

ENVIRONMENTAL ASSESSMENT

for the

2002 CULVERT REPLACEMENT PROJECT

Pickett Creek (1)
Quartz Creek (1)
South Fork Deer Creek (1)
Bear Creek (1)

EA# OR-110-02-31

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
GRANTS PASS RESOURCE AREA

July 2002

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
EA COVER SHEET

RESOURCE AREA: Grants Pass

FY & EA #: OR-110-02-31

ACTION/TITLE: *Culvert Replacement Project*

LOCATION: Grants Pass Resource Area, Medford District

FOR FURTHER INFORMATION CONTACT: Abbie Jossie
Field Manager, Grants Pass R.A.
Medford District Office, BLM
3040 Biddle Road
Medford, Oregon 97504
(541) 618-2200

INTERDISCIPLINARY PREPARERS	TITLE	RESOURCE VALUES ASSIGNED	
Jim Roper *	Engineer	Roads, Quarries	
Dave Maurer *	Soil Scientist	Hydrology, Wetlands, Soils	
Kip Wright	Wildlife Biologist	Wildlife, Unique Lands	
Matt Craddock	Realty Specialist	Minerals and Lands	
Jeanne Klein	Recreation Planner	Recreation, VRM and Cultural	
John Prendergast	Forester	POC Management/Vegetation	
Linda Mazzu	Botanist	Special Status Plants	
Jon Raybourn *	Fisheries Biologist	Fisheries	

* Core Team Members

Grants Pass Resource Area
 Environmental Assessment
2002 Culvert Replacement Project

TABLE OF CONTENTS

	Page
Chapter 1	
Need for the Proposal	1
A. Introduction	1
B. Purpose and Need for the Proposal	1
C. Objectives of the Proposed Actions	2
Chapter 2	
Proposed Action	3
A. Issues Relevant to the Project Proposal	3
B. Proposed Action and Alternatives	3
1. Alternative 1: No Action	3
2. Alternative 2: Proposed Action	3
D. Project Design Features	6
Chapter 3	
Environmental Consequences	9
A. Introduction	9
B. Beneficial and Adverse Effects of the Alternatives	9
1. Resource: Soils and Water	9
2. Resource: Fisheries	10
3. Resource: Botany	13
4. Resource: Wildlife	14
5. Resource: Port-Orford cedar	15
6. Resource: Social, cultural, VRM	15
Chapter 3	
Agencies and Persons Consulted	17
A. Public Involvement	17
B. Availability of Document and Comment Procedures	17

TABLES

Table 1: Proposed Road Culvert Replacements	5
Table 2: Fish Species and Habitat Benefits for Juveniles and Adults	11

MAPS

Map 1: Pickett Creek Trib #1 Site	18
Map 2: Project Location: South Fork of Deer Creek Trib. #1 Site	19
Map 3: Quartz Creek #3 Site	20
Map 4: Bear Creek #4a Site	21

Chapter 1

Need for the Proposal

A. Introduction

This EA will assist in the decision making process by assessing the environmental and human affects resulting from implementing the proposed action. The EA will also assist in determining if an environmental impact statement (EIS) needs to be prepared or if a finding of no significant impact is appropriate.

This EA tiers to: (1) the Final EIS and Record of Decision dated June 1995 for the Medford District Resource Management Plan (RMP) (October 1994); (2) the Final Supplemental EIS on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (February 1994); (3) the ROD for Amendments to Forest Service and Bureau of Land Management (BLM) Planning Documents Within the Range of the Northern Spotted Owl and its attachment A entitled the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (April 13, 1994) (NFP) and (4) Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines dated January 2001.

B. Purpose and Need for the Proposal

Many culverts designed and installed in the past did not adequately consider fish migration and culverts were installed that impeded migration of coho salmon and steelhead trout. Historically the BLM culvert design standards were targeted to accommodate water levels of a 50-year flood. The Medford District RMP (p. 87) directs upgrading existing road culverts which are determined to pose a substantial risk to riparian conditions to accommodate at least a 100-year flood and to provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams (Standard and Guides, p. C-33, RF-6).

In the early 1990's, BLM evaluated road stream crossing culverts to determine if they were an impediment to fish passage. Culverts that blocked or impeded passage of salmonids were identified by BLM Fish Biologists. A list of culverts recommended for replacement was developed and prioritized based on a) potential benefits from improving salmonid passage through the culvert, and b) culverts that need to be upgraded to meet BLM's policy of designing and sizing stream culverts to accommodate a 100-year flood event.

The purpose of the current proposal is to replace four (4) culverts that were identified through this process: South Fork Deer Creek tributary (1), Bear Creek (1), Quartz Creek (1), and a Pickett Creek tributary (1).

Unimpaired fish passage is needed for salmonids to complete life history requirements. In watersheds

where summer stream temperatures are elevated above optimal levels for salmonids, as they are in the four project watersheds, it is especially important for juvenile salmonids to have unimpaired access to small tributaries which provide refuge from warm water in creek main stems.

