

**ENVIRONMENTAL ASSESSMENT**  
**for the**  
**FISH PASSAGE CULVERT PROJECTS**

***EA# OR-110-00-21***

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

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

RESOURCE AREA: Grants Pass

FY & EA #: OR-110-00-21

ACTION/TITLE: *Fish Passage Culvert Projects*

LOCATION: Grants Pass Resource Area, Medford District

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Grants Pass Resource Area  
Environmental Assessment  
Fish Passage Culvert Projects

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## **Chapter 1 Need for the Proposal**

### **A. Introduction**

The purpose of this EA is to assist in the decision making process by assessing the environmental and human affects resulting from implementing the proposed action(s). 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-ROD) dated 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 dated 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 dated April 13, 1994 (NFP-ROD).

### **B. Purpose and Need for the Proposal**

In the early 1990's, BLM road culvert structures were evaluated with regard to what extent they hindered fish passage. In the Grants Pass Resource Area, approximately 35 structures were identified that blocked passage of coho salmon and steelhead trout from migrating to potential / historic spawning habitat. These structures were prioritized for replacement based on the amount of recoverable fish habitat upstream and road access needs. Both the Wallow Creek 2 and Morris Creek 2 structures were identified for replacement and improvement (See Maps 1 and 1.1, p. 13, 14).

Current BLM design requirements for in-stream structures are that they must meet hydrological requirements of a 100 year flood event. The purpose of the present proposal is to replace two culverts that currently block migration of anadromous fish thereby increasing available fish habitat and to upgrade them to meet current stream crossing design standards.

Unimpaired fish passage are 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 two 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.

## **Chapter 2 Proposed Action**

### **A. Introduction**

Culverts designed and installed in the past did not adequately consider fish migration. Consequently they prevent migration of steelhead trout and coho salmon. Historically the BLM standards for culvert design were based on 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).

### **B. Issues Relevant to the Project Proposal**

Pertinent issues identified by the BLM project planning team are:

1. The road systems involved are needed for BLM administrative and public access and are important for fire access and as a fire breaks.
2. Port-Orford Cedar (POC) and *Phytophthora lateralis* (PL) are located in the Powell Creek drainage.
3. The existing culverts substantially inhibit passage for anadromous fish and blocks access to potential habitat stream reaches.
4. Existing culverts were designed to accommodate a 50-year flood event, or less.

### **C. 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 blockage of fish migration, road condition/deterioration, rates of erosion, continuation of current road densities, etc.

#### **2. Alternate 2: Proposed Action**

The proposed action is to replace the two culverts listed in Table 1. Culvert replacement would include removal of the existing culvert and the installation of open bottom structures. These

structures will have concrete footings with preformed steel or concrete spans. Structure footings will be excavated on each side of the creek. The Wallow Creek 2 site requires footings to be poured in place, the Morris Creek 2 site will use precast footings. At the Wallow Creek site, temporary small diameter culverts will replace the existing culvert during construction to provide equipment access across the creek. Temporary culverts will not be needed at the Morris Creek site.

Excavators will be used to remove existing culverts, excavate footings, install the temporary crossing, and excavation and replacement of the road fill / prism. Equipment and placement and storage of excavated material will be restricted to within the existing road prism.

Some cutting of vegetation will be necessary at each site. A large cottonwood rooted in the fill slope at the Wallow Creek site will be felled and left in the stream.

<b>Site</b>	<b>Water-shed</b>	<b>Road Name / #</b>	<b>Existing Fish barrier to be corrected</b>	<b>Proposed Action</b>
Wallow Creek 2	Williams	Powell Creek 38-5-15	Drop from bottom of outlet to pool is to high-blocking fish passage.	Replace existing CMP with a pipe arch 7'h x 12'w x 40'l with an open / natural bottom. Footings to be poured in place.
Morris Creek 2	Jumpoff-Joe	Morris Creek 35-5-21.1	Drop from bottom of outlet to pool is to high-blocking fish passage.	Replace existing CMP with a pipe arch 4'h x 12'w x 24' l with an open / natural bottom. Precast footings.

CMP- Corrugated Metal Pipe

Culvert replacement will require the Morris Creek Road to be closed for about 2 weeks, and the Powell Creek Road (38-5-15) for about 2 months.

Transportation Management Objective (TMO) recommendations for road 38-5-15 are to leave the road open as a main access road to the Powell Creek drainage and others. This road provides access to private, BLM and county lands. TMO recommendations for road 35-5-21.1 are to leave the road open and fully functional to provide access to private, county and BLM lands. Both roads are encumbered by reciprocal road use agreements.

