

Secure Rural Schools and Community Self-Determination Act of 2000
Public Law 106-393
Title II Project Application
Roseburg District Resource Advisory Committee

1. Project Number (Assigned by federal unit): _____

2. Project Name: Cavitt Creek Restoration Strategy	3. County: Douglas
4. Project Sponsor: Anne Boeder, Roseburg BLM	5. Date:
6. Sponsor's Phone Number: (541) 464-3360	
7. Sponsors E-mail: anne_boeder@blm.gov	

8. Project Location (attach project area map)	
a. 4 th Field Watershed Name and HUC #(if known): North Umpqua Sub-basin, 17100301	
b. 5 th Field Watershed Name and HUC #(if known): Little River Watershed, 1710030111	
c. Legal Location: Township <u>27S</u> Range <u>3W</u> Township <u>27S</u> Range <u>2W</u> Township <u>28S</u> Range <u>3W</u> Township <u>28S</u> Range <u>2W</u>	
d. BLM District Roseburg	e. BLM Resource Area Swiftwater
f. National Forest	g. Forest Service District
h. State / Private / Other lands involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

<p>9. Statement of Project Goals and Objectives:</p> <ul style="list-style-type: none"> ▪ Improve fish passage at stream crossings • Restore a more natural sediment regime by reducing management-related sediment inputs. • Help restore a more natural flow regime by reducing road density and water diversion. • Meet Oregon water quality standards for sediment • Implement cooperative watershed restoration and build a foundation for future efforts.

Secure Rural Schools and Community Self-Determination Act of 2000
Public Law 106-393
Title II Project Application
Roseburg District Resource Advisory Committee

10. Project Description: (Provide concise description of project and attach map.)

In 1998, the major landholders in the Cavitt Creek area (BLM, USFS, and Seneca Jones Timber Company) along with the Umpqua Basin Watershed Council (UBWC) initiated an effort to inventory and prioritize road-related risks. This process identified the roads that are high risk to aquatic resources and in need of restoration. This type of cooperative relationship should more effectively address water quality and fisheries concerns in areas with intermingled private and public lands.

Through grants from the Oregon Watershed Enhancement Board and Oregon Department of Environmental Quality and partners contributions, a total of \$25,000 was raised to accomplish the road inventory. A total of 204 miles of roads were surveyed.

The data collected through the road inventory was used to target and prioritize the roads at highest risk to aquatic resources. A team of federal agency scientists and engineers worked with the Umpqua Basin Watershed Council and Seneca-Jones Timber Co. to review these sites and develop proposed treatments on their lands.

Specifically, the BLM portion of the overall project includes:

- **3 large road cut or road fill failure sites**
- **8 culverts**
 - 3 fish passage
 - 5 other (hydraulically undersized or damaged)
- **2 miles - road treatments to reduce risks (drainage structures, ditches, slides, etc.)**
- **.5 mile - road decommissioning**

Culverts will be repaired or replaced to restore adult and juvenile fish passage and hydraulic function. Many culverts are undersized for large flood events and have the potential for causing water diversion and severe sedimentation and mass wasting. Replacement of 3 major fish passage culverts would result in approximately six miles of additional potential fish distribution.

Road treatments maintain vehicular access while lessening risks to riparian and aquatic resources by installing larger culverts; adding additional culverts (i.e. ditch relief culverts); replacing culverts with ford crossings; pulling back over steepened road and landing fills; installing water bars, drain dips, culvert splash aprons, and culvert stand pipes.

Decommissioning substantially lessens risks to riparian and aquatic resources through eliminating the risk of mass wasting by pulling back road fill, out sloping the remnant surface to eliminate concentration of water, removing all stream crossings and relief culverts, removing road fills from floodplain areas and restoring stream profiles to their pre-culvert contours. In some cases, decommissioning also includes roadbed sub soiling to allow establishment of trees and more effective water infiltration.

The total cost for BLM projects is estimated at \$850,000. This application is for partial funding (\$400,000) of BLM projects. Funds will be used for restoration of roads on BLM-managed lands.

Secure Rural Schools and Community Self-Determination Act of 2000
Public Law 106-393
Title II Project Application
Roseburg District Resource Advisory Committee

11. Coordination of this project with other related project(s) on adjacent lands?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, then describe
The Umpqua National Forest, Seneca Jones Timber Co., and the Umpqua Basin Watershed Council are also partners in an overall project that includes all high-priority road restoration in the Cavitt Creek River Basin. This includes projects on USFS, BLM, and Seneca-Jones Timber Co. lands.