C. Objectives of the Proposed Actions

- a. Improve passage for anadromous and resident salmonids.
- b. Improve culvert design / size to accommodate a 100 year flood event.
- c. Maintain access on existing BLM roads where access is needed to manage O&C, PD, and private lands.

Chapter 2 Proposed Action

A. Issues Relevant to the Project Proposal

Issues identified by the BLM core project planning team as pertinent to the project include:

1. Roads are needed for BLM administrative and public access and are important for fire access and as a fire breaks. Transportation Management Objectives (TMO's) recommendations for all roads are to keep them open for administrative and public access. Each of these roads is encumbered by a reciprocal road use agreement(s).
2. The existing culverts inhibit passage for anadromous and resident salmonids.
3. Existing culverts were designed to accommodate a 50-year flood event and currently pose a risk to road crossings, riparian habitat, and human safety at very high stream flows.
4. Coho Salmon are an ESA federally listed species in the Rogue and Illinois River Basins.

B. Proposed Action and Alternatives

1. Alternative 1: No Action

In this EA document the “no-action” alternative is defined as not implementing any aspect of the proposed action alternative(s). Defined this way, the action no action alternative also serves as a baseline or reference point for evaluating the environmental effects of the action alternatives. Inclusion of this alternative is done without regard to whether or not it is consistent with the Medford District RMP.

The no action alternative is not a “static” alternative. Implicit in it is a continuation of the environmental conditions and trends that currently exist or are occurring within the project area. This would include trends such as impediments to fish migration, vegetation succession trends and consequent wildlife habitat changes, road condition/deterioration, rates of erosion, continuation of current road densities, etc.

2. Alternative 2: Proposed Action

The proposed action is to replace the four (4) culverts listed in Table 1. Culvert replacement would include removal of the existing culvert and the installation of an open bottomed (*i.e.*, natural stream bed) culvert. The new stream crossings / culverts would have concrete footings with preformed steel or concrete spans. Sites for footings for each culvert would be excavated on each side of the creek and concrete footings would be poured in place. At all sites, temporary small diameter culverts would be used for temporary crossings for construction equipment during work, to allow water to flow through

the construction site and to de-water the sites for construction.

At the Pickett Creek site, a temporary by-pass road (15' wide x 200' long) would be constructed at the Pickett Creek site. Construction of the bypass road would require removal of a strip of vegetation on the upstream side of the existing culvert. This strip will be approximately 30 feet wide and 200 feet long. All vegetation removed at each site will be approximately 0.15 acres or 6,300 ft².

Excavators would be used to remove existing culverts, excavate footings, install the temporary crossings, and excavation and placement of embankment fill over the structure. Equipment and excavated material would be confined to within the existing road prism.

Some cutting of vegetation would be necessary at each site. Vegetation growing in the fill surrounding the existing culverts would be removed, trees and vegetation at the toe of the fill would be removed to make room for construction of new footings.

Construction would ~~require all roads to be closed~~ to the public for up to 3 months from June 15 through September 15 except at the Pickett Creek site which will have a bypass road.

Table 1: Proposed Road Culvert Replacements

Culvert Replacement Site	5TH Field Water-shed	BLM Road #	Mile Post	T-R-Sec	Current Stream crossing condition	Purpose and Need - Engineering or fish need listed first depending on main objective	Existing fish passage condition to be improved	Proposed action
South Fork Deer Creek Trib #1	Deer Creek	38-7-13	3.3	38S-7W Sec. 29 NE 1/4	Undersized culvert. Culvert blocks coho migration	Provide fish passage with open bottom structure and upgrade structure to meet 100 year flood requirements	3.0' drop to pool, inadequate pool depth below culvert. Blocks juveniles and adult salmonids.	Replace existing 9'x9.5'x70' CMP with open bottom structure to meet 100 year flood event estimated 900 CFS. By-pass road is not required.
Bear Creek #4a	Sucker Creek	39-7-21	2.1	39S-7W Sec 16 NE1/4	Undersized culvert. Culvert blocks cutthroat, coho, and steelhead	Provide fish passage with open bottom structure and upgrade structure to meet 100 year flood requirements	4.0' drop to pool, inadequate pool depth below culvert. Blocks juvenile and adult salmonids.	Replace existing 6'x6'x70' CMP with open/natural bottom pipe arch to meet 100 year flood event of estimated 350 CFS. By-pass road is not required.
Pickett Creek Trib. #1	Big Hog	35-7-27	0.50	35S-7W Sec 27 SW1/4	Undersized culvert. Culvert blocks juvenile and adult salmonids	Upgrade structure to meet 100 year flood requirements, improve fish passage with open bottom structure	1.5' drop to pool, inadequate pool depth below culvert. Blocks juvenile and adult salmonids.	Replace existing 4'x6'x44' CMP with open/natural bottom pipe arch to meet 100 year flood event of estimated 200 CFS. By-pass road construction required.
Quartz Creek #3	Jumpoff Joe	35-6-8	3.2	35S-6W Sec 25 SE1/4	Undersized culvert. Culvert blocks juvenile salmonids and impedes adult salmonids.	Provide fish passage with open bottom structure and upgrade structure to meet 100 year flood requirements	1.0' drop to pool, adequate pool depth below culvert. Blocks juvenile salmonids and impedes adult salmonids.	Replace existing 5'x5'x80' CMP with open/natural bottom pipe arch to meet 100 year flood event of estimated 600 CFS. By-pass road is not required.

