

# Environmental Assessment

## USDA Forest Service

### Blue Aquatic—Culvert Replacement EA

#### Blue Mountain Ranger District, Malheur National Forest

March 7, 2003—Grant County, Oregon

### 1.1 Proposed Action

The Blue Mountain Ranger District of the Malheur National Forest proposes to:

- Remove barriers to fish passage at 8 road crossings in Granite Boulder Creek, Vincent Creek, and Vinegar Creek (see Map 1, Vicinity Map, Appendix A). To complete this work the following actions will occur:
  - Replacing 5 culverts with single span structures, which will be either open-bottom arch culverts, or box culverts with open bottoms; both of these types of culverts act as a natural streambed. These replacement structures would be installed at project points 1, 2, 3, 6, and 11; see Table 1 page 2 and Map 3, Alternative 2, Appendix A).
  - Replacing 3 culverts with low-water crossings (engineered rocked fords) at project points 5, 7, and 8; (see Table 1 and Map 3, Alternative 2, Appendix A). At the location of these road crossings the amount of traffic does not warrant the expense of a new culvert—by installing rocked fords in lieu of more expensive open-bottom arch culverts, or box culverts, all fish passage concerns will be met.
- Install 3 armored drain dips in roads over existing culverts up stream of fish bearing reaches where these configurations are needed for high flow relief and to reduce the potential of erosion and sediment release into fish-bearing streams. (Project points 4, 9, 10, see Table 1, page 2 and Map 3, Alternative 2, Appendix A).
- Disturbed ground around each stream crossing will be planted with native and/or non-invasive grass seed, native trees or shrubs if available, and mulch will be placed on bare soils to reduce erosion and moisture loss.

**Timing:** Culvert replacement would be implemented during the in-stream work period (July 15-August 15, 2003). All in-stream work is between July 15 and August 15 in Granite Boulder Creek (for bull trout spawning), Vinegar Creek and Blue Gulch (potential bull trout spawning) and July 15 until September 15, in Vincent Creek. Should all work not be completed in one operating season and ODFW cannot provide an extension of the work period, then the remaining work would be implemented in 2004-2005<sup>1</sup>. Construction of armored drainage dips would not be limited to the July 15-August 15 in-stream work period as work would not be affecting streams with fish presence.

### 1.2 Purpose and Need—in the existing condition of the Project Area

Vincent, Vinegar and Granite Boulder Creeks host two threatened species, steelhead (*Oncorhynchus mykiss*), Columbia River bull trout (*Salvelinus confluentus*), and two sensitive species, Chinook salmon (*Oncorhynchus tshawytscha*) redband trout (*O. mykiss gairdneri*).<sup>2</sup> Currently, 1 road crossing on Granite Boulder Creek, 3 road

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<sup>1</sup> Should in stream work be needed beyond this time frame to complete this project ODFW provides extensions on a case-by-case basis depending upon flows.

<sup>2</sup> Middle Columbia Steelhead trout and bull trout are present in the project area and are listed as Threatened under the Endangered Species Act (ESA), (see Biological Evaluation for TES fish species Appendix B). Additionally, Middle Columbia Chinook salmon are also present in the project area, and are listed as a sensitive species; habitat for this species is protected under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (see Biological Evaluation for TES fish species Appendix B). ; redband trout are also a sensitive species (see Biological Evaluation for TES fish species Appendix B).

crossings Vinegar Creek and 7 road crossings on Vincent Creek, are passage barriers to various life stages of fish at several stream flow conditions; and/or these crossings do not meet current Regional and State guidance for high water flows, see 2.3.1 Alternative One—No Action (Existing Condition) beginning page 9. A need exists to correct road crossings identified as passage barriers which reestablishes stream connectivity for all life stages of protected and threatened fish species. A further need exists in these subwatersheds to ensure high water flow relief at crossings that exhibit a potential of erosion.