12. How does proposed project meet purposes of the Legislation? [Sec. 203(b)(1)]
<input checked="" type="checkbox"/> Improves maintenance of existing infrastructure. [Sec. 2(b)]
<input checked="" type="checkbox"/> Implements stewardship objectives that enhance forest ecosystems. [Sec. 2(b)]
<input checked="" type="checkbox"/> Restores and improves land health. [Sec. 2(b)]
<input checked="" type="checkbox"/> Restores water quality. [Sec. 2(b)]

13. Project Type (check one) [Sec. 203(b)(1)]	
<input type="checkbox"/> Road Maintenance [Sec. 2(b)(2)(A)]	<input type="checkbox"/> Trail Maintenance [Sec. 2(b)(2)(A)]
<input type="checkbox"/> Road Decommission/Obliteration [Sec. 2(b)(2)(A)]	<input type="checkbox"/> Trail Obliteration [Sec. 2(b)(2)(A)]
<input type="checkbox"/> Other Infrastructure Maintenance (specify): [Sec. 2(b)(2)(A)]	
<input type="checkbox"/> Soil Productivity Improvement [Sec. 2(b)(2)(B)]	<input type="checkbox"/> Forest Health Improvement [Sec. 2(b)(2)(C)]
<input checked="" type="checkbox"/> Watershed Restoration & Mntc. [Sec. 2(b)(2)(D)]	<input type="checkbox"/> Wildlife Habitat Restoration [Sec. 2(b)(2)(E)]
<input type="checkbox"/> Fish Habitat Restoration [Sec. 2(b)(2)(E)]	<input type="checkbox"/> Control of Noxious Weeds [Sec. 2(b)(2)(F)]
<input type="checkbox"/> Reestablish Native Species [Sec. 2(b)(2)(G)]	
<input type="checkbox"/> Other Project Type (specify) [Sec. 2(b)(2)]:	

14. Measure of Project Accomplishments/Expected Outcomes [Sec. 203(b)(5)]	
a. Total Acres:	b. Total Miles: 2 Miles & 3 major sites
c. No. Structures: 8 Culverts	d. Est. People Reached
e. No. Laborer Days:	(for environmental education projects):
f. Other (specify):	

15. Duration of Project and Estimated Completion Date: [Sec. 203(b)(2)] 5/01 – 05/02: Planning; 05/02 –10/03: Implementation

16. Target Species Benefited: (if applicable) Anadromous and native fish species

Secure Rural Schools and Community Self-Determination Act of 2000
Public Law 106-393
Title II Project Application
Roseburg District Resource Advisory Committee

17. How will cooperative relationships among people that use federal lands be improved? [Sec. 2(b)(3)]

All major landholders in the Cavitt Creek river basin are involved in this project. Successful accomplishment of this project will demonstrate how federal/private partnerships can address watershed-based problems.

18. How is this project in the best public interest? [Sec. 203(b)(7)] **Identify benefits to communities.**

Cavitt Falls campground is located approximately three miles up Cavitt Creek. This project would improve water quality at this popular camping and recreation spot. Cavitt Creek is an historic coho salmon spawning and rearing ground. Water quality will improve fish spawning gravels and rearing habitat in Cavitt Creek, Little River, and the North Umpqua River. This project would also benefit the local community by providing jobs since local contractors will be used for construction work.

19. How does project benefit federal lands/resources?

The project will reduce non-point source pollution and enable the BLM and Forest Service to meet Oregon state water quality standards as required by federal law. A secondary benefit is improved vehicular access for land management activities.

20. Status of Project Planning			
a. NEPA Complete:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
If no, give est. date of completion: 9/01			
c. NMFS Sec. 7 ESA Consultation Complete:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Not Applicable
d. USFWS Sec. 7 ESA Consultation Complete:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
e. Survey & Manage Complete:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Not Applicable
f. DSL/ODFW* Permits for In-stream Work Obtained:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not Applicable
g. DSL/COE* 404 Fill/Removal Permit Obtained:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not Applicable
h. SHPO* Concurrence Received:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/>
i. Project Design(s) Completed:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
* DSL = Dept. of State Lands, ODFW = Oregon Dept. of Fish and Wildlife, COE = Army Corps of Engineers, SHPO = State Historic Preservation Officer			