CMP- Corrugated Metal Pipe

D. Project Design Features

PDFs are included for the purpose of reducing anticipated adverse environmental impacts which might stem from the implementation of the proposal. The following PDFs would be incorporated at each site.

1. Fisheries Protection

The following project design features are based on the terms and conditions, and reasonable and prudent measures identified in the NMFS August 8, 2000 programmatic biological opinion:

- A professional fisheries biologist will participate in the design and supervision of the in stream work.
- In-stream work would be seasonally restricted to within the following period: June 15 - September 15. This is based on ODFW restrictions for in stream work.
- All disturbed areas shall be rehabilitated and stabilized by seeding and planting with native seed mixes or plants:
 - Alders will be used but would not be planted within 10' from the structure foundation;
 - Conifers (e.g., Douglas-fir, Incense cedar) and deciduous plants (e.g., willows, dogwoods, vine maple, bigleaf maple) would be used in the plantings;
 - Native grass erosion control mix would be used.
- Access into and through the riparian areas will be restricted to the existing road prism area if at all possible. Any access other than this would be minimized and would be subject to approved by the BLM fish biologist prior to use / construction.
- Heavy equipment will be clean and free of leaks before any use within the stream channel.
- Spill containment materials will be kept on site throughout work.
- Refueling of equipment will be not be done within 150' of the stream crossing work site.
- Heavy equipment will be kept out of the stream channel to the greatest extent possible. The permanent stream crossing structures would be placed before heavy equipment moves beyond the stream (excavator would reach across the stream as needed.).

In addition, the following PDF's would be implemented:

- a) Sediment influx into the stream would be minimized by use of sediment control measures such as: flow bypass around the work site, sedimentation traps, dewatering the work site by pumping water through overland vegetation or use of appropriate filters/filter fabric.
- b) To minimize fish mortality in the work site area, fish would be netted and removed from isolated pools at the work site prior to dewatering the work site.
- c) Rocks and boulders would be placed within the crossing to simulate the natural stream bottom found upstream and downstream of structure.
- d) Filter cloth would be placed below any sediment traps created at each site. Sediment and turbid water would be pumped from the settling pond to a vegetated site outside of the channel.
- e) Throughout work at a site, fish passage will be maintained if natural stream flow at the time of construction is sufficient to warrant it.

2. Port-Orford Cedar (POC) root disease spread prevention

To prevent the introduction of *Phytophthora lateralis* (Port-Orford cedar root disease) to the Deer Creek site, all equipment would be thoroughly washed with a water - bleach solution prior to moving to site. Crushed aggregate and rip rap material would be obtained from PL free sites.

(Port-Orford cedar is not located at the Bear Creek, Quartz Creek or Pickett sites, downstream from the sites, or along the roads accessing the sites.)

3. Stream and Water Quality protection

When a structure is removed and when placing rip rap, filter cloth will be placed in the stream to remove sediment from stream.

Fill banks will be seeded with native grass and forbs and mulched upon completion of work.

As noted above, following construction work the sites will be planted with suitable woody vegetation which will have the potential to shade the stream, decrease erosion, and provide bank stability in the future. Species such as Douglas-fir and deciduous trees / shrubs native to the site will be used.

4. Fire Suppression and Access

The Oregon State Forestry Department will be notified of the dates of the road closures so they can be factored into their fire suppression planning and fire response should that be necessary.

Local residents and industrial landowners that use the impacted roads, and Josephine County officials would be notified prior to the closure. The Bear Creek Road would be signed at least 2 weeks prior to closure to inform frequent road users of the upcoming closure. Notices would be placed in the newspaper informing the public of the road closures.

5. Special Status Plants

If special status plants or Survey and Manage plants are found, the populations will be buffered from ground disturbance. Buffers will not extend into the road prism as habitat does not occur.

6. Inflow and Outflow Requirements

To avoid scouring of banks at the inlet and outlet of each culvert, rock will be used to armor the banks. Rock would be placed with the largest rock at the toe of the slope and grading to smaller rock at the top of the slope. In addition, rocks placed at the toe of the slope would be graded from smallest to largest starting farthest away from the structure and approaching the inlet. This gradation should be reversed at the outlet of the structure.

7. Cultural Resource Protection

Cultural surveys will be conducted for any new ground disturbing actions outside the road prism prior to implementation of the proposed action. All cultural sites will be protected as required by the Archaeological Resources Protection Act (ARPA) of 1979. Protection measures will consist of buffering sites in order to retain site integrity.

