

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Oregon State Office
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Information Bulletin No. OR-2003-036

To: All District Managers

From: Deputy State Director for Resource Planning, Use and Protection

Subject: Monitoring of Fish Passage Culvert Projects

DD: 1/17/2003

In the November 2001 Government Accounting Office (GAO) report *LAND MANAGEMENT AGENCIES: Restoring Fish Passage Through Culverts on Forest Service Lands in Oregon and Washington Could Take Decades* (GAO-02-136), the GAO recommended that the Director of the Bureau of Land Management (BLM) and the Chief of the Forest Service each develop guidance for systematically monitoring completed barrier removal projects. BLM concurred with the recommendation and developed a three-tiered approach to address the monitoring issue:

- 1. Inspection of FY 2002 construction to ensure that the culvert project was installed to design specifications for fish passage and documentation of the results of the inspections.**
- 2. Fish passage evaluation of a sub-sample of fish passage culverts reported as replaced in the period 1998-2001.**

BLM State Office staff reviewed physical measurement and visual assessment protocols that can be used to evaluate the effectiveness of fish passage replacement culverts. Protocols used by Forest Service Regions 6 and 10, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Washington Department of Fish and Game, and the California Department of Fish and Game were reviewed. A decision was made to use the Forest Service Region 6 protocol that includes physical measurements and visual observations (Attachment 1). Measurements and observations are used for a coarse screening evaluation that places culverts in one of three categories. They are: (1) "Green" which indicates it passes all life stages of the fish species of interest at a range of flows; (2) "Red" which indicates that one or more life stages of the species of interest will not pass upstream through the culvert at some flows; and (3) "Grey"

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which indicates it will need further evaluation using a computer model known as "FishXing." Two BLM districts have been test-driving the protocol and have assessed more than 100 culverts, both recently replaced and for initial assessment.

- 3. Develop and implement an effectiveness monitoring study to determine if juvenile salmon and steelhead can pass upstream through replacement culverts at a range of flows.**

The BLM response to the draft GAO report explained that a fish sampling monitoring protocol to determine

upstream passage of juvenile salmonids for a range of flows through a culvert would have prohibitive cost and staffing requirements. It could not be used on a routine basis at field units. It would require a mark-and-recapture method and continuous monitoring during time periods when juvenile fish migrate. BLM has developed an agreement with Forest Service research staff in Corvallis, Oregon, to address this issue by monitoring juvenile fish migration through three replacement culverts in tributaries to the West Fork Smith River in the Coos Bay District.

A progress report to the GAO is due in the second quarter of FY 2003. For the Oregon State Office to complete this report, each district is required to submit the following information regarding items 1 and 2 above:

1. Submit the project name and contract number for each contract where culverts were replaced or retrofitted for fish passage in the 2002 field season. State Office staff will review contract documentation in OR-952, Procurement, for purposes of implementation monitoring.
2. Evaluate fish passage for a sample of culverts using the attached forms and instructions (Attachment 1). Attachment 2 lists specific culverts to be sampled by district. This list was developed based upon a random draw for a 50 percent sample size from the total of 76 culverts reported as replaced by districts during the time period 1998-2001. The sample size of 38 was determined to have appropriate precision for developing a 90 percent confidence interval estimate for the proportion of culverts passing fish, based upon the advice of the State Office Statistician.

Each of the 38 culverts is to be assessed initially using Table 1, Coarse Screen Filter – Fish Passage Evaluation Criteria (Attachment 1-12), using data entered on the field forms (Attachment 1-13 to 1-17). The forms can be completed using existing data on file or site visits. If a “Green” or “Red” rating occurs, no further information or analysis is required for that culvert, and the form is ready for submission. Site visits may be required if necessary information is missing or if a “Grey” rating occurs. Any culvert replacement that attains a “Grey” rating requires further measurements to fill in the forms and analysis using the “FishXing” fish passage software to determine if it is “Green” or “Red.” The FishXing software and documentation can be downloaded at <http://www.stream.fs.fed.us/fishxing/>

Send the list of project names and contract numbers for FY 2002 culvert replacement and retrofit projects for item 1, the completed forms and ratings of “Green” and “Red” culverts for item 2, and the outcomes of further evaluation of culverts initially rated “Grey” for item 2, to Al Doelker electronically at Al_Doelker@or.blm.gov. Please contact Joe Moreau at (503) 808-6418 or Al Doelker at (503) 808-6067 with any questions regarding this Information Bulletin.

