

RECLAMATION

Managing Water in the West

Powder House Cove Expansion Finding of No Significant Impact and Final Environmental Assessment

Prineville Reservoir, Oregon



**U.S. Department of the Interior
Bureau of Reclamation**



**Oregon State Parks
Parks and Recreation Department**

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Finding of No Significant Impact

PN-FONSI 06-08

Final Environmental Assessment for Powder House Cove Expansion

Introduction

The Bureau of Reclamation (Reclamation) has completed an environmental assessment (EA) to address the impacts associated with expanding the existing Powder House Cove recreation site at Prineville Reservoir, Oregon. The land around Prineville Reservoir is on Reclamation administered lands. The expansion of Powder House Cove is identified in the Prineville Reservoir Resource Management Plan (RMP).

Alternatives Considered

The National Environmental Policy Act (NEPA) requires Reclamation to explore a reasonable range of alternatives and to evaluate the environmental effects of these alternatives. Two alternatives were evaluated and compared in the environmental assessment: a No Action Alternative and a Preferred Alternative.

No Action Alternative

Under the No Action Alternative, Powder House Cove would not be expanded and basic maintenance operations would stay the same. The key safety, health, and environmental issues created by user demand exceeding Powder House Cove's capacity would still remain.

Preferred Alternative

Under the Preferred Alternative, Oregon Parks and Recreation Department (OPRD) and Reclamation would expand the existing recreational facilities at Powder House Cove. Approximately five (5) acres of land would be developed to accommodate a new parking area and boat launch facility.

Recommended Alternative

Reclamation proposes to implement the Preferred Alternative, which would expand Powder House Cove. Construction activities associated with the expansion are expected to have only short-term and minor adverse impact on the resources analyzed, compared to the No Action Alternative. Long-term environmental consequences are expected to be mitigated by following the environmental commitments. The environmental commitments are expected to become a part of the Preferred Alternative, and significant environmental impacts will therefore be avoided.

Environmental Commitments

Long-term environmental consequences are expected to be mitigated by implementing the following environmental commitments:

Operation and Maintenance

- Powder House Cove will continue to be managed for day use, and a gate will be installed at the entrance. The gate will be closed at night. It is anticipated that OPRD will have a volunteer camp host on-site during peak summer months. The site will be open from May 31st to September 30th each year.
- As stated in the RMP, OPRD and Reclamation will work with appropriate agencies to eliminate parking on Highway 27 once alternative parking is provided.
- OPRD will install sign(s) in the Powder House Cove recreation site requiring all vehicles to remain on designated roadways.

Vegetation

- To the maximum extent practicable, all existing trees, shrubs, and other naturally occurring vegetation will be preserved and protected from construction operations and equipment (RMP, August 2003).
- Cut slopes, where practicable, shall be designed at an angle that is conducive to revegetation (RMP, August 2003).
- Disturbed areas resulting from construction will be aggressively revegetated (RMP, August 2003).
- Construction and post-construction activities will comply with the guidelines set forth in Reclamation's Integrated Pest Management Plan.
- An important location for revegetation is the existing boat ramp and associated parking area. These areas will be revegetated as part of the Preferred Alternative.

Biological Soil Crusts

- See Vegetation section.

Visual Resources

- Developed facilities will complement and be subservient with the surrounding landscape wherever possible (RMP, August 2003).
- Vegetation planted between the shoreline and the boat launch parking lot will serve to screen views of the parking lot from the reservoir.
- Islands within the boat trailer parking lot will contain native plantings, including trees.
- The construction of the access road leading from the day use area to the proposed boat launch and parking area will parallel existing contours. This alignment will minimize the cut and fill necessary for construction as well as reduce the visibility of the road from the reservoir.
- Any retaining walls built as part of this project will be constructed to complement and blend in with the surrounding landscape.
- If lighting is provided as part of the project, it can be placed on a timer to shut off after most boaters have returned to shore (e.g. after 10:00 pm).

Nesting Birds

- Tree and shrub clearing will occur after October 15th of 2006, and should be completed before March 15th 2007, minimizing the chance of impacting active nests. If tree and shrub clearing is delayed, and is scheduled to occur between March 15th and August 1st, the area will be surveyed by OPRD for active nests before clearing can occur. If active nests are found, communication with the Oregon Department of Fish and Wildlife and OPRD natural resource personnel will outline appropriate steps.
- If construction continues into the 2007 nesting season, all attempts will be made by OPRD to monitor raptor nests in the surrounding area, and construction activities will be adjusted as necessary.

Floodplains

- Recreation facilities located between surcharge elevations 3235 and 3238 feet will be constructed to withstand short-term inundation.
- All major facilities (i.e. restrooms) will be located above elevation 3240 feet to minimize flood potential.