The reason for this project is to remove existing fish passage barriers at 8 culvert sites in Granite Boulder Creek, Vinegar Creek, and Vincent Creeks and to address potential erosion problems at these sites and 3 other culvert sites in Vinegar Creek and Vincent Creeks that are above fish bearing habitat, but which could produce damaging sediment to fish bearing portions downstream should a 100 year flood occur (see 2.3.1.2 Existing Condition—Site Specific, page 10). Granite Boulder Creek, Vinegar Creek, and Vincent Creeks all are tributaries of the Middle Fork of the John Day River.

### 1.3 Desired Condition

This action responds to the goals and objectives outlined in the Malheur National Forest *Land and Resource Management Plan* (LRMP 1990), and helps move the project area toward desired conditions described in that plan LRMP MA3B Standard 42 -- "Design and maintain roads to protect fisheries values and riparian area habitat." Also, the Galena Watershed Analysis—Supplement 2002, described a desired condition in the project area watersheds with the following, "Sediment sources are minimized and culverts would be suitably sized and positioned so that fish can pass through unobstructed." Further elements of a desired future condition for this project can be ascertained by following standards and guides from "Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and portions of California," and commonly referred to as PACFISH:

- **PACFISH-RF-4** —"Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood."
- **PACFISH-RF-5** —"Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams."

Table 1—Proposed stream crossings to be improved in order pass all life stages of fish and meet 100 year flood concerns.

Project Points	Location & type of Single Span Structures and approximate implementation date	Location of Engineered Rock ford and approximate implementation date	Location of Armored drain dips and approximate implementation date	Legal Description
Project Point 1 Alt 1 page 10 Alt 2 page 13	FR2010618 at milepost 0.65 (lower) Vinegar Creek—open-bottom arch—07/15 to 08/15/2003			T 10 S, R 35 E, Section 29, NE quarter -
Project Point 2 Alt 1, page 10; Alt 2 page 13	FR 2010618 at milepost 4.91; (upper) Vinegar Creek— open-bottom arch —07/15 to 08/15/2003			T 10 S, R 35 E, Section 19, SW quarter -
Project Point 3 Alt 1 page 10Alt 2 page 13	FR 2010618 at milepost 4.00; (Blue Gulch-a tributary of Vinegar Creek) quarter round pipe—/07/15 to 08/15/2003			T 10 S, R 35 E, Section 20, SW
Project Point 4 Alt 1 page 10; Project Point 4 Alt 1 13			FR 2010873 at milepost 0.4; (Blue Gulch-a tributary of Vinegar Creek) /2003	T 10 S, R 35 E, Section 17, SE quarter
Project Point 5 Alt 1 page10 Alt 2 page 14		FR2010159 Vincent Creek/ at milepost 0.2 07/15 to 08/15/2003		T11S, R35E, S18,NE

Project Points	Location & type of Single Span Structures and approximate implementation date	Location of Engineered Rock ford and approximate implementation date	Location of Armored drain dips and approximate implementation date	Legal Description
Project Point 6 Alt 1 10page Alt 2 page14	FR2010292 Vincent Creek/07/15 to 08/15/2003— open-bottom arch —			T10S, R35E,S6,NE (Private Land)
Project Point 7 Alt 1 page 11 Alt 2 page14		FR2010292 (101) at milepost 0.02-Vincent Creek;07/15 to 08/15; 2003		T10S, R35E, S32, SW
Project 8 Alt 1 page11 Alt 2 page15		FR2010429 Vincent Creek/07/15 to 08/15; 2003		T11S, R35E
Project Point 9 Alt 1 page 11 Alt 2 page15			FR 2010986 at milepost 0.3; Vincent Creek; 2003	T 10 S, R 35 E, Section 30, SE quarter
Project Point 10 Alt 1 page 11Alt 2 page15			FR2010993 FR 2010993 at milepost 0.7; Vincent Creek; 2003	T 10 S, R 35 E, Section 30, NE quarter
Project Point 11 Alt 1 page 11 Alt 2 page15	FR4559283 Granite Boulder Creek/ at milepost 0.1; 07/15 to 08/15/2003—box culvert			T10S, R34E, S28, NE

## 1.4 Issues and Relevant Federal, State, Local Government, and Public Involvement

A scoping letter sent on June 21, 2002, to interested members of the public, tribal and state and local governments.