Chapter 3

Environmental Consequences

A. Introduction

Only substantive site specific environmental changes that would result from implementing the proposed action are discussed in this chapter. If an ecological component is not discussed, it should be assumed that the resource specialists have considered affects to that component and found the proposed action would have minimal or no effects. Similarly, unless addressed specifically, the following were found not to be affected by the proposed action: air quality; areas of critical environmental concern (ACEC); cultural or historical resources; Native American religious sites; prime or unique farmlands; flood plains; endangered, threatened or sensitive plant, animal or fish species; water quality; wetlands/riparian zones; wild and scenic rivers; and wilderness areas.

B. Beneficial and Adverse Effects of the Alternatives

1. Resource: Soils and Water

a. Affected Environment

The sites are located in three fifth field watersheds as identified in Table 1. Precipitation at all the sites vary substantially but is in the form of rainfall. All these streams are 303(d) listed: water quality limited. They are listed for high summer temperatures. Seven day averages maximum temperature were above 64°F for these streams.

Soils in the Picket Creek tributary and Quartz Creek sites are Josephine gravelly loam (48F). This well drained soil has a gravelly loam surface layer over a reddish clay loam or gravelly clay loam. It is characterized by 65 to 85% of the soil is sand and finer particle size.

Soils in the South Fork of Deer Creek site are Vermisa-Beekman complex (80G). Vermisa is extremely well drained with extremely gravelly loam surface over very gravelly loam subsurface. This soil is less than 20 inches to metamorphic bedrock. Beekman is well drained with gravelly loam surface over very gravelly loam subsoil. Sand and finer particle size material comprises 15 to 50% of these soils.

Soils in the Bear Creek site are Abegg gravelly loam (1D). This well drained soil has a gravelly loam surface layer over a reddish gravelly clay loam. Sand and finer particle size material makes up 35 to 75% of the soil.

b. Environmental Consequences

1) Alternative 1: No Action

In all four cases the stream sediment regime and bedload carrying capacity will remain altered (from a

natural, no road crossing situation) by the existing culverts. This is a result of slope and elevation of the culverts not matching natural stream grade as well as the size of the culverts being restrictive during high flows. During high peak flows stream excess flow would be forced to find new routes eroding soils and, thus, picking up sediment. This sediment would potentially amount to a substantial addition to sediment from that which would otherwise be in these systems without the culverts.

2) Alternative 2: Proposed Action

In all four cases high stream flows, sediment regime, and bedload carrying capacity will be in a more stabilized condition. This is due to increased capacity of the culverts, the bottom in the culverts matching natural stream gradient, and there will be a more natural stream bed rather than a ribbed culvert surface. This will happen in the short term and should last through the long term.

There may be small additions of fine sediment down stream from the work sites that escapes the filter fabric sediment traps. This is most likely to happen at the Picket Creek tributary and Quartz Creek sites and least likely to happen at the South Fork of Deer Creek site. This would occur only during construction and would be a minimal localized effect. It is not anticipated to be measurable.

Concerning temperature, new culvert placement would involve removal of some vegetation and thus a small amount of shade from each stream. There would be a short term, localized affect of increase of water temperature. Sites will be replanted with appropriate native species to accelerate the development of stream shading vegetation. The degree of temperature increase is not anticipated to be measurable.

2. Resource: Fisheries

a. Affected Environment

Tributary 1 of South Fork Deer Creek is located in the Deer Creek Watershed (HUC-5) and is a perennial fish stream. It contains coho salmon, steelhead and resident cutthroat trout. Bear Creek is located in the Sucker Creek Watershed (HUC-5) and is a perennial fish stream containing coho salmon in the lower reaches, with steelhead and cutthroat trout extending further into the system. Tributary 1 of Pickett Creek is located in the Rogue-Recreation (Big Hog) Watershed (HUC-5) and is a perennial fish stream containing steelhead and resident cutthroat trout. Quartz Creek is located in the Jumpoff Joe Watershed (HUC-5), is a perennial fish stream and at the culvert location steelhead and resident cutthroat trout are present.

Southern Oregon/Northern California (SONC) coho salmon are federally listed as threatened under the Endangered Species Act (ESA) and Pacific lamprey are a bureau tracking species in Oregon. Klamath Mountain Province steelhead were determined to be not warranted for listing in March 2001 by the National Marine Fisheries Service.

1. Environmental Consequences

a. Alternative 1: No Action

The no action alternative will result in the continued impediment to passage of spawning adults and migrating juveniles in South Fork Deer Creek tributary, Bear Creek, the Pickett Creek tributary and Quartz Creek. These direct effects will continue to contribute to a suppression of anadromous and resident fish production and survival by hindering access to spawning and rearing habitat.

b. Alternative 2: Proposed Action

The proposed action will increase amounts of available fish habitat as noted below (see also Table 2).

Culvert replacement on tributary 1 of South Fork Deer Creek will improve passage for juvenile and adult salmonids. The habitat benefits will be better access to an additional 0.5 mile of coho and steelhead habitat and 0.75 mile of resident cutthroat habitat. Currently this culvert is a block to juvenile and adult salmonids.