Hydrology and Water Quality

- Runoff from the roads and parking areas will be routed to vegetated swales and detention basins for treatment. Swales and detention basins will be sized to achieve 85% to 90% treatment levels (Jones, 2006).
- During construction of all proposed project components, turbidity will be controlled by implementing Reclamation's erosion control Best Management Practices (BMPs). Possible measures include silt fencing and hay bales.
- The boat ramp construction will be conducted during the low water period and will use erosion control BMPs to minimize introduction of sediment and construction material into the water of the reservoir.
- Rip-rap will be placed along the shoulders of the road where it crosses the ephemeral drainage to reduce erosion from sheet flow over the road during events larger than 25-year flood events.

Historic Properties

- In advance of construction, OPRD will further document the existing condition of the structure as a baseline to detect if visitor use is causing degradation from the baseline condition. The condition of the structure will be assessed by OPRD no less than twice a year to determine if increased public use is causing damage. If damage is occurring, Reclamation, OPRD and the State Historic Preservation Office (SHPO) will assess actions to address the source of damage or mitigate for it.
- Construction specifications will require avoidance of impacts to the structure and associated feature, and assurance that contractor employees will not alter or use the structure. Construction specifications will also include a stipulation dealing with inadvertent discovery of archeological materials or human burials. If any such materials or remains are discovered, construction activity will immediately halt in the vicinity of the find and the discovery will be examined by an archeologist. Construction will not recommence in those locations until consultations and treatment actions are completed

consistent with 36 CFR 800 for archeological discoveries, or with 43 CFR 10 for discoveries of human remains of Native American origin.

- As part of the first phase of development, OPRD plans to construct a short hiking trail to the powder house and install interpretive signage. At a minimum, the interpretation will address the powder house and its role in dam construction. A low fence of a type appropriate to the setting will be installed as part of construction. The SHPO supported incorporation of the powder house into the overall design of the proposed project, along with its interpretation for the public.
- Regular monitoring of the powder house will occur with the presence of OPRD rangers and an on-site camp host. If vandalism is discovered, it is OPRD policy that OPRD and Reclamation archeologists will be informed immediately of the damage, and an appropriate response can be implemented.

Consultation and Coordination

Agency Consultation

The following agencies were consulted in preparation of this environmental assessment:

- Confederated Tribes of the Warm Springs Reservation of Oregon, Warm Springs
- U.S. Fish and Wildlife Service, Bend
- State Historic Preservation Office, Oregon States Parks and Recreation Branch, Salem
- National Marine Fisheries Service, Eastern Oregon Branch

Magnuson-Stevens Act

Communication with the National Oceanic and Atmospheric Administration (NOAA) Fisheries in March 2006 concluded that the Crooked River upstream of Bowman Dam, including Prineville Reservoir, is not designated Essential Fish Habitat under the Magnuson-Stevens Act. No consultation is necessary regarding the proposed action.

Endangered Species Act, Section 7

In March 2006, OPRD sent FWS a letter requesting information on ESA listed species within the project area. In that same month, FWS sent a list of ESA listed species that may occur in Crook County. Reclamation has concluded that the Powder House Cove Expansion project will have no effect on ESA listed endangered, threatened, or candidate species.

National Historic Preservation Act Consultation and Native American Graves Protection and Repatriation Act

In compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) (as amended in 1992) Reclamation consulted with the Oregon State Historic Preservation Office to identify historic properties in the area of potential effect. In June 2006, Reclamation sent the SHPO a copy of the final cultural resources report and requested concurrence on the efforts and actions taken to meet Section 106 requirements. The cultural resources contractor determined that the isolated prehistoric finds in the area of potential effect were not eligible for the National Register of Historic Places, and that a structure and associated feature (both not quite 50 years old) near the proposed project site be considered eligible as part of a potential Bowman Dam Historic District. The contractor determined, and Reclamation concurred, that the proposed

action would have no adverse effect to the powder house and associated structure. In letters dated August 24th and 25th, 2006, the SHPO concurred that the Powder House Cove expansion would have no effect on historic properties of an archeological nature, and would have no adverse effect on the powder house and associated feature. The SHPO also stated that the project “will have no effect on any known cultural resources. No further archeological research is needed with this project.”

Public Involvement

The concept of expanding the recreational facilities at Powder House Cove was presented to the public during the development of the Prineville Reservoir RMP that began in early 2001 and was completed in August 2003. The scope of the RMP is the management of Prineville Reservoir. Enlarging the public facilities at the Powder House Cove site was considered along with all the other management actions and facility improvements planned throughout the reservoir. As Reclamation developed the RMP with OPRD, the public was informed and invited to participate in the process through:

- News briefs - Initially sent to more than 350 user groups, nearby residents, and agencies.
- Public Meetings – Three public meetings.
- Ad Hoc Work Group – Approximately 18 representatives from interested groups met throughout the development process to identify issues and to assist with alternatives development.
- Project Web Site – News briefs, draft materials, and meeting announcements were updated at **www.usbr.gov/pn**.