## 1.5. Response to Public Comments

Five letters were received regarding this project. Originally, this project included the placement of large woody material to improve fish habitat in this area and enhancing aspen habitat. Three comments were received which voiced concern about Forest Service placement of wood in stream. The Forest Service decided that in response to the comments which objected to the placement of large woody material to improve fish habitat, to not proceed with that portion of the Aquatics work at this time. Additionally, the Forest Service has decided the enhancing of aspen habitat would be postponed to a later date as well.

After considering comments from the public about fish bearing reaches of Vinegar, and Vincent Creeks, the forest Service re-surveyed stream reaches on Vinegar Creek which revealed a 25 foot falls that would present a barrier to fish access above these falls. Because of information gained from comments from the public culvert replacement, upstream of these falls would be limited to high flow relief and repair to reduce the potential of erosion during peak flow periods. Other issues considered from public scoping are the following:

- **Mining:** No activity will impact withdrawn mineral ownership. Owners of withdrawn mineral rights<sup>3</sup> are being notified. Mining claims will not be impacted. If mercury from historic mining is found during project work, it would be treated in the appropriate and legal manner (see 2.3.2.4.5—Mitigation for historic mining concerns page 20).

<sup>3</sup> Withdrawn mineral rights are privately owned mineral rights on federal land.

## **1.6 Issues Studied in Detail**

An issue generated from public scoping for this project, which is applicable to the proposed action, is the introduction of sediment in streams during project implementation—and that riparian plants are not lost during implementation.

The public has brought up the issue of increased sedimentation into streams during construction of culverts. The public acknowledged that this project, “would involve the moving massive quantities of soil and rock,” and, “How would sedimentation of the creeks be avoided?” during project implementation. This issue can be analyzed in the proposed action; consequently the creation of another alternative is unnecessary.

## **1.7 Decisions that must be made**

The District Ranger at the Blue Mountain Ranger District must decide at this time whether to implement this stream crossing improvements in Granite Boulder Creek, Vinegar Creek, and Vincent Creeks in whole, or to do a combination of the culvert replacement and armored drain dips and in what sequence. The Blue Mountain District Ranger must also decide what mitigation and/or monitoring measures to implement to meet Forest standards.

## **1.8 Decision Criteria**

The decision criteria for this restoration project include:

- Providing unimpeded fish passage during most stream flows from spring through fall, approximately 2-25 cfs.
- Installing culverts large enough to pass a 100-year flood event with a minimum of damage to roads and the stream channel.
- Providing vehicle access to road systems for recreation and forest management.

## **1.9 Guiding Documents, Applicable Regulatory Requirements and Required Coordination**

The Environmental Assessment followed guidance from the following documents:

- A watershed analysis (WA) was completed for these subwatersheds in 1999 (Galena Watershed Analysis) and a detailed supplement (Galena Watershed Analysis—Supplement 2002) was added in 2002.
- Malheur National Forest Land and Resource Management Plan (also referred to as the LRMP and the Forest Plan). Record of Decision (May 25, 1990), Final Environmental Impact Statement (FEIS), and the Regional Forester’s Eastside Forest Plan Amendment #2 (June 6, 1995). The following Management Areas outlined in the Land and Resource Management Plan were used in the development of the project. RHCAs—Riparian Habitat Conservation Areas including MA 3b: “Manage these areas toward an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. RHCAs are areas of the watershed where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines (see PACFISH below).
- “Implementation of Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and portions of California,” a collaborative strategy of the USDI BLM and the USDA Forest Service to manage anadromous fish-producing watersheds, this interim guidance which is an environmental assessment is commonly referred to as PACFISH.
- General Water Quality Best Management Practices, USDA, Pacific Northwest Region (November 1988). This document is was intended to facilitate understanding of Best Management Practices for protection of water quality in the Pacific Northwest Region.
- “An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins; Volume III; USDA FS, USDI BLM, PNW Research Station” General Technical Report PNW-GTR-405 June 1997 (*Interior Columbia Basin Ecosystem Management Project* or ICBEMP)