21. Proposed Method(s) of Accomplishment	
<input checked="" type="checkbox"/> Contract	<input checked="" type="checkbox"/> Federal Workforce
<input checked="" type="checkbox"/> County Workforce	<input type="checkbox"/> Volunteers
<input type="checkbox"/> Other (specify):	

22. Will the Project Generate Merchantable Materials? [Sec. 204(e)(3)]

Yes No

Secure Rural Schools and Community Self-Determination Act of 2000
Public Law 106-393
Title II Project Application
Roseburg District Resource Advisory Committee

23. Anticipated Project Costs [Sec. 203(b)(3)]	
a. Total County Title II Funds Requested: \$400,000	
b. Is this a multi-year funding request? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, then display by fiscal year	
c. FY02 Request: \$200,000	f. FY05 Request:
d. FY03 Request: \$200,000	g. FY06 Request:
e. FY04 Request:	

Table 1. Project Cost Analysis

Item	<i>Column A</i> Fed. Agency Appropriated Contribution [Sec. 203(b)(4)]	<i>Column B</i> Requested County Title II Contribution [Sec. 203(b)(4)]	<i>Column C</i> Other Contributions [Sec. 203(b)(4)]	<i>Column D</i> Total Available Funds
24. Field Work & Site Surveys				
25. NEPA & Sec. 7 ESA Consultation				
26. Permit Acquisition				
27. Project Design & Engineering				
28. Contract Preparation				
29. Contract Administration				
30. Contract Cost	8,000	400,000	180,000	588,000
31. Workforce Cost	26,000			26,000
32. Materials & Supplies				
33. Monitoring				
34. Other				
35. Project Sub-Total				
36. Indirect Costs (Overhead) (per year for multi-year projects)				
37. Total Cost Estimate	34,000	400,000	195,000	604,000

38. Identify Source(s) of Other Funding for Project Identified Above [Sec. 203(b)(4)]

Matching Funds for BLM Projects:

Oregon Watershed Enhancement Board (OWEB): \$ 30,000 (Planned)
Oregon DEQ (319) Funds: \$ 70,000 (Secured)
USFS OWEB Funds: \$ 80,000 (Secured)

The following additional matching funds are planned or secured for use by the other partners in the overall watershed restoration effort:

OWEB \$ 87,000 (Planned)
Oregon DEQ (319) Funds: \$ 80,000 (Secured)
USFS OWEB Funds: \$220,000 (Secured)
USFS Payments to Counties Funds: \$200,000 (Secured)

In addition, there is another \$250,000 needed to complete planned restoration on BLM lands. Once results of FY2002 funding requests are evaluated, a plan for the remaining need will be completed.

39. Monitoring Plan [Sec. 203(b)(6)]

- a. What measures or evaluations will be made to determine how well the proposed project meets the desired ecological conditions? [Sec. 203(b)(6)] Who will be responsible for this monitoring item?**

Umpqua National Forest, Roseburg BLM, Oregon DEQ, and ODFW all have monitoring plans that include monitoring in the Little River Watershed and/or Cavitt Creek. Attachment A contains the monitoring plan from the Little River Water Quality Restoration Plan (WQRP). The plan describes the objectives, types, timing, and locations of monitoring in the watershed.

- b. How will the project be evaluated to determine how well the proposed project contributes towards local employment and/or training opportunities, including summer youth jobs programs such as the Youth Conservation Corps? [Sec. 203(b)(6)] Who will be responsible for this monitoring item?**

Project implementation will be completely accomplished via contracts with local companies.

- c. What methods and measures of evaluation will be established to determine how well the proposed project improves the use of, or added value to, any products removed from federal lands consistent with the purposes of this Act? [Sec. 203(b)(6) and Sec. 204(e)(3)] Who will be responsible for this monitoring item?**

This project will not remove any merchantable materials.

- d. Identify total funding needed to carry out specified monitoring tasks (Table 1, item 33)**
Amount:

Monitoring for this area is described in the Little River Water Quality Restoration Plan (WQRP) completed by the BLM and USFS. This plan describes overall monitoring for the Little River watershed (see attachment A) including Cavitt Creek.

Monitoring for BLM projects will be accomplished as part of normal monitoring activities as required in the BLM Roseburg District Resource Management Plan.