#### **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.

##### **1. Fisheries and water quality**

In stream work will be seasonally restricted to the period of low water flow: June 15<sup>th</sup> through September 15 for the Morris Creek Site, and July 1 through September 15 for the Wallow Site. To preclude sediment from reaching the streams during construction, filter fabric will be placed in the streams when structures are removed and when replacing road prism fill material.

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

## 2. Vegetation

The Wallow / Powell Creek site is located in a drainage that has Port-Orford cedar (POC). Port-Orford root disease is not currently located at this site. Activities at this site will comply with the BLM's Port-Orford Cedar Management Guidelines, including washing of vehicles and equipment prior to entering the area. All culverts used during construction would be either new or would be thoroughly washed prior to bringing them to the site to reduce potential for root disease introduction.

Port-Orford cedar is not known to occur in the Morris Creek drainage.

## 3. Fire Suppression and Access

The Oregon State Department of Forestry will be notified of the dates of the road closures so it can be factored into their fire suppression and fire response planning considerations. Local residents that use the 35-5-21.1 road for access to their residences would also receive prior notification of the road closure.

## 4. 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 there.

## **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. Environmental Consequences of the Alternatives**

#### **1. Resource: Water Quality**

##### **a. Affected Environment**

Both sites, Morris Creek and Wallow Creek, are in upland areas where natural slopes limit road location. Main roads generally follow least sloping margins, usually along stream channels. Morris Creek is a tributary to Louse Creek and Wallow Creek is a tributary to Powell Creek. Louse and Powell Creek are main stream to sixth field watershed within the Jumpoff Joe and Williams Creek fifth field watersheds, respectively. Neither stream is 303(d) listed as water quality limited. There has been no monitoring in Morris Creek. Wallow Creek was monitored for temperature by BLM in 1999. The seven day average maximum temperature was 61.7°F.

Soil in the Morris Creek site area is Brockman cobbly clay loam. Brockman has a fine textured subsoil that has low strength when wet. It is developed from serpentine alluvial fan and foot slope material. Soils in the Wallow Creek site are Beekman-Colestine complex. Both soils gravelly loam surface layers and have similar properties. Both are developed from colluvium derived from fractured metamorphic rock. Beekman and Colestine are relatively stable as an engineering material. For both structures specifications will cover structural needs for bearing capacity and road surface compaction.

##### **b. Environmental Consequences**

###### **1) Alternative 1: No Action**

In both cases the stream sediment regime and bedload carrying capacity will remain altered (from a natural, no road crossing situation) by the under sized culverts. This is a result of slope and elevation of the culverts not matching the natural stream grade as well as the size of the culverts being restrictive to high flows.

###### **2) Alternative 2: Proposed Action**

At both sites 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 the new bed will be the stream bed rather than a ribbed culvert. This will happen in the short term and should last through the long term.

There may be small additions of fine sediment down stream that escapes the filter fabric sediment trap. This would occur only during construction, would be short lived and would have little affect on water quality.

## **2. Resource: Fisheries**

### **a. Affected Environment**

Morris Creek is located in the Jumpoff Joe Creek Watershed (HUC-5) and is a perennial fish stream containing coho salmon, steelhead and cutthroat trout. Coho salmon are federally listed as threatened, and steelhead are a federal candidate species. Wallow Creek is located in the Williams Creek Watershed (HUC-5) and is a perennial fish stream containing resident cutthroat trout. Anadromous fish are currently prevented from reaching approximately 1.0 mile of habitat upstream of the existing culvert on Morris Creek. Anadromous fish downstream in Powell Creek are currently prevented from migrating an approximately 0.75 miles upstream in Wallow Creek because of the existing culvert.

### **b. Environmental Consequences**

#### **1. Alternative 1: No Action**

The no action alternative will result in the continued barrier to passage of spawning adults and migrating juveniles in Morris and Wallow Creeks. These direct effects will continue to contribute to the suppression of anadromous and resident fish production and survival by blocking access to spawning and rearing habitat.