### **Endangered Species Act**

This act provides for the protection and conservation of threatened and endangered plant and wildlife species. A biological evaluation and assessment consistent with the requirements of this act was prepared and is summarized in

### **National Historic Preservation Act**

The National Historic Preservation Act and the National Environmental Policy Act both require consideration be given to the potential effect of federal actions on historic resources (including historic and prehistoric resources). The guideline for assessing effects and consultation are provided in 36CFR800. To implement these guidelines, Region 6 of the U.S. Forest Service entered into an agreement with the Oregon Site Historic Preservation Office and the Advisory Council on Historic Preservation. In accordance with this agreement, a cultural resources evaluation was conducted for this project.

### **National Historic Preservation Act Compliance**

The Blue Culvert Replacement project is not subject to standard case-by-case review by the Oregon State Historic Preservation Office (SHPO). Under the terms of Programmatic Agreement between Region 6 of the Forest Service, the Oregon SHPO, and the Advisory Council on Historic Preservation (ACHP) NFS No. 94-06-59-16, culvert replacement projects are undertakings that may be reviewed for Section 106 of the National Historic Preservation Act (NHPA) compliance programmatically. The monitoring and inspection conditions that are outlined in Appendix B of the programmatic agreement have been met by a pedestrian cultural resource inventory survey completed in the project area of potential effect in 2000. Documentation of NHPA compliance and monitoring has been prepared for review by the Forest Historic Preservation Specialist and referral to the State Historic Preservation Office (see Project Record).

### **State Historic Preservation Office**

Consultation with the Oregon State Historic Preservation office and the Advisory Council on Historic preservation was accomplished in accordance with the 1995 Programmatic Agreement with USDA Forest Service Region 6.

### **Migratory Bird Treaty Act**

This Act provides for the protection of migratory birds. Many migratory bird species utilize the Malheur National Forest during the spring and summer months. This project meets the requirements of the Act because it is not expected to harass, harm nor kill migratory birds. If required, mitigation measures to reduce risk to these species are covered in Chapter 4.

### **Federal Clean Water Act**

The Oregon Department of Environmental Quality administers this Act. The following streams are 303 (d) listed at this time: Granite Boulder Creek is listed for elevated temp for bull trout habitat (50F); and Vinegar Creek are listed for elevated temperatures for summer rearing (64F). Project design incorporates mitigation measures designed to incrementally reduce stream temperature by riparian plantings and reduce or eliminate potential sediment to stream trends in watershed (see 2.3.2.4 Mitigation and Project Design Criteria, page 18).

## 1.10 Alternative comparison

Table 2 Alternative comparison tables

Project Points#	Stream	Road Number	Fish-bearing Segment(Y/N)	ALT1 Fish Barrier(Y/N)	Reason for barrier	ALT 2 Fish Barrier(Y/N)	Alt1-Sized for 100 Year Flow Event or Bankfull <sup>4</sup> (Y/N)	Alt 2-Sized for 100 Year Flow Event(Y/N)
1	Vinegar	2010618	Y	Y	Slope, velocity & length	N	N	Y
2	Vinegar	2010618	Y	Y	Outlet jump height & slope	N	N	Y
3	Blue Gulch	2010618	Y	Y	No resting areas, culvert slope, velocity & length	N	N	Y
4	Blue Gulch	2010873	N	N/A	NA	N/A	N	Y
5	Vincent	2010159	Y	N/A	NA	N/A	N	Y
6	Vincent	2010292	Y	Y	Jump height	N	N	Y
7	Vincent	2010101	Y	Y	NA	N	N	Y
8	Vincent	2010429	Y	N	NA	N	N	Y
9	Vincent	2010986	N	N/A	NA		N	Y
10	Vincent	2010993	N	N/A	NA		N	Y
11	Granite Boulder	4559283	Y	Y	No depth at low flows, velocity at high flows	N	N	Y

**[Editors note:** *This page was left intentionally blank to insert a color photograph on next page***]**