

**PROJECT COMPLETION REPORT**  
**BIG CREEK ENHANCEMENT PROJECT**  
*OWEB Project # 201-606*



**Figure 1**  
Constructed log jam on Big Creek

***Prepared by***

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Umpqua Basin Watershed Council Oregon Department of Fish & Wildlife  
November 13, 2002

# Big Creek Enhancement Project

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## BACKGROUND

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### Landowner(s):

Roseburg Resources  
711 Port Dock Rd.  
Reedsport, OR 97467  
Contact: Phil Adams  
(541) 271-0159

Bureau of Land Management  
Coos Bay District Office  
1300 Airport Way  
North Bend, OR 97459  
Contact: Pat Olmstead  
(541) 751-4453

### Project Location:

T21S, R8W, WM, Sections 4, 5 & 8

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## FISHERY

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Big Creek is a high priority 6<sup>th</sup>-field watershed within the high priority Upper Smith River 5<sup>th</sup>-field drainage based on the Bradbury Process, which was conducted by the Umpqua Basin Watershed Council's Technical Advisory Committee. Big Creek is an important waterway for coho, winter steelhead and cutthroat trout. The Oregon Department of Fish & Wildlife has conducted extensive monitoring over the years on Big Creek, including adult coho surveys, habitat surveys and juvenile smolt trapping.

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## FISCAL

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### Agency/Organization:

Oregon Watershed Enhancement Board  
775 Summer St. NE  
Suite 360  
Salem, OR 97301-1290

### Program:

Watershed Management Grant  
Contact: Mark Grenbemer, Region 2 Rep.  
Phone: 541-471-2886 Fax: 541-471-2876

Grant Number: 201-606

### Dates:

Award: August 12, 2002

Amount Obligated: \$34,517

### Completion:

October 1, 2002

## **Budget:**

### **OWEB funds:**

	<u>Budget</u>	<u>Actual</u>
• Log and Boulder Placement	\$14,780	\$23,500
• Log Hauling (30 Loads)	6300	
• Log Costs	10,480	
• Administration	<u>2957</u>	<u>2,350</u>
Total	\$ 34,517	\$ 25,850

### **Landowner Contribution (In-Kind):**

• Portion of logs used for project	\$10,000
• All boulders used for project	<u>\$ 5,000</u>
Total Landowner Contribution	\$15,000

### **Other Cash Contribution: (Log hauling, purchase and contractor costs)**

• Umpqua Fisheries Enhancement Derby	1,000
• Coos Bay District BLM	15,000
• USFWS (Jobs in the Woods)	21,415
• Joe Merchep Umpqua River Foundation	<u>200</u>
Total Other Contribution	<u>\$ 37,615</u>

**Total project cost** **\$ 87,132**

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## **PROJECT DESCRIPTION**

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Big Creek had a very low volume of large wood at 1.2 pieces of wood per 100m of stream (none of which were key pieces). Big Creek also had only a limited amount of available spawning gravel and was dominated by bedrock. The water velocity was too fast to allow gravel to drop out without structure in the stream.

A total of 200 logs and 200 boulders were placed at 55 sites along this 2-1/2-mile section of Big Creek. All key logs were twice as long as the width of the active channel as suggested in the Oregon Aquatic Restoration & Enhancement Guide. The active channel throughout the project site ranges from 25-30 feet. All key logs were 50-60 feet in length and at least 18" in diameter. These logs were placed using a track-mounted excavator.

The addition of large wood and boulders into Big Creek has increased fish habitat complexity, which provides more in-stream cover for fish. Increasing the amount of LWD in the system will allow smaller debris to collect (creating jams). This will significantly slow the water velocity, which will allow more spawning gravel to accumulate. The large wood will also increase the abundance of aquatic insects in Big Creek, which in turn, will increase the food supply for salmonids. The addition of large wood will address these limiting factors, which existed due to the lack of large wood in the system.

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## PERMITS/AGREEMENTS

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The DSL permit for the habitat enhancement project was requested and then received on January 30, 2002. It is a General Authorization for Fish Habitat Enhancement, DSL Project No. GA-24998. A UBWC landowner agreement was obtained from Roseburg Resources Co. and Coos Bay District BLM.

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## MONITORING

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The Oregon Department of Fish & Wildlife conducted winter and summer pre-project snorkel surveys throughout the project site. Post project snorkel counts will be conducted by ODFW in the 1st, 3rd and 9th year after large wood implementation. ODFW will also conduct another set of habitat surveys through the proposed project site. The post-project surveys will be conducted in the 1st and 9th year after project implementation.

ODFW has also taken pre-project photos from permanent photo points. The post-project pictures will be taken each year for 5 years to show changes throughout the stream reach.



Logs decked along Big Creek. These were contributed by Roseburg Resources Co.



Big Creek prior to project implementation.  
Note long bedrock stream course devoid of structure.



Big Creek after log and boulder structures have been placed.