The Powder House Cove Expansion EA involved the general public via a news release in July 2006 announcing the availability of the draft EA for a 30 day review and comment period. The EA was made available on Reclamation’s website, at local libraries, and sent to the distribution list shown at the end of Appendix A.

Reclamation received four comments on the draft EA. The comments expressed concern about the proximity of the proposed action to wintering deer range, indirect and cumulative impacts to raptor nesting areas, potential for vandalism at the powder house, and regulation of off-road vehicle use; comments also expressed support for the proposed action.

Following the close of the public review and comment period, Reclamation considered all written comments in preparing the final EA and Finding of No Significant Impact.

Public Comment Summary and Changes in Final Environmental Assessment

Changes to the EA based upon internal review, and to more clearly define the proposed action

- The total number of proposed parking spaces was reduced from 205 to a maximum of 168 (approximately 148 built initially; 20 added if extra capacity needed).
- The site will be gated and closed at night and during the winter months.
- It is anticipated that a volunteer camp host will live on-site during peak summer months.
- Signs will be posted prohibiting the use of vehicles off designated roads.
- A restatement of OPRD and Reclamation's RMP commitment to work with appropriate agencies to eliminate parking on Highway 27 once alternative parking is provided.
- A day use fee to access the site is not expected at this time. If a fee is required in the future to pay for site maintenance, it is likely that the fee will be \$3 per vehicle, which is the typical day use fee in OPRD managed recreation sites.
- If tree and shrub clearing is scheduled to occur between March 15th and August 1st, the area will be surveyed by OPRD for active nests before clearing can occur.

Changes to the EA based upon comments received during the 30 day comment period

Four comment letters were received regarding the draft EA. One letter from the Crook County Historical Society expressed concern about potential impacts to the powder house; letters from the Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service both expressed concern about Powder House Cove becoming a staging area for recreational activities that could threaten wintering deer and sensitive raptor nesting sites; and a letter from the Bureau of Land Management requested the addition of information about the overgrowth of western juniper and its impacts to the existing conditions at Prineville Reservoir. In response to these comments, the following changes were made to the EA and some added to the list of environmental commitments:

- Western juniper overgrowth was incorporated into the descriptions of existing conditions.
- A short hiking trail to the powder house, interpretive signs, and an appropriate fence will be installed by OPRD as part of the initial phase of the project.
- If vandalism at the powder house is discovered, it is OPRD policy that OPRD and Reclamation archeologists will be informed immediately of the damage, and an appropriate response can be implemented.
- Some of the changes made to the EA were based upon internal review (shown in the above list) also addressed concerns expressed in comment letters:
 - Seasonal closure of Powder House Cove will protect wintering deer habitat.
 - Signs will be posted to discourage off-road vehicle use.
 - Eliminating parking on Highway 27 will restrict the number of visitors to Powder House Cove and reduce indirect and cumulative impacts to surrounding resources.

Finding

Reclamation's analysis showed that construction activities associated with the expansion of Powder House Cove are expected to have only short-term and minor adverse impacts on the resources analyzed, compared to the No Action Alternative. Long-term environmental consequences are expected to be mitigated by following the environmental commitments listed above. The environmental commitments are expected to become a part of the recommended alternative, and significant environmental impacts will therefore be avoided.

Conclusion

On the basis of a thorough review of the comments received, analysis of the environmental impacts as presented in the final EA, section 7 consultation under ESA, Section 106 consultation under NHPA, coordination with various agencies and implementation of all environmental commitments identified in the final EA, Reclamation has concluded that expanding the facilities at Powder House Cove would have no significant impact on the quality of the human environment or the natural resources of the area. Therefore, an environmental impact statement will not be prepared. This FONSI has been prepared to document environmental review and evaluation in compliance with the Council on Environmental Quality's regulations for implementation of the National Environmental Policy act of 1969.

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
BMPs	Best Management Practices
CTWSRO	Confederated Tribes of Warm Springs of Oregon
CEQ	Council on Environmental Quality
Cove	Powder House Cove, Prineville Reservoir
EA	Environmental Assessment
EWU	Eastern Washington University
FEMA	Federal Emergency Management Agency
FWS	United States Fish and Wildlife Service
MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Act
NOAA	National Oceanic and Atmospheric Administration
ODOT	Oregon Department of Transportation
ORNHIC	Oregon Natural Heritage Information Center
OPRD	Oregon Parks & Recreation Department
Reclamation	U.S. Department of Interior, Bureau of Reclamation
RMP	Prineville Reservoir Resource Management Plan
RMP FEA	Prineville Reservoir Resource Management Plan and Master Plan: Finding of No Significant Impact and Final Environmental Assessment
SHPO	State Historic Preservation Office

CHAPTER 1

Purpose and Need

1.0 Introduction

Powder House Cove (the Cove) is located on the southwest shore of Prineville Reservoir in Central Oregon (Figure 1). The reservoir is created by Bowman Dam and the Crooked River. The land surrounding the reservoir is owned by Bureau of Reclamation (Reclamation), and maintained and operated by the Oregon Parks & Recreation Department (OPRD).