Replacing Bear Creek culvert #4a will improve passage for juvenile and adult salmonids. The habitat benefits will be better access to 0.25 mile of coho habitat and 0.75 mile of steelhead and cutthroat habitat. This culvert currently blocks juvenile and adult salmonids.

Culvert replacement on tributary 1 of Pickett Creek will improve passage for juvenile and adult salmonids. The habitat benefits will be better access to an additional 0.50 mile of steelhead habitat and 1.0 mile of resident cutthroat habitat (no additional coho habitat). This culvert currently blocks juvenile and adult salmonids.

Culvert replacement at Quartz Creek site #3 will improve juvenile and adult passage. The habitat benefits will be better access to 0.25 mile of coho habitat, 0.50 mile of steelhead habitat and 0.75 mile of cutthroat habitat. This culvert is a block to juvenile salmonids and an impediment to adult cutthroat, steelhead and coho.

Table 2: Fish Species and Habitat Benefits for Juveniles and Adults						
Creek Name	Coho	Increased Habitat * (Mi)	Steelhead	Increased Habitat * (mi)	Cutthroat	Increased Habitat * (mi)
South Fork Deer Creek Trib #1- Quarry	Present	0.50	Present	0.50	Present	0.75
Bear Creek #4a	Present 0.5 mile downstream	0.25	Present	0.75	Present	0.75
Pickett Crk Trib. #1	Present downstream in Pickett Creek	0	Present	0.50	Present	1.0
Quartz Creek #3	Habitat Present	0.25	Present	0.50	Present	0.75

* Mileage reports habitat located upstream of the culvert to be replaced, which is suitable for that species.

Spawning fish will have improved passage for habitat located above the culverts. Juvenile anadromous fish and resident salmonids will have unimpaired access to migrate up and downstream seeking cold water refuge during summer months. Salmonid production and survival should improve in these drainages. When linked with other riparian habitat restorations in the watersheds, these projects can have a multiplied long term beneficial effect.

Any sediment delivery to the stream associated with the proposed action will cause highly localized, unmeasurable, negligible, short term adverse impacts at the project level (7th field scale) and none at the watershed level (5th field scale). Project Design Features (PDFs) (e.g., temporary erosion and sediment measures, bank stabilization, etc.) will minimize short term sediment impacts. The minimal sediment inputs associated with these proposed actions are not expected to substantially affect the survival or production of salmonids because of the localized nature and short duration of the sediment delivery. The small amount of shade loss due to the removal of vegetation would cause a short term reduction of pool quality at the culvert. However, revegetation with native woody species is anticipated to mitigate the loss of cover within a period of 8-10 years.

It is anticipated that the long term beneficial effects will be an increase in salmon survival and production. No long term or cumulative adverse effects are anticipated at either the project level (7th field scale) or the watershed level (5th field scale). These effects are inclusive for direct and indirect adverse and beneficial effects to fish.

The culvert replacement on Bear Creek #4 will be not likely to adversely affect coho due to the distance from known occupied habitat. The culvert replacements that are likely to adversely affect coho are South Fork Deer Creek tributary #1, Pickett Creek tributary #1, and Quartz Creek #3. The proposed action is, however, consistent with the terms and conditions set forth in the National Marine Fisheries Service's (NMFS) August 8, 2001 Biological Opinion for the Programmatic Actions regarding Coho Salmon Endangered Species Act consultation. No additional consultation is needed.

The Essential Fish Habitat (EFH) for coho and chinook has been considered for the proposed culvert replacements. Construction activities are the most likely to produce adverse impacts due channel excavation at all of the sites. Sediment from the bypass road construction at the Pickett Creek site could also result in stream turbidity. This influx of sediment is not likely to result in a degrade of the EFH due to the small quantities and short term nature of the sediment input. The project design features and best management practices adequately mitigate or eliminate the potential adverse effects to EFH. Overall, there are no anticipated adverse effects to EFH.

The proposed culvert replacement work is consistent with and will promote the Aquatic Conservation Strategy (ACS). It will promote six of the ACS objectives specifically:

ACS Objective 2: Culvert replacement will improve fish passage to areas critical for fulfilling anadromous fisheries life history requirements. In particular these requirements are upstream spawning grounds.

ACS Objective 3: Culvert replacement by the placement of bottomless culverts will reestablish a natural gradient to the streambed.

ACS Objective 4: Culvert replacement will make areas of higher water quality (colder water) available to juvenile salmonids during summer months.

ACS Objective 5: Culvert replacement will eliminate culverts which currently retard sediment transport. It will move the creeks toward a natural sediment regime by allowing water and sediment to move through the system more readily.

ACS Objective 6: The replacement with bottomless culverts will restore flows across a natural streambed and retain patterns of nutrient and woody debris movement through the system.

ACS Objective 9: Culvert replacement will improve use of upstream habitat to coho salmon, steelhead and cutthroat trout.