Attachment A – Monitoring Plan

(From the Little River Water Quality Restoration Plan, dated February, 2001)

Northwest Forest Plan and Federal Land Management Plans

The Northwest Forest Plan (NWFP), The Resource Management Plan (RMP) for the BLM Roseburg District, and the Land and Resource Management Plan (Forest Plan) for the Umpqua National Forest are ongoing federal land management plans. The NWFP became effective in 1994. Federal law requires the RMP and the Forest Plan. The RMP was implemented in 1995 and covers a period of approximately 10 years or until the next RMP is completed. The Forest Plan became effective in 1990 and also covers a period of approximately 10 years or until the next Forest Plan becomes effective. These plans contain extensive requirements for implementation, effectiveness, and validation monitoring of best management practices (BMP's) for water resources. Annual Program Summary and Monitoring Reports provide feedback and track how management actions are being implemented.

Regulations under the National Forest Management Act (36 CFR 219.12, k) require that Forest Plan implementation be evaluated periodically on a sample basis to determine how well objectives have been met, and how closely management Standards and Guidelines have been followed. These monitoring requirements have been incorporated into the Forest Plan. Monitoring serves as the basic tool to evaluate management direction and to determine if there is a need to amend or revise the Plan or to change the way management activities are conducted.

The RMP will be implemented over a period of years. Monitoring will be conducted as identified in the approved plan. Monitoring and evaluations will be utilized to ensure that decisions and priorities conveyed by the plan are being implemented, that progress toward identified resource objectives is occurring, and that mitigating measures and other management direction are effective.

WQRP Monitoring and Evaluation

Monitoring and evaluation will be accomplished within the framework of existing land management plans as described above. There are two major categories of monitoring that will occur for this WQRP. This includes restoration activity accomplishments (did we complete the management action targets) and water quality indicators (did we achieve the desired water quality).

Restoration Activity Accomplishments

As restoration activities are completed they will be tracked by each agency in local databases. This data will be annually provided to the Interagency Restoration DAtabase (IRDA). This database was developed by the Regional Ecosystem Office (REO) to track all restoration accomplishments by federal agencies in the areas covered by the NWFP. It is an ArcView based application and is available via the Internet at the REO website (www.reo.gov). It also contains data from the state of Oregon. The IRDA is intended to provide for consistent and universal reporting and accountability among federal agencies and to provide a common approach to meeting federal agency commitment made in monitoring and reporting restoration efforts in the Oregon Coastal Salmon Restoration Initiative. Activities that are tracked include in-stream structure and passage, riparian treatments, upland treatments, road decommissioning and improvements, and wetland treatments.

In addition, implementation and effectiveness monitoring will be accomplished for restoration projects according to project level specifications and requirements.

Water Quality Indicators

Water quality indicators are critical for assessing the success of this WQRP. This data will be used to monitor the success of plan implementation and effectiveness. Ongoing monitoring will detect improvements in water

quality conditions as well as progress toward reaching the water quality standard. The core indicators of water quality and stream health that will be monitored are:

- Water Temperature
- Stream Flow
- Macroinvertebrates
- Stream Surveys
- Stream shade
- pH
- Pebble counts, Core Sampling

Water Quality Parameter	Indicator	Frequency
Water Temperature	Temperature $\leq 64^{\circ}$ (7) day moving average of the daily maximum for rearing (6/1-9/30)	Annually
	Site Potential Stream Shade	5 years
	Stream Flow	Annually
pH	pH within a range of 6.5 – 8.5	Annually
Sediment	Macroinvertebrates $\leq 60\%$ impaired	Annually
	Pebble Counts	Annually
	Core Sampling	TBD
Habitat Modification	Stream Surveys show PFC* or good rating	10 years or TBD

Figure 42. Water quality indicators for the Little River watershed. *Proper Functioning Condition