#### **2. Alternative 2: Proposed Action**

At the Morris Creek site, culvert replacement will make approximately one mile of spawning and rearing habitat available to anadromous fish. At the Wallow Creek Site approximately 3/4 mile of habitat will be made accessible. Spawning fish will have access to additional habitat which is currently unavailable to them. Juvenile anadromous and resident salmonids will have unimpaired access to upstream reaches which may provide cold water refuge during summer months. Salmonid production and survival should improve in the two drainages. When linked with other riparian habitat restoration 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 (fifth field scale). Incorporation of the Best Management Practices (BMPs) described in the Resource Management Plan (RMP) and Project Design Features (PDFs) (e.g., temporary erosion and sediment measures, bank stabilization, etc.) will

minimize short term sediment impacts (see PDFs, Chapter 2, Section D). The minimal sediment delivery associated with these proposed actions are not expected to affect the survival or production of salmonids. It is anticipated that the long term beneficial effects will be an increase salmon survival and production. No long term or cumulative adverse effects are anticipated at either the project level (7<sup>th</sup> field scale) or the watershed level (5<sup>th</sup> field scale).

These effects are inclusive for direct and indirect adverse and beneficial effects to fish.

a) Aquatic Conservation Strategy

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 restore a previously obstructed route 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 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 restore upstream habitat to coho salmon, steelhead and cutthroat trout.

**3. Resource: Vegetation**

a. Affected Environment

The area around the Morris Creek site has a history of mining. There is no record of timber harvest. Elements of two plant associations from the Douglas-fir series are present on this site: a wet (riparian) association and a dry (upland) association. The riparian vegetation resembles that found in the Douglas-fir-Bigleaf Maple/Swordfern association. The upland vegetation is similar to the Douglas-fir-Ponderosa Pine/Poison Oak association. Upland overstory trees in the area are Douglas-fir and ponderosa pine. Understory trees include Douglas-fir, incense cedar, and canyon live oak. Douglas-fir is the primary overstory tree along the stream with the understory trees being red alder and bigleaf maple. (Other plant species are noted in the botany discussion.)

The area around the Wallow Creek site has been disturbed by both mining (pre-1920) and by timber harvest in the 1970s and again during the 1980s. Due to the disturbance regime, it is difficult to determine the potential plant community (plant association). Adding to the complexity of this issue, the site has components of riparian plant communities and an upland plant community intermingled. The plant community on the site has elements of three riparian plant communities, all in the Port-Orford cedar series and one upland plant community in the Douglas-fir series. It should be noted that this is the potential natural vegetation. No Port-Orford cedar was observed around the site where the structure is to be installed. The Port-Orford cedar plant communities possibly existing on this site include the Port-Orford Cedar-Douglas-fir-Alder /Vine Maple-Oregon Grape association, the Port-Orford Cedar-Douglas-fir/California Hazelnut association and the Port-Orford Cedar-Incense Cedar/Alder association. None of the Port-Orford cedar have been described previously in the state of Oregon; thus far, these plant associations have only been found in California. The Douglas-fir-Ponderosa Pine/Poison Oak association occurs on the periphery of the site farthest away from the creek.

The forest structure at this site is a residual overstory of large (greater than 21 inches in diameter) Douglas-fir and an closed canopy understory of alder, bigleaf maple and Douglas-fir. (Other plant species are described in the botany discussion.)

b. Environmental Consequences

1) No Action Alternative

The areas around the Morris Creek and Wallow Creek sites will continue their current successional trends with slow development of a large conifer component. The conifers will eventually overtop existing hardwoods and shrub species returning these areas to a condition that more closely resembles that believed to have occurred prior to logging, road construction, and in the case of the Wallow creek site, mining.

2) Proposed Action

Disturbance at each of the sites is expected to be less than 0.1 acre, including the road prism. Any vegetation disturbed would create growing space for the vegetation that remains. Trees immediately adjacent to the disturbed area will benefit from the resultant increased space. The disturbance will, in the long term (greater than 5 years), hasten the development of larger trees (both conifers and hardwoods) along the streams.

3. Resource: Wildlife - special status/ S&M species and their habitats

a. Introduction

The proposed action lies in two fifth field watersheds, the Jumpoff Joe watershed which drains into the Rogue River and the Williams watershed which drains into the Applegate River. Watershed analysis has been completed for both of these watersheds. Activities will be limited to the replacing of the culverts. A small amount of brush and low lying vegetation will be removed by the project near at both sites. A large Black cottonwood tree will be removed at the Wallow creek site. Equipment will be restricted to the road prism.

As of this date, surveys have not been completed for all Special status species including species identified as Survey and Manage species (see Appendix J-2 of the Record of Decision). Limited potential habitat does exist in the project areas. The discussion below about potential impacts to these species is based on the alteration of potential habitat.

The lands within the project areas provide habitat for two species on the State of Oregon’s “sensitive” list, as well as habitat for S&M mollusc species. Habitats within the project area include riparian vegetation and the streams.