3. Resource: Botany

a. Affected Environment

The habitat found at these fish culverts consists of a typical array of riparian vegetation dominated by big leaf maple and alder (both white and red alder) with Douglas-fir either directly in the overstory or upslope. One site on Deer creek has mature Port-Orford cedar upstream of the culvert (#1). Typical species in the shrub layer include vine maple, ninebark, mock orange, young Port-Orford Cedar (at the Deer creek site) and young tanoak. In the understory, typical species include swordfern, bishops cap, boykinia and spikenard. Non-native species such as Himalayan blackberry are the dominant cover along the roadsides above the culverts, while natives still prevail in the riparian adjacent to the culverts. At the Quartz creek site, newly excavated debris from road maintenance is found along the road above the culvert. One scotch broom plant was found in the vicinity of this culvert.

Non-vascular species found were typical of those usually occurring on alders and big leaf maple. Also, in areas downstream of the culverts where plunging water has created very moist conditions, a heavy bryophyte layer prevails within the spray zones. Typical species were also found in these areas.

No special status or Survey and Manage vascular or non-vascular species were located during surveys.

b. Environmental Consequences

1. Alternative 1: No Action

Riparian vegetation at each culvert would not be disturbed under No Action. The lack of ground disturbance would ensure that non-native species primarily found only in the road prism would not invade newly disturbed soils by the culverts.

2. Alternative 2: Proposed Action

No special status or Survey and Manage vascular or non-vascular species were located during surveys. Therefore, no effects are expected. The possibility of non-native species expanding into newly disturbed areas will be great even with native seeding and mulching. Active eradication of new populations may be necessary in the future on an annual basis.

From a cumulative effects perspective, road projects such as culvert replacements will continue to occur throughout the region. Noxious weed invasions will continue to be a problem as roads provide a conduit of dispersal for such species. Continued weed eradication efforts can be put into place to address this.

4. Resource: Wildlife (special status/manage and survey species and their habitats)

Two species of amphibians listed by the state of Oregon as “sensitive” are located in the streams associated with the culvert replacement sites. These species are affected by poor water quality. The Foothill Yellow-legged frog (*Rana boylei*) and the Tailed frog (*Ascaphus truei*) require clean, silt free gravely substrate.

There are no known species listed under the Endangered Species Act at any of the culvert sites.

a. Environmental consequences

1) Alternative 1: No Action

The primary habitat at the project sites is the stream and associated riparian vegetation. Under the “No action” alternative the current situation of undersized culvert would remain. The down stream riparian would continue to be at risk for degradation under a 100 year flood event. It is impossible to gauge if and when such an event would take place and the actual affects. It is anticipated that under such an event the culvert and road system could be overwhelmed leading to failure of the system. It is anticipated that fill material in excess of 20 to 50 yards of material could be flushed into local streams. If this occurred, there would be a loss of habitat and individuals. This effect could extent downstream for upwards of 1/4 mile as the sediment filled interstitial spaces, temporarily degrading habitat and killing individuals.

b) Alternative 2: Proposed Action

Under the action alternative, culverts capable of handling a 100 year flood event would be installed. This action has the potential to have a negative short term impact on the habitat for the two state listed species of frogs. Project design features that will minimize sediment in the water (e.g., filter fabric, seasonal restrictions) will minimize these impacts to the two species.

A long term benefit of the project is the restoring of the stream connection which allows species to

more easy move through system.

No species listed under the Endangered Species Act will be affected by the Action Alternative.

5. Resource: Port-Orford cedar

a. Affected Environment

The Deer Creek Site is located in a drainage with Port-Orford Cedar. The species is located at the work site as well. There is no Port-Orford Cedar at the other 3 work sites, downstream from the sites or along roads that would be used for access to the sites.

Phytophthora lateralis, a pathogen which kills Port-Orford cedar, is not currently found in the Deer Creek site. It is an exotic species which is spread primarily as spores are carried by water and or in infested soil. It is transported by animals, vehicles, people and along streams and in ditch lines during wet weather.

b. Environmental Effects

1) No Action Alternative

The no action alternative would have no potential impact on Port-Orford Cedar, the root disease or the potential spread of the root disease.

2) Alternative 2: Proposed action

In that the Deer Creek site is the only site with Port-Orford cedar this is the only site that could be impacted by an introduction of the root disease. The project design feature that requires the thorough washing of equipment prior to bringing it into the site and the seasonal operating constraint that limits work to the dry season should virtually eliminate the potential for introducing the disease to the site. The alternative will in no way change the potential for introduction through general public traffic and use of the road.

6. Resource: Social, cultural, VRM

a. Affected Environment

The roads are used for local access by landowners and forest users. The project sites are in VRM Class II and III zones. There are no known cultural sites at the project sites.

b. Environmental Effects

1) No Action Alternative

In the no action alternative, there would be no road closures or diversions of traffic. Local landowners would not be affected. Visuals would remain the same as they currently exist.