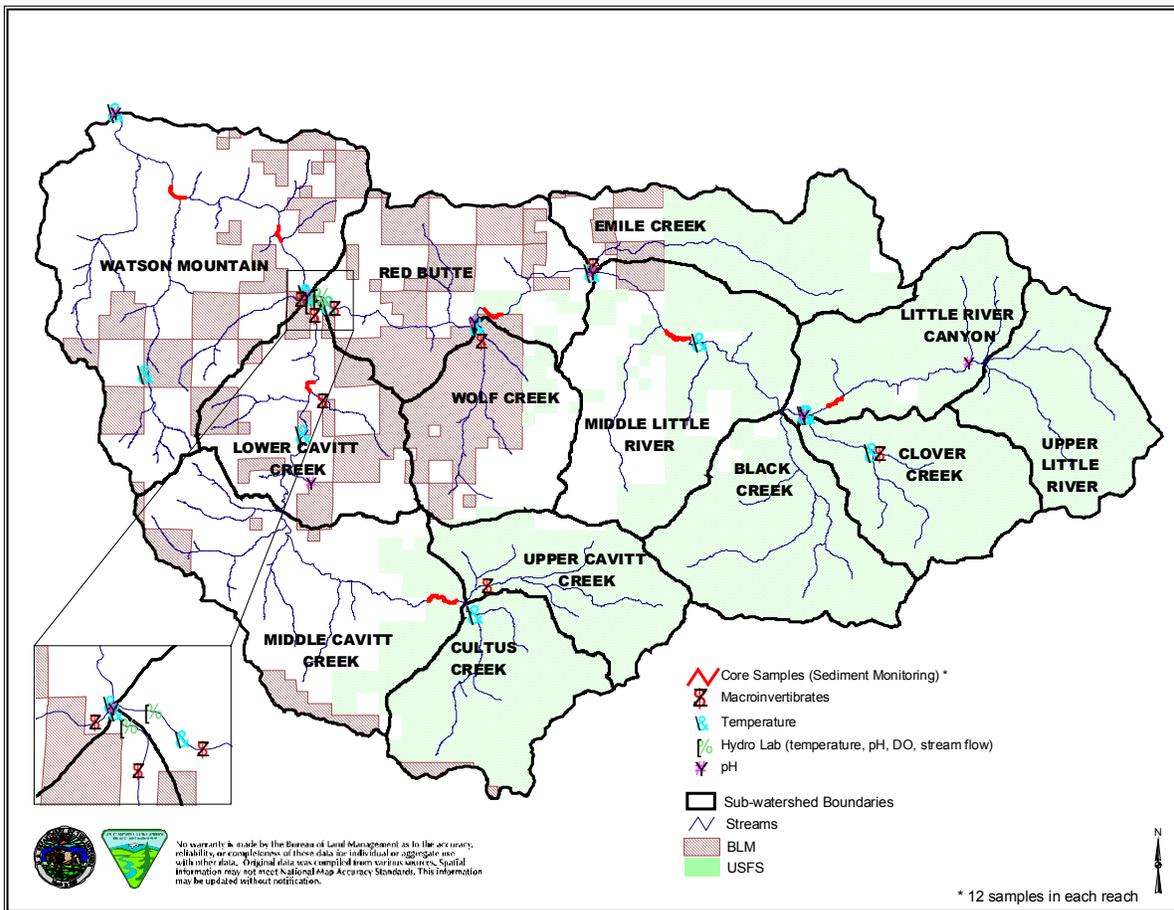


Figure 43. Location of USFS and BLM water quality monitoring sites.

Water Temperature

The BLM and USFS have collected stream temperature data since 1994 and will continue to monitor stream temperatures in order to detect any changes in temperature from long-term data sets. Sampling methods and quality control will follow ODEQ protocol. Several long term monitoring sites as well as project-specific, short-term sites will be used. Core long-term sites that will be monitored annually include:

- BLM: Mouth of Cavitt Creek, Egglestron Creek, Emile Creek, Fall Creek, Lower Jim Creek, Little River (above Wolf Creek), Wolf Creek above Egglestron
- USFS: Cultus Creek(mouth), Clover Creek (mouth), Little River (above Clover Creek), Flat Rock Branch, Little River (below White Creek)

The USGS collects and publishes stream flow information. Stream flow was continuously monitored on Little River above Peel, OR until 1989 when the gauging station was discontinued. As a result of recommendations in the watershed analysis, this station was re-established in 1999 through a joint funding initiative by the BLM and USFS. Numerous other sites have been monitored by the USGS in the past and historical data is available on the Internet (www.usgs.gov). Stream low flows are also measured during annual temperature monitoring.

Stream shade will be monitored in selected reaches where there are long-term temperature monitoring sites to help review progress towards meeting the temperature standard and shade targets.

pH

Data on pH was collected in 1994 in support of the Little River watershed analysis and again in 1995 to verify the 1994 results. The USFS and BLM jointly fund two hydrolabs in Little River and Cavitt Creek that collect pH data (along with a number of other parameters).

