in combination with damaging flood events, has resulted in the habitat problems we see today. Wide, shallow channels, lack of pools and lack of healthy riparian plant communities, particularly the shortage of the woody component, all contribute to the water quality and quantity problems. These problems can be solved with riparian buffer systems.

Buffers filter sediment and nutrients, stabilize stream banks, improve fish habitat, and provide food sources, nesting cover and shelter for wildlife. They provide shade, reduce heating rates in summer, and over time are expected to help narrow degraded stream channels. More details on buffers and their effects can be found in a fact sheet at the Conservation Technology Information Center (CTIC) website: [www.ctic.purdue.edu/Core4/news/annc/Bufferfact.html](http://www.ctic.purdue.edu/Core4/news/annc/Bufferfact.html) or at the Natural Resources Conservation Service (NRCS) web site: [www.nhq.nrcs.usda.gov/CCS/Buffers.html](http://www.nhq.nrcs.usda.gov/CCS/Buffers.html).

The CREP and CRP continuous sign-up offer an opportunity to create riparian buffer systems and directly address these water quality and habitat limitations. Details about these programs are available at local USDA Service Centers and in the Catalog of Federal Domestic Assistance (CFDA) #10.069, accessible on the internet at [www.cfda.gov](http://www.cfda.gov). Both programs offer 10-15 year leases to landowners to create 35-180 ft. buffers along both sides of the stream. In addition to cost sharing fencing, off-stream water developments, and establishment of perennial vegetation, per-acre rental rates enable participating landowners to derive income from the buffers they establish under the programs, encouraging wider buffers.

This project to develop and implement CRP/CREP riparian buffer plans directly supports many of the goals, objectives, and strategies identified in the Deschutes River Subbasin Summary (pages 105-158) as well as the problems identified in the “Habitat Areas and Quality-Lower Deschutes River” (pages 35-36). Riparian buffer systems address several specific fish and wildlife needs cited in the subbasin summary under habitat enhancement and protection and include: (a) development of off-stream water and (b) restoration of riparian vegetative corridors through riparian buffer systems.

This project to implement riparian buffer systems supports the NWPPC Fish and Wildlife Program (1994) Habitat Goal, Policies and Objectives described in Section 7.6, particularly 7.6B.1 helping private parties be proactive and 7.6B.3 integration of habitat work in broader watershed improvement efforts. Section 7.6B.4 recommends higher priority for actions that maximize effect for the dollar. Given that this proposal seeks funding to make technical assistance available and a modest amount for implementation, with other entities picking up nearly all the implementation and lease costs, it shows outstanding leveraging of funds. The project supports the provisions of 7.6C for Coordinated Habitat Planning. Establishment of Riparian Buffers clearly supports actions identified in section 7.6D to reduce sediment, improve bank stability, and water quality. Tree establishment in riparian buffers helps stabilize banks, provide shade, and reduce heating rates on hot summer days. Direct planning with private landowners supports the concepts discussed in Section 7.7.

This project supports several objectives of the ODFW Lower Deschutes River subbasin Management Plan: (7) Improve the quality and quantity of riparian habitat; (9) Maintain or improve water quality in the lower Deschutes River and tributaries.

It supports specific Wasco County SWCD Strategies in the Deschutes Basin: Buck Hollow Watershed strategy 2.1, Work with private landowners on implementation of riparian buffer systems to accelerate shading of degraded reaches, vegetative stabilization of riparian areas, and reduction in stream width/depth ratios, and corresponding reduction in thermal inputs during summer. Bakeoven Watershed strategy 1.1 Work with private landowners to establish riparian buffer systems on Bakeoven and Deep Creeks. White River Watershed Strategy 1.3 Work with private landowners to implement riparian buffer systems.

Riparian buffers address two of four objectives found in The Lower Deschutes Agricultural Water Quality Management Area Plan (2000) (2) achieve stable stream banks and (4) provide adequate riparian vegetation for streambank stability and stream shading consistent with site capability.

The Tribes' Anadromous Fish Restoration Plan, Wy-Kan-Ush-Mi Wa-Kish-Wit, p.35 identifies 7 actions of which 2 are directly addressed by establishing riparian buffers: Action 6. Protect and enhance aquatic and riparian habitat; Action 9. Increase stream bank cover, decrease water temperatures during the summer and increase stream flow.

National Marine Fisheries Service Biological Opinion for the Federal Columbia River Hydropower System identifies a reasonable and prudent alternative (Action#153) to use incentive programs such as CREP for long-term protection of 100 miles riparian buffers per year. This project helps satisfy RPA Action #153.

ESA section 7 consultation has been completed on the CREP program (NMFS, 1999). The CREP program is an integral part of the Oregon Plan for Salmon and Watersheds. The key elements of the Oregon Plan are coordinated agency programs, local community involvement and actions, monitoring progress, and adaptive management. This proposal supports those main elements of the Oregon Plan.