2) Alternative 2: Proposed Action

Local / Residential access: Some inconvenience to local residents and land owners may occur as result of the road closures necessary during culvert replacement. There are no residences above the Deer Creek site so only landowners and casual road users would be impacted. Access is available to this area via other routes. At the Quartz Creek site, one residence is located 1/4 mile above the work site and will be impacted. The resident may have to leave a vehicle below the work site during the road closure. The Bear Creek route is a through route that is a frequently used as a commuter route. Those that normally use this road have alternative routes to access property and home sites.

Cultural: The probability of finding a cultural site during construction is remote as the sites are already highly disturbed. In the event that a cultural site is discovered during work, appropriate protection would be determined and implemented at that time.

VRM: The Deer Creek, Bear Creek and Quartz Creek culverts are in VRM Class III classified lands. The proposed action will be consistent with the objectives for VRM Class III lands. The Pickett Creek culvert and road by-pass is in VRM Class II lands because it is considered within the viewshed of the Rogue River. This project will not be visible from the river and will be consistent with the VRM Class II objectives.

Chapter 3

Agencies and Persons Consulted

A. Public Involvement

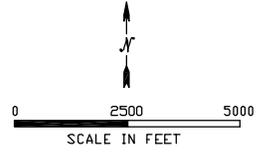
A formal 15 day public EA review and comment period will be held.

B. Availability of Document and Comment Procedures

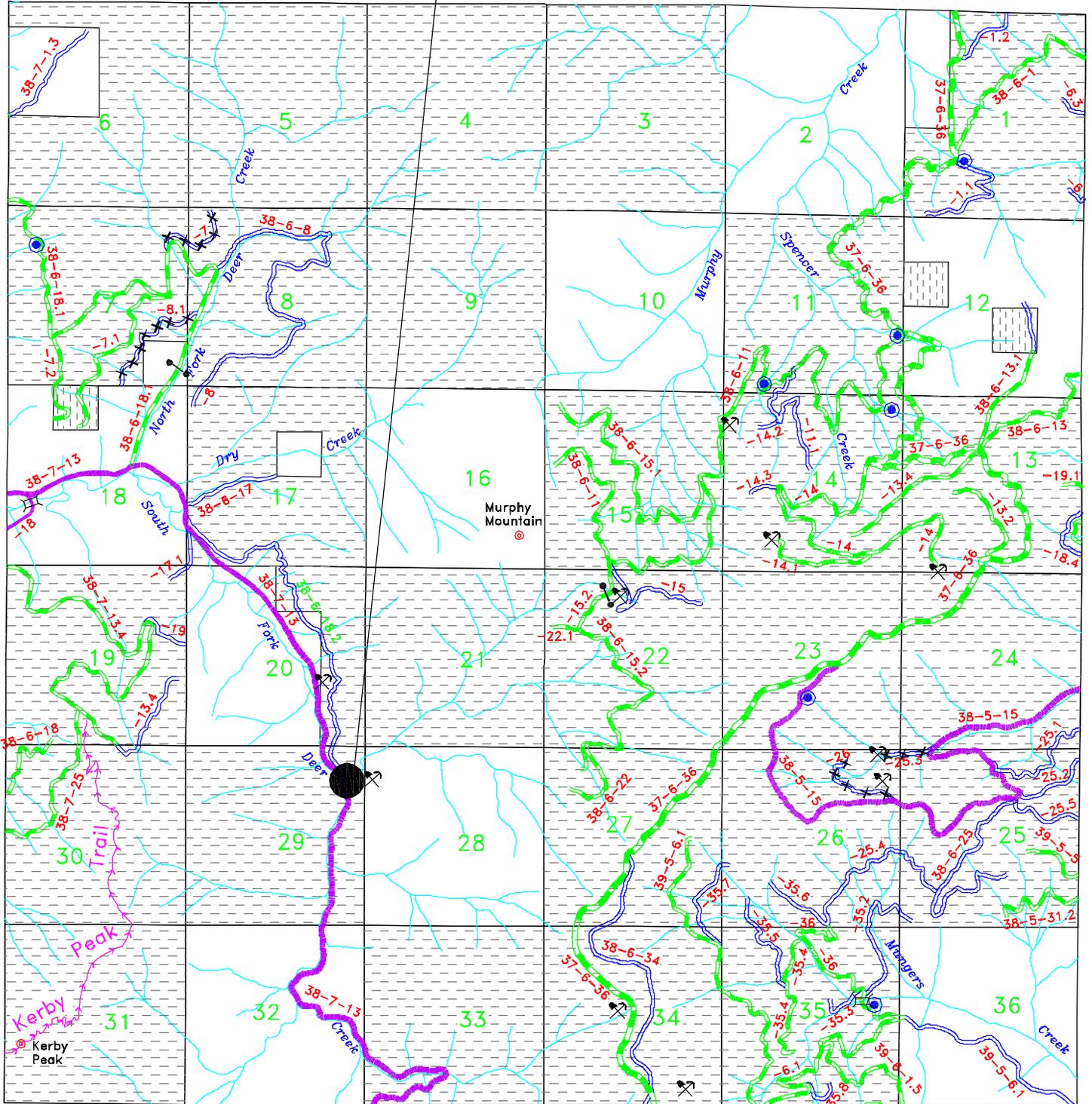
As noted, this EA will be available for public review and comment for a fifteen (15) day period. Notification regarding its availability will be done through newspaper notices and mailings to neighbors and parties known to have an interest in these types of BLM projects. Copies of the EA document will be available in the BLM Medford District Office and on the Medford District's web site.