Surveys for Del Norte salamanders (*Plethodon elongatus*) habitat has been conducted for both the Morris and the Wallow creek site. The area immediately around the project sites is not habitat for this species.

Table 1 summarizes the special status species habitat found at each project site.

<b>Table 1: Special Status Species present</b>		
<b>Road #</b>	<b>Stream Name</b>	<b>Comment</b>
Rd. 38-5-17	Wallow Creek/Powell Creek	Stream and adjacent riparian are occupied by Tailed frogs and Foothills yellow-legged frog.
Rd. 35-5-22.1	Morris Creek	Stream and adjacent riparian are occupied by Tailed frogs and Foothills yellow-legged frog. Blue-grey taildropper located near the action.

2. Environmental consequences

a) Alternative 1: No Action

The primary habitat in the vicinity of the project areas is the stream and associated riparian vegetation. Under the “No action” alternative the current situation of undersized culverts 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 which would lead to failure of the system. It is anticipated that in excess of 50 yards of fill material would be flushed into Powell Creek and 20 yards of material would be flushed into Morris Creek. Two species of amphibians listed by the state of Oregon as “sensitive” are located in the action area and 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 would be a loss of habitat and individuals if the stream crossings / road systems fail. A worst case scenario is that the sediment from a culvert failure at these locations would flush through the system, fill interstitial spaces, temporarily degrading habitat and killing individuals.

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

b) Alternative 2: Proposed Action

Under the action alternative, culverts capable of handling a 100 year flood event would be

installed. The direct effect of this action would be the potential to have a adverse short term impact on the habitat for the two state listed species of frogs as a result of the release into the stream of built up sediment at each site. A worst case scenario is that the sediment is allowed to flush through the system, filling interstitial spaces, temporarily degrading habitat and killing individuals.

***Proposed Mitigating Measure #1:*** Remove sediments that have built up behind the culverts prior to the replacement of the culvert.

A long term benefit of the project which will restore natural stream bottom conditions is the resultant restoration of the stream connection which allows species to more easily move throughout the stream system.

A Blue-grey tailed darter (*Protophyron coeruleum*) has been located near the Morris Creek site. The site will be buffered from any disturbance and there are no anticipated effects from the proposed action.

***Proposed Mitigating Measure #2:*** Avoid all ground disturbing activities in the mollusc buffer located on the eastside of Morris creek.

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

#### **4. Resource: Botany / Special Status Plants**

##### **a. Affected Environment and Environmental Consequences**

Both the Morris Creek and the Powell Creek / Sallow Creek sites were surveyed for vascular plants on April 27, 2000. Both areas have typical riparian vegetation with some weedy species close to the culverts. The Morris Creek site is more diverse with many native shrubs such as mock orange, cascara, snowberry, oceanspray and dogwood with such weedy species as Himalayan blackberry, Scotch broom and exotic rose. The herbaceous layer includes red columbine, false Solomon's seal trillium, spikenard and a heavy moss layer. Stumps and downed woody material on the downstream side have a heavy moss layer as well. The Powell / Sallow site has a canopy of red alder and bigleaf maple along with large black cottonwood growing up against the downstream culvert end. Thimbleberry, snowberry, swordfern and hazelnut are in the shrub layer. The herbaceous layer included spikenard, coltsfoot and bleeding heart. No special status or S&M vascular plants species were located during the surveys.

Surveys will be completed for lichens and bryophytes. If found, the appropriate management recommendations will be implemented and there would, therefore, be no adverse impacts.

Fungi surveys are not needed as S&M fungi habitat will not be affected by the proposed action.

## **Chapter 4**

### **Agencies and Persons Consulted**

#### **A. Public Involvement**

All input was considered by the planning and interdisciplinary (ID) teams in developing the proposed replacement of structures for fish passage in developing this EA. The public will be involved through a formal public review period for this EA.

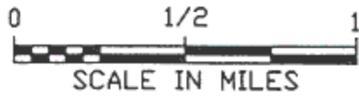
#### **B. Availability of Document and Comment Procedures**

Copies of the EA document will be available for formal public review in the BLM Medford District Office and on the District's web site. Written comments concerning the EA will be accepted for 15 days after the announcement of the availability of the EA appears in the newspaper. Individuals and organizations known to be interested in this type of project will be informed of the availability of the EA and comment period.