It was determined by Oregon DEQ that additional information was needed to develop a TMDL for pH. Equipment was deployed the week of August 28, 2000 to collect data for a continuous 24-hour period on temperature, Dissolved Oxygen, pH, conductivity, and dissolved solids. In addition, readings for alkalinity, nutrients, and BODs were taken. Data was collected at the following locations:

- BLM: Little River (mouth), Little River (above Wolf Creek)
- BLM & USFS: Little River (river mile 8)*, Cavitt Creek (just upstream of Little River confluence)*
- BLM & DEQ: Little River (above Emile Creek)
- DEQ: Little River (below Clover Creek), Little River (below Pinnacle Creek), Cavitt Creek (0.7 river miles upstream of Buckshot Creek)

*Each Hydrolab site is monitored annually for at least 24 hours during summer low flows.

*Sediment**

Macroinvertebrates (aquatic insects) will be the primary tool used to monitor how impacted aquatic life is responding to changes in stream habitat. Sampling was completed by the USFS in 1994, 1997 and 1999. The BLM developed a long term monitoring plan in 2000 and sampling will be conducted annually according to DEQ protocols. Long term monitoring sites include:

- BLM: Wolf Creek, Jim Creek, Evarts Creek, Flat Rock Branch of Clover Creek
- USFS: Lower Cavitt Creek, Upper Cavitt Creek, Emile Creek, Middle Little River

Limited data on in-stream sediment has been collected. Several techniques have been used to monitor sediment in streams. The BLM performs a pebble count when taking macroinvertebrate samples. Results will be reviewed to assess changes in particle size. The USFS performed core sampling (using a mechanical device to

take a core from stream) in 1995 at a cost of \$11,800. This data is currently being analyzed. Other available techniques include grid toss, embeddedness, substrate scoring, and V* Pool Index. The cost and labor involved with the various techniques range from minimal (pebble counts, grid toss, embeddedness, substrate scoring) to significant (V* and core samples). Critical considerations for the timing and placement of sampling include examining the effects of sediment on fish spawning, rearing, and food production. In FY2001, the BLM and USFS will review current methodology, timing, sampling frequency, numeric targets, and sites to determine if any changes should be made.

Habitat Modification

Stream survey data (pools, LWD, substrate, width/depth ratio, etc...) has been collected by the BLM and USFS. The BLM contracted with ODFW to complete stream surveys on 79 miles of streams in the lower half of the Little River watershed in 1993. The USFS uses an agency-specific protocol and completed stream surveys on 60 miles of stream in 1994. Due to the difference in protocols, the two data sets are not directly compatible. These surveys are quite costly (up to \$1,000/mile) and time consuming. Some elements of the surveys may not be repeatable due to subjective ocular measurements. Due to these issues, stream habitat surveys are valuable as a snapshot in time but may not serve as a good monitoring tool. Currently, the Umpqua National Forest Land and Resource Management Plan provides for these surveys to be completed at 10-year intervals. The BLM does not currently have plans to repeat them. The two agencies will continue to evaluate the applicability and value of this methodology as a monitoring tool.

Monitoring Data and Adaptive Management

Currently, USFS and BLM hydrologists meet quarterly to review water quality data collection. These meetings will continue and will be framed in the context of reviewing the requirements of this WQRP. Data will be normalized and summarized annually and posted to the Little River AMA website.

This WQRP is intended to be adaptive in nature. Sampling methodology, timing, frequency, and location will be refined as appropriate based on lessons learned, new information and techniques, and data analysis. A formal review involving USFS, BLM, and DEQ will take place every five years to review the collected data and activity accomplishment. This ensures a formal mechanism for reviewing accomplishments, monitoring results, and new information.

**It is also important to note that a rotary-screw smolt trap located in Little River, approximately 5-6 road miles from its confluence with the North Umpqua River, was operated from 1995 - 2000. It was used to trap, identify, and count fish migrating from Little River. Data from this smolt trap were used in the Watershed Analysis to describe the early emergence of sac-fry (possibly due to high levels of fine sediment in spawning gravels). This trap has been discontinued due to lack of funding and personnel. In addition, due to confounding factors (variable water flow, in-trap predation, bed instability during high flow) smolt trap data on sac-fry emergence is not a good sediment monitoring method. Other methodology provides a better indication of stream sediment loading.*