Map 1a Project Location

T 38 S, R 6 W, W.M.

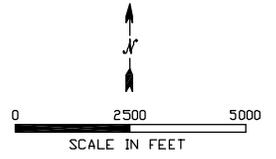


South FK Deer
Ck. Trib. # 1

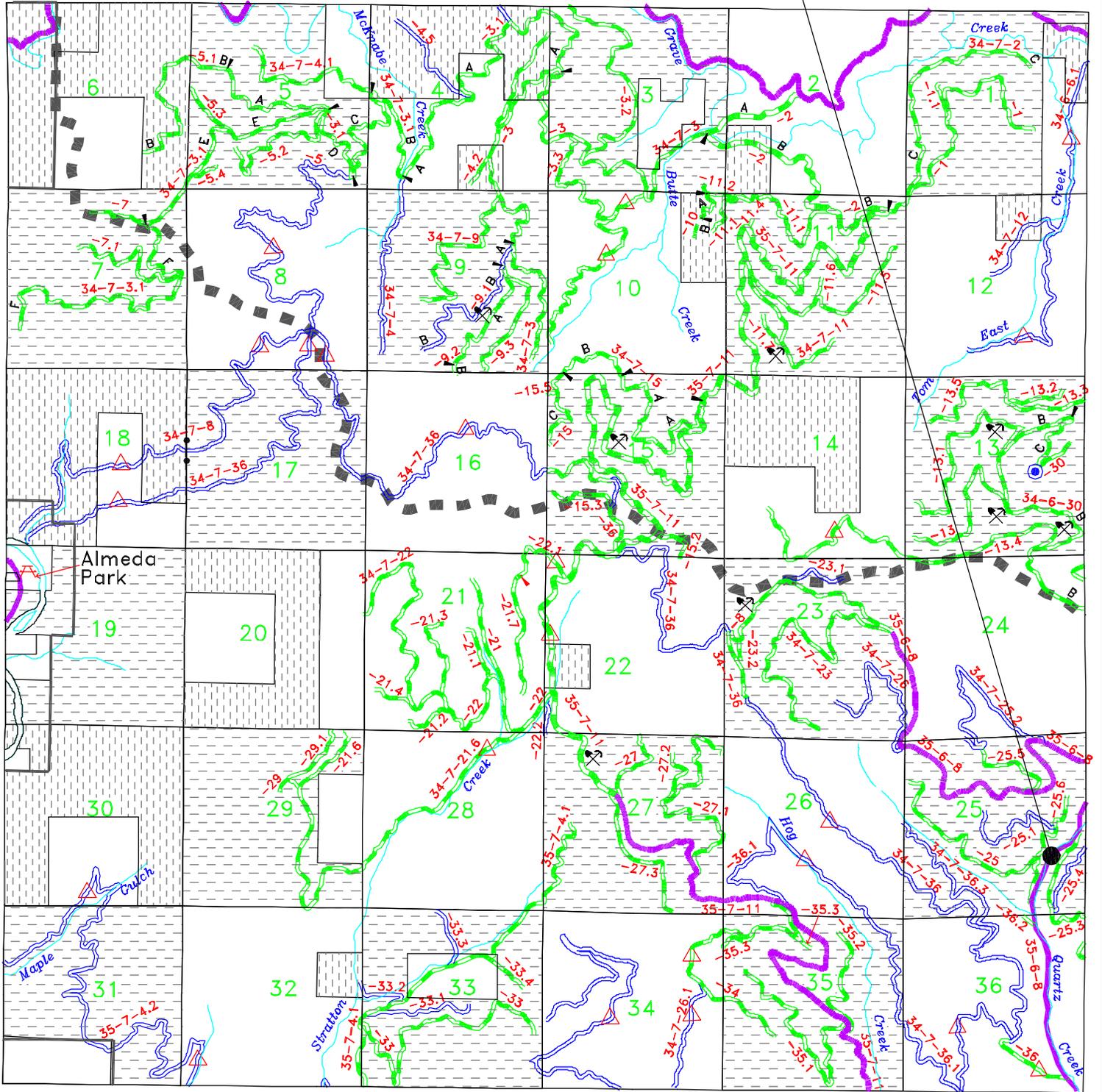


Map 1b Project Location

T 34 S, R 7 W, W.M.

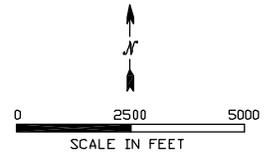


Quartz Creek



Map 1c Project Location

T 39 S, R 7 W, W.M.



Bear Crk. #4A