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Districts with Unions are reminded to notify their unions of this Information Bulletin and satisfy any bargaining obligations before implementation. Your servicing Human Resources Office or Labor Relations Specialist can provide you assistance in this matter.

Signed by
Denis M. Williamson
(Acting)

Authenticated by
Mary O'Leary
Management Assistant

2 Attachments

- 1 - [Instructions for completing fish passage thru road crossings assessment form](#) (17pp)
- 2 - [Culverts to be evaluated at BLM districts for fish passage using the coarse screen filter and FishXing software](#) (1p)

Distribution

WO-230 (204LS) – 1

OR-090 (Mary D'Aversa) – 1

OR-931 (Al Doelker, Joe Moreau) – 2

OR-932 (Nancy Diaz) – 1

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Attachment 2. Culverts to be evaluated at BLM districts for fish passage using the coarse screen filter and “Fish Xing” software. This list was generated by a random sampling of 50% of the 76 culverts reported as replaced for the 2001 GAO review.

| Culvert # | District | Resource Area | Site Name | Year | Comments |
|-----------|----------|---------------|-------------------------|------|---|
| 1 | Eugene | SVRA | Swing Log Ck. Trib. #8 | 1998 | |
| 2 | Eugene | CRRA | Nelson Ck. #3 | 1998 | #3 of 4 reported replaced for Nelson Ck. |
| 3 | Eugene | CRRA | Nelson Ck. #4 | 1998 | #4 of 4 reported replaced for Nelson Ck. |
| 4 | Eugene | CRRA | Mid Siuslaw #2 | 1999 | #2 of 3 reported replaced for Mid Siuslaw |
| 5 | Eugene | SVRA | Bear Ck. | 2000 | |
| 6 | Eugene | SVRA | Doe Hollow Ck | 2000 | |
| 7 | Eugene | SVRA | Haight Ck. Trib. | 2000 | |
| 8 | Eugene | CRRA | Esmond/Mill #1 | 2000 | #1 of 3 reported replaced for Esmond/Mill |
| 9 | Eugene | CRRA | Esmond/Mill #2 | 2000 | #2 of 3 reported replaced for Esmond/Mill |
| 10 | Eugene | CRRA | Saleratus Ck. | 2000 | |
| 11 | Eugene | SVRA | Bottle Ck. | 2001 | |
| 12 | Eugene | CRRA | Oxbow #2 | 2001 | #2 of 2 reported replaced for Oxbow |
| 13 | Coos Bay | ----- | Upper Moon Ck. | 1998 | |
| 14 | Coos Bay | ----- | Coldwater Ck. | 1998 | |
| 15 | Coos Bay | ----- | Sawyer Ck. | 1998 | |
| 16 | Coos Bay | ----- | Cherry Ck. | 1998 | |
| 17 | Coos Bay | ----- | Axe Ck. | 1999 | |
| 18 | Coos Bay | ----- | Buck Ck. | 1999 | |
| 19 | Coos Bay | ----- | Brownson Ck. | 1999 | |
| 20 | Coos Bay | ----- | Laverne Trib. | 2001 | |
| 21 | Coos Bay | ----- | Hogbranch Ck. | 2001 | |
| 22 | Medford | ARA | Rock Ck. | 1998 | |
| 23 | Medford | ARA | Grouse Ck. | 1998 | |
| 24 | Medford | GPRA | W. Fk. Williams | 1998 | |
| 25 | Medford | GPRA | Rt. Fk. W. Fk. Williams | 1998 | |
| 26 | Medford | GPRA | L. Greyback | 1999 | |
| 27 | Medford | GPRA | Last Chance #2 Ck. | 1999 | |
| 28 | Medford | GPRA | Last Chance #3 Ck. | 1999 | |
| 29 | Medford | ARA | Ninemile Ck. | 2001 | |
| 30 | Medford | ARA | Birdseye Ck. | 2001 | |
| 31 | Roseburg | ----- | Smith #1 | 1998 | #1 of 4 reported replaced for Smith |
| 32 | Roseburg | ----- | Smith #2 | 1998 | #2 of 4 reported replaced for Smith |
| 33 | Roseburg | ----- | Smith #3 | 1998 | #3 of 4 reported replaced for Smith |
| 34 | Roseburg | ----- | Smith #4 | 1998 | #4 of 4 reported replaced for Smith |
| 35 | Roseburg | ----- | Sutherlin | 2000 | |
| 36 | Roseburg | ----- | Billy | 2000 | |
| 37 | Salem | ----- | Camp 3 | 1998 | |
| 38 | Salem | ----- | East Ck. | 1999 | |