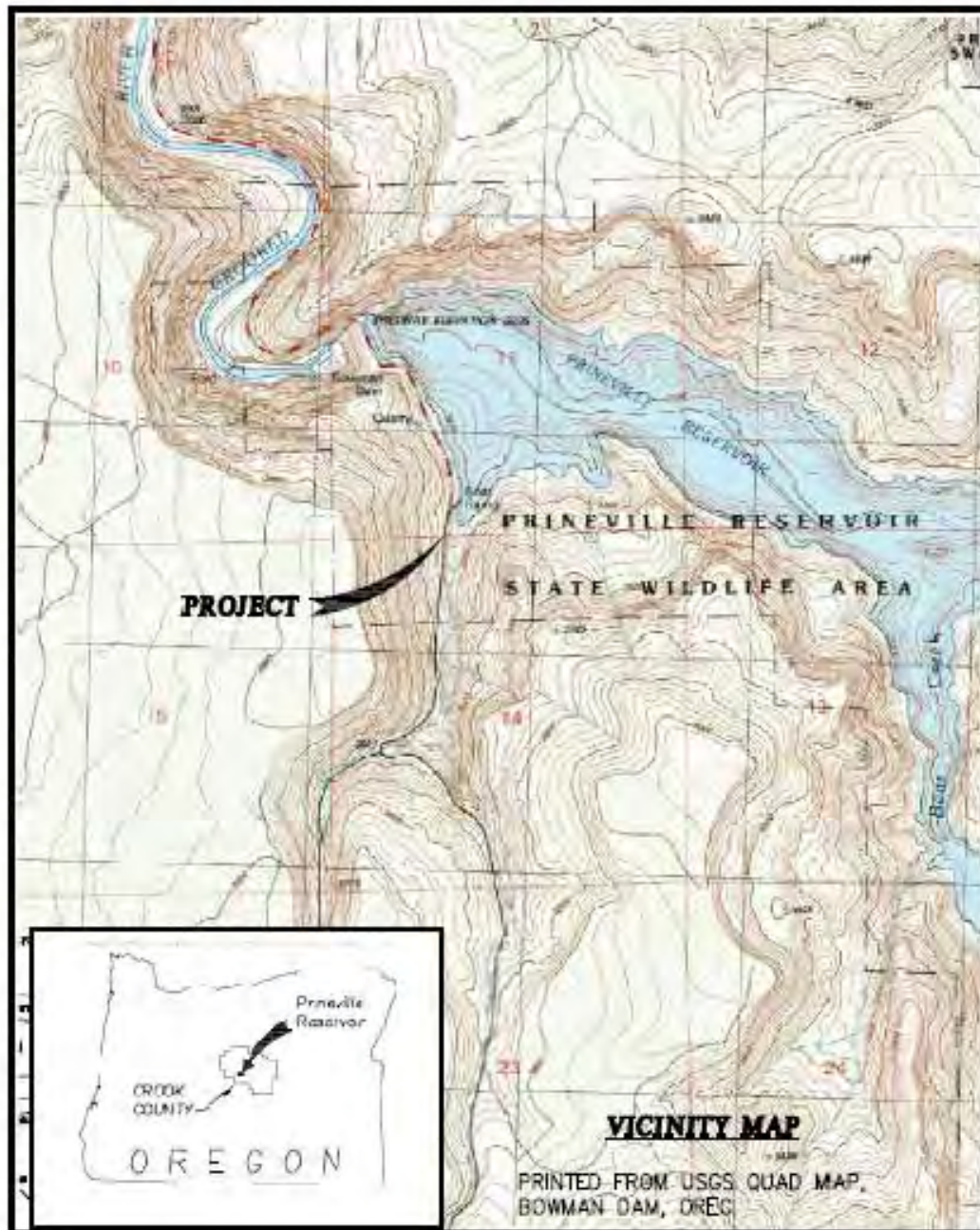
Issues at the Cove first came to OPRD and Reclamation's attention when complaints were raised by the Crook County Sheriff's office regarding the high number of vehicles at the site without formal parking spaces. Due to the shortage of parking at Powder House Cove, overflow parking began occurring on the shoulder of the road that provides access to the Cove (Highway 27). The Sheriff's office commented on the over-crowded and unsafe situation this created along the Highway, and informed OPRD and Reclamation that the Sheriff's office did not have enough staff to police the Highway appropriately. The State Police and the Oregon Department of Transportation (ODOT) have also commented on the traffic problems at Powder House Cove.