#### **C. ESA Consultation**

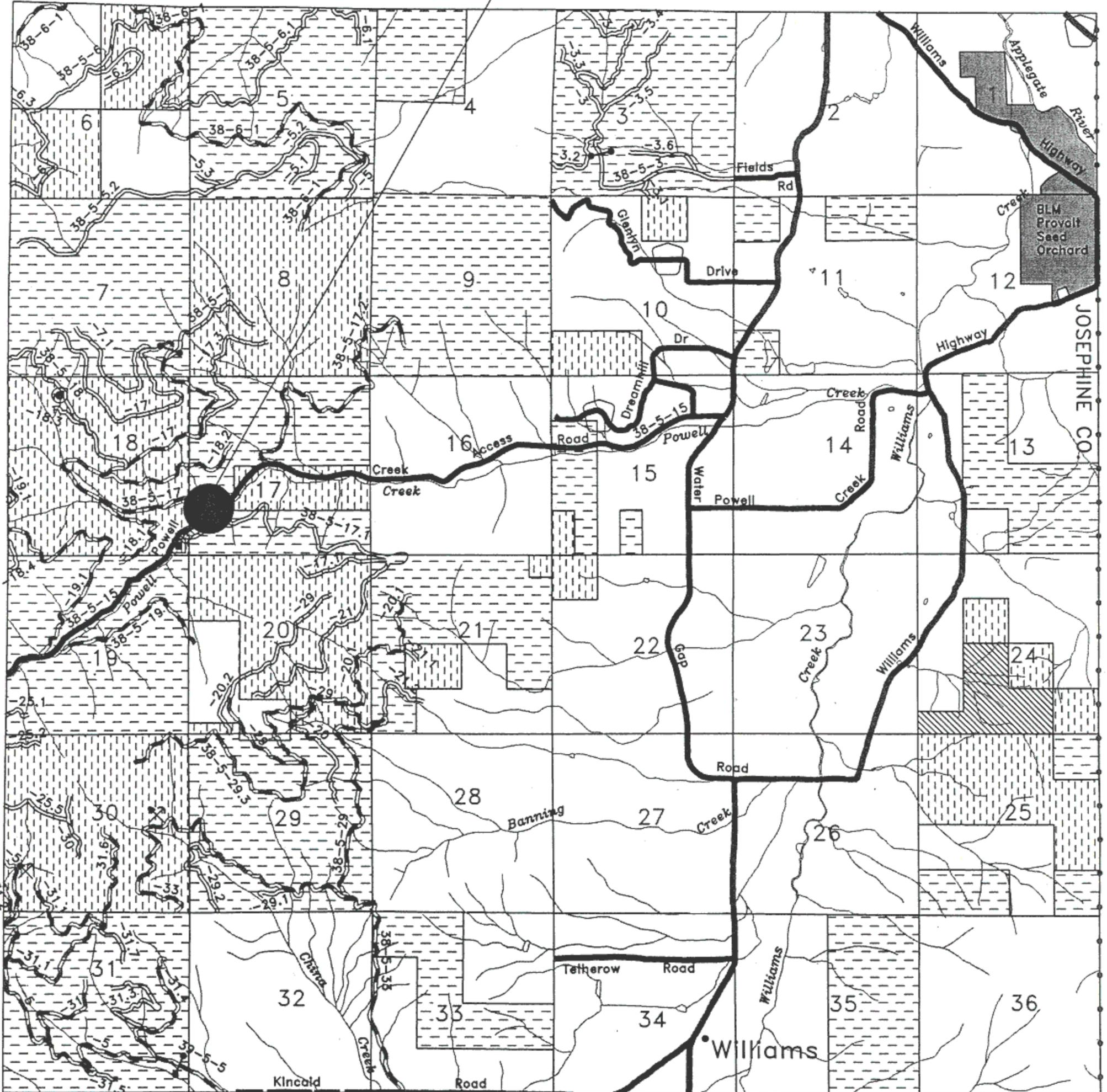
The projects addressed in this EA are addressed under / included in the National Marine Fisheries Service's March 18, 1997 Biological Opinion and Conference Opinion for the Programmatic Resource Management Plan regarding Coho Salmon Endangered Species Act consultation. Reconsultation is not necessary. The proposed project will have negligible short term adverse effects while providing a long benefit to the fisheries.

Map 1  
Project Location  
Wallow Creek 2

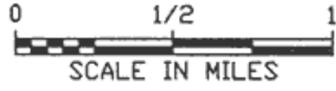


R 5 W

T 38 S



Map 1.1  
Project location  
Morris Creek 2



R 5 W

T 35 S