This project complements the Riparian Buffer project approved for Fifteenmile watershed for fiscal year 2001. Collaborative efforts are expected between technicians assigned to the two areas. It supports the Bakeoven Watershed riparian restoration needs identified in the Bakeoven Riparian assessment. It is supported in part by the proposed Assessment/watershed coordination project which can help establish priorities within individual watersheds for targeting riparian buffer promotion and technical assistance.

## **Methods and Materials**

These procedural tasks are listed logically in the sequence in which they occur for development of a riparian buffer plan.

This project has a coordination objective to avoid overlaps and duplication of effort, but the principal objective set forth below is implementation of riparian buffer systems.

The main objective of this project is to implement at least 20 new CREP/CRP riparian buffer system agreements with participating landowners covering 36 miles of anadromous fish streams and approximately 800 riparian acres. Workload associated with this effort in the Deschutes and John Day subbasins is greater per contract when compared with the Fifteenmile Subbasin due to the comparatively larger size of the rangeland ownerships and considerable travel involved in just getting on-site. One third of this objective is expected to be met in each the first 3 project years.

Task a. Meet with interested landowners on site to assess eligibility of stream reach for program. Anadromous fish streams are eligible for CREP buffers while all streams are eligible for continuous CRP buffers. Specific sites are eligible depending on the condition of the resources on site. Programmatic checklists are used for making the assessment.

Task b. Obtain landowner sign up for the program. Once the site is determined to be eligible and the landowner signs up for the program on a CRP2 form, the stage is set to develop the plan.

Task c. Develop CRP/CREP plan. Resource inventory and environmental checklists are completed early in the NRCS Nine Step Planning Process. Planting prescriptions are completed with input from Oregon Dept. of Forestry, livestock grazing management plans are developed as needed, with alternatives considered for water sources, pasture configuration, etc. Once the plan is completed and approved, a contract is made between Farm Services Agency and the landowner to implement the plan. The planning task is the focus of most of this project's effort.

Task d. Enter into protective conservation agreements with participating landowners for protection of stream contiguous to eligible buffer sites for reaches not otherwise fundable under CRP/CREP or to implement needed conservation practices not otherwise fundable under CREP.

Task e. Appropriate documentation in the producer file is completed by the planner, and progress reporting is done. That completes the planning/design process. CREP implementation is funded in part by state of Oregon (25%), in part by USDA (50%), and in part by the landowner (25%). Landowner contributions may be in cash or in-kind.

Tasks during implementation include providing additional technical assistance as needed and assisting with protective measures needed to protect high quality habitat in riparian areas contiguous to CREP/CRP program eligible reaches. Verification of proper functioning on any additional measures will be done beginning in 2003 in the second year of the project.

Operation and Maintenance are not required in this project. Actual operation and maintenance is a funded item in the CRP/CREP contracts whereby the landowner receives a small fee per acre to cover maintenance costs. The landowner is responsible under the contract for the maintenance.

Monitoring and Evaluation under this project consists of annual inspection of additional practices cost shared outside the existing CRP/CREP programs. USDA has programmatic responsibility for spot checking CREP/CRP contracts to ensure terms are being met. NRCS has responsibility for technical supervision.

Our technicians use the USDA Natural Resources Conservation Service Stream Visual Assessment Protocol to evaluate riparian conditions during site assessments as part of the planning process. By doing so they establish documentation of baseline, pre-project conditions. Given the repeatability of that assessment, it may be prudent to consider repeating the stream visual assessment at some future time after the buffer system has been implemented and the riparian area has had a chance to respond. Establishment of a photo point and repeating the assessment would be a relatively inexpensive way to measure success in habitat improvement at least to Tier One levels and would add some measure of effectiveness.

### **Results and Discussion**

Progress in executing riparian buffer contracts has met expectations. Goal for project was 20 contracts over three years or 6.7 contracts per year. During this first project year, 9 contracts were established for 135% of goal. Those contracts for the project were expected to include about 36 miles of riparian buffers or about 12 miles per year. Miles of riparian buffer systems enrolled this year was 10.7 or 89% of the annual goal.

Total actual cost-sharing amount for this first year was \$498,183, which includes actual expenses and obligated amounts through the life of the buffer contracts established. Total BPA contribution for this project year was \$47,825. This represents significant leveraging of BPA funds.

## Summary and Conclusions

This project has been a success to date, but would benefit by adding some level of effort for tier one monitoring using photo points and using the NRCS Stream Visual Assessment Protocol to determine changes in riparian conditions.

### Summary of Expenditures

*(each item rounded to nearest dollar)*

Personnel Salaries	\$ 26,018
Benefits & other pers. exp.	\$ 7,806
Office equipment & supplies	\$ 986
Field Equipment & supplies	\$ 1,041
Vehicle lease costs	\$ 5,346
Vehicle operations costs	\$ 2,210
Field Implementation	\$ 0
Travel	\$ 71
Administrative Overhead	\$ 4,348
<b>Total contract Expenditures</b>	<b>\$ 47,825</b>

**Total USDA, State, Landowner Implementation and Contract Costs: \$498,183**