1.1 Background

Reclamation and OPRD worked together to produce a Resource Management Plan (RMP) for Prineville Reservoir in August of 2003. The development of the RMP required an Environmental Assessment (EA) to identify the impacts of the various management alternatives. The EA that was developed for this planning process was finalized in June 2003 and is called the "Prineville Reservoir Resource Management Plan and Master Plan: Finding of No Significant Impact and Final Environmental Assessment" (RMP FEA). The preferred management strategy chosen for the RMP was "Natural Resource Protection/Formal Recreation Emphasis." In this alternative, focus is placed on formalizing camping and water access, particularly on the south shore of the reservoir, to reduce the continued widespread disturbance of vegetation by dispersed camping and an informal road network (RMP FEA, June 2003). Improvements to Powder House Cove were identified as part of this strategy.

The RMP FEA was a broad look at three proposed reservoir management strategies and their impacts to the Prineville Reservoir area. The management strategy chosen in the RMP FEA became a part of the Prineville Reservoir RMP in August of 2003. Although the expansion of Powder House Cove was identified as part of the management plan for the reservoir, it is required that OPRD complete a site specific environmental assessment of the proposed project's environmental and social impacts in accordance with the National Environmental Policy Act. This document has been developed to meet these requirements and to identify positive and negative impacts of both the proposed project and the no action alternative.

Figure 1. Vicinity Map



1.2 Purpose and Need

Powder House Cove is an existing recreation site with an unpaved boat launch and two gravel parking areas on the southwest shore of the Prineville Reservoir. This recreation site is the closest boat launch for visitors accessing the reservoir from the Bend area and the rest of southern Deschutes County. The recent paving of Alfalfa Market Road has made direct access from Bend to Powder House Cove much easier, and the site has become increasingly popular. Powder House Cove is also frequented by residents of rapidly growing Crook County and the City of Prineville.

The purpose of the proposed project is to address the following issues at Powder House Cove:

- Safety (traffic and access)
- Health
- Resource Management (environmental conditions)
- Reclamation and OPRD's goal of meeting the demands for water-based recreation at Prineville Reservoir

The Prineville Reservoir RMP identifies Powder House Cove improvements as a high priority due to health and safety issues, and to meet the recreational demands at Prineville Reservoir.

The project is needed because visitor use at Powder House Cove exceeds the capacity of site facilities. In July 2005, a peak usage month, approximately 2,500 vehicles visited Powder House Cove (Transportation Analysis, Ferguson & Associates, 2006). On a peak summer day, there can be over 80 vehicles at Powder House Cove, while existing facilities can only accommodate approximately 20 vehicles.



Photograph 1. Overflow parking on the shoulders of Highway 27. June 2006.

The inadequacy of the existing parking areas to handle current visitation levels leads to overflow parking on the shoulders of Highway 27 (Photograph 1), creating traffic and pedestrian hazards. The Oregon State Police, Crook County Sheriff's Department, and ODOT all have urged OPRD to address parking and access management issues at Powder House Cove.

The site has only a single vault toilet, which is inadequate to serve the number of site users, raising health concerns. Portable toilets must be brought in during peak use season.

In addition, the limited capacity of the existing boat launch, combined with the large number of users, leads to boats being launched from dispersed sites along the shoreline, creating further bank erosion. Because the boat launch is surfaced with gravel and dirt, runoff contributes to sedimentation and decreased water quality in the reservoir. With population growth expected to continue in Central Oregon, the problems at Powder House Cove will worsen over time.

1.3 Public Involvement

The concept of expanding the recreational facilities at Powder House Cove was presented to the public during the development of the Prineville Reservoir RMP that began in early 2001 and was completed in August 2003. The scope of the RMP is the management of Prineville Reservoir. Enlarging the public facilities at the Powder House Cove site was considered along with all the other management actions and facility improvements planned throughout the reservoir. As Reclamation developed the RMP with OPRD, the public was informed and invited to participate in the process through:

- News briefs - Initially sent to more than 350 user groups, nearby residents, and agencies.
- Public Meetings – Three public meetings.
- Ad Hoc Work Group – Approximately 18 representatives from interested groups met throughout the development process to identify issues and to assist with alternatives development.
- Project Web Site – News briefs, draft materials, and meeting announcements were updated at www.usbr.gov/pn.

The Powder House Cove Expansion EA involved the general public via a news release in July 2006 announcing the availability of the draft EA for a 30 day review and comment period. The EA was made available on Reclamation's website, at local libraries, and sent to the distribution list shown at the end of Appendix A.

1.4 Agency and Tribal Communications

The United States Fish and Wildlife Service (FWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries were contacted. Consultation with the State Historic Preservation Office (SHPO) was initiated on June 21st, 2006 and was concluded in August 2006 (Appendix A).

A site visit was arranged for the Confederated Tribes of Warm Springs of Oregon (CTWSRO) Culture and Heritage Committee, and was conducted on April 19th, 2006. A summary of that

gathering is recorded in Paul Claeysens' report "Letter Report on Tribal Consultation", dated May 3, 2006.

On June 13, 2006 OPRD mailed a letter (Appendix A) notifying the following potentially interested governmental agencies and the CTWSRO that the Powder Cove Expansion EA was being prepared:

- Reclamation
- Bureau of Land Management
- CTWSRO
- Deschutes County Planning Department
- Crook County Planning Department
- Crook County Sheriff's Department
- Crook County Watershed Council
- Ochoco Irrigation District
- OPRD
- FWS
- Oregon Department of Fish and Wildlife
- Oregon State Marine Board

Informal communication occurred with the following agencies before the Powder House Cove Expansion EA process began:

- Crook County Sheriff's Office
- ODOT
- Oregon State Police

CHAPTER 2

Alternatives

2.0 Introduction

This chapter explains the two alternatives considered in this assessment. The OPRD has refined its proposed plan for the expansion of the Powder House Cove site which is the Preferred Alternative described in this chapter. In accordance with the National Environmental Policy Act, the No Action Alternative is described. The No Action Alternative is the most reasonable future condition that could occur without the Preferred Alternative. The No Action Alternative is useful for analyzing the impacts associated with the Preferred Alternative. Other designs were considered by OPRD but were eliminated from further consideration because of unacceptable resource impacts or highway safety concerns. These alternatives are described at the end of this chapter.

2.1 No Action Alternative

Photographs 2, 3 and 4 show the existing facilities at Powder House Cove. The current facilities cover approximately 0.5 acres and consist of an unpaved boat launch and two gravel parking areas. If the No Action Alternative is chosen, basic maintenance operations would stay the same, and no changes to the facilities would occur. The key safety, health, and environmental issues created by user demand exceeding Powder House Cove's capacity would still remain.



Photograph 2. Existing boat ramp.



Photograph 3. Existing day use area.



Photograph 4. Existing ramp and parking.

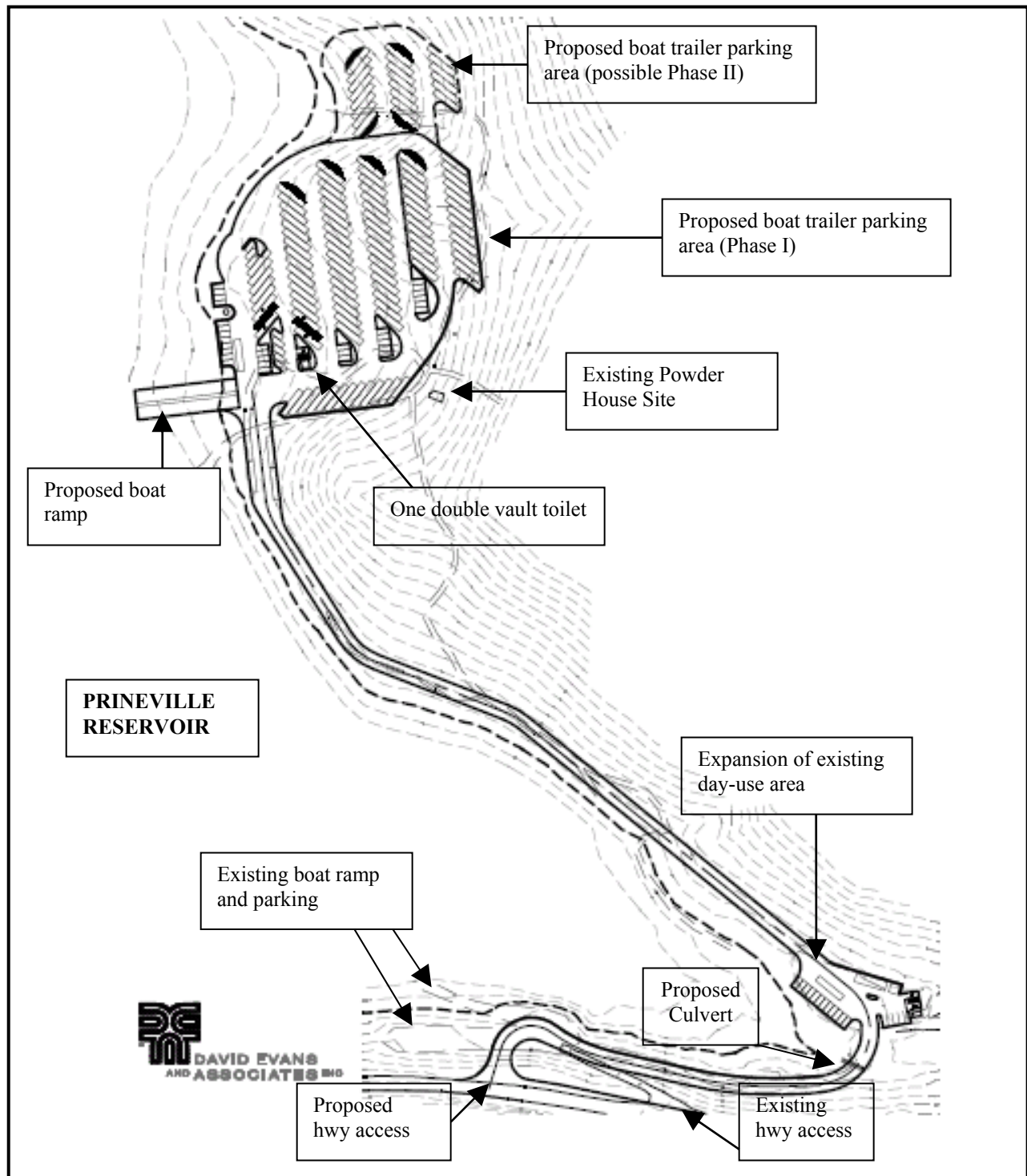
2.2 Preferred Alternative

The Preferred Alternative improves and expands the existing facilities at Powder House Cove. Figure 2 on the next page illustrates the preliminary layout of the Preferred Alternative, along with parts of the existing facilities. See Appendix C for the layout and cross sections of the conceptual plan.

The Preferred Alternative consists of the following elements:

- Expansion of the existing day use parking and the addition of a new parking area at the proposed boat launch: total parking spaces in Powder House Cove not to exceed 168
 - 120 truck and trailer parking spaces at the proposed boat launch area (approximately 100 built initially; the remainder only built if needed in the future)
 - 48 car spaces to be divided between the existing day use parking area and the proposed boat launch parking area
- New boat launch approximately 1000 feet east of the existing boat launch
- New entrance approximately 200 feet north of the existing entrance
- Recontouring and rehabilitation of existing access road
- New road from existing day use area to proposed boat launch
- Decommissioning and rehabilitation of existing boat ramp and related facilities
- Storm water conveyance facilities, such as vegetated swales or settling basins
- Short interpretive trail from proposed parking area to the powder house. At a minimum, interpretive signs will address the powder house and its role in dam construction.
- New vault toilets at proposed boat launch area
- Possible lighting (solar powered) at the top of the boat ramp and adjacent to restrooms
- A final footprint of approximately 5 acres, 0.5 acres of which will cover already developed areas

Figure 2. Preliminary Layout of Preferred Alternative



2.2.1 Location and Access

Powder House Cove is located on Reclamation land, on the southwest end of Prineville Reservoir, in Crook County, Oregon. The project is located at T17S, R16E, Sections 11 and 14 of the Bowman Dam Quadrangle. See Figure 1 for a vicinity map. State Highway 27 provides direct access to Powder House Cove. The proposed access is approximately 200 feet north of the existing access and would connect to Highway 27 at an angle approaching 90 degrees, much safer than the existing sharply angled approach to the highway. Any remnants of the existing access road will be recontoured and revegetated.

2.2.2 Construction

Construction is tentatively planned for winter of 2006 through spring of 2007. Existing parking areas at Powder House Cove will be used for construction staging to avoid impacts to vegetated areas. Clearing of approximately 4.5 acres of juniper trees and shrubs will be necessary to create the new boat launch access road and parking area. The new access to Highway 27 will require fill material to widen and improve the slope of the access road. An 18- to 20- foot-high retaining wall will support the new entrance. With the relocated entrance, sight distance to the right will be reduced, and it may be desirable to cut into the hill so that sight distance could be improved (Transportation Analysis, Ferguson & Associates, 2006).

Fill and removal material will be balanced on-site, where possible. Required source material will come from an approved, active site. Cut material will be reused on-site in areas needing fill to the extent possible.

The Resource Management Plan's (RMP) Natural Resource Management goals and objectives will guide final design and construction of the Preferred Alternative. The design shall preserve, to the maximum extent practicable, all existing trees, shrubs, and other naturally occurring vegetation (RMP, August 2003, pg 5-7). To minimize introduction of invasive plant species to the reservoir's natural environment, the construction and post-construction phases of the Preferred Alternative will adhere to Reclamation's Integrated Pest Management Plan, 2006.

2.2.3 Operation and Maintenance

OPRD maintains the existing facilities at Powder House Cove, and would maintain any new facilities created by this project. Maintenance activities consist of litter pickup, vault toilet maintenance, and weed management. Additional vault toilets at the site would help to eliminate the need to install, maintain, and remove outhouses each summer.

Powder House Cove will continue to be managed for day use and a gate will be installed at the entrance. The Cove will be seasonally open, from May 31st to September 30th. It is anticipated that OPRD will have a volunteer camp host on-site during peak summer months.

As stated in the RMP, OPRD and Reclamation will work with appropriate agencies to eliminate parking on Highway 27 once alternative parking is provided.

OPRD will install sign(s) in the Powder House Cove recreation site requiring all vehicles to remain on designated roadways.

2.3 Alternatives Considered but Dismissed

Regulating parking on the shoulders of Highway 27 (as the only action):

- Distance from Prineville is too great for the Sheriff's Department to effectively police parking, and budget concerns prevent hiring of additional staff for the task of monitoring the shoulders of Highway 27 at Powder House Cove.
- Park Rangers do not have jurisdiction over state highways, and therefore cannot be used as a resource to prevent parking along Highway 27.
- Limiting the number of visitors to the existing parking spaces would not address one of the components of the purpose and need for this project: BOR and OPRD's goal of meeting the demands for water-based recreation at Prineville Reservoir.

Three site access variations to Highway 27 were considered but dismissed for the following reasons:

- Two alternatives proposed dual access points to Highway 27, with approach angles far less than ninety degrees. These configurations were discouraged by ODOT and described as unsafe. They also impacted more undeveloped land than the Preferred Alternative.
- A third alternative had a single point of ninety degree access to Highway 27, but impacted far more undeveloped land than the Preferred Alternative, with multiple crossings of an ephemeral drainage within the project area. It was also cost prohibitive.

CHAPTER 3

Affected Environment and Environmental Consequences

3.0 Introduction

This chapter describes the existing natural and social resources that could be affected by the implementation of the alternatives considered in this EA. Impacts associated with noise, air pollution, hazardous materials, paleontological resources, and wetlands were considered, but eliminated from detailed analysis because the potential for significant impact is low. Mitigation measures, where applicable, are listed at the end of each resource section.

3.1 Geology and Soils

3.1.1 Affected Environment

A Reclamation geologist surveyed the project area on March 28, 2006. The results of the survey are summarized below. The full April 18, 2006 report, available from Reclamation, is titled “Geologic Report for the Proposed Powder House Cove Area, Prineville Reservoir.”

The results of the geology survey showed that the bedrock in the area is Tertiary John Day formation consisting of fine-grained, light colored tuffaceous sediment that is weathered into clay. The bedrock is not well exposed, and is covered by various types of geologic material as described below:

- Fill and riprap
- Fine to medium sand with some gravel and cobble along the base of the ephemeral channel and a thin blanket of sand in the Cove
- Rock debris consisting of fractured basalt blocks found mainly along ridges and near the shoreline
- Alluvial fan material found mostly in the existing Powder House Cove area, and consisting of a mixture of hard, angular cobbles and gravel in a silty sand matrix.
- John Day Tuff composed of fine-grained rock and pumice fragments in a matrix of green to greenish-brown, fine ash. The tuff is below the surface and will be encountered if excavation occurs to the east of the existing Powder House Cove facilities.

3.1.2 Environmental Consequences

No Action Alternative

No structural changes to the local geology will occur if the No Action Alternative is chosen. If the No Action Alternative is chosen, the existing gravel and dirt boat ramp will continue to be used, along with unregulated points along the shoreline. This will continue to add to the erosion of the Cove’s shoreline.

Preferred Alternative

Approximately 4.5 acres of new disturbance to the local geology and soils will occur if the Preferred Alternative is implemented. Reclamation's geologist concluded that the geologic materials in the project area should provide suitable foundations for the intended structures. The John Day Tuff may be more difficult to excavate than the surface deposits. The upper portion can be easily excavated, but conditions may become considerably harder with depth.

3.2 Vegetation

3.2.1 Affected Environment

The project area was surveyed for rare plant species, along with botanical resource and wetland issues in June and July of 2000, as well as on April 10th, 2006. None of the surveys identified any occurrences of rare plants (Bacheller, 2006). A list of plant species found in the area is located in Appendix B.

The project area is situated in a several hundred foot swath along the reservoir's shoreline and contains a variety of vegetation communities (Photograph 5). Riparian vegetation is present in the drawdown zone as well as in a small strip immediately upland of the high water mark. No signs of wetlands were found (Bacheller, 2006). Further upland, the project area is dominated by western juniper, bluebunch wheatgrass, and sagebrush. Juniper woodland communities occupy approximately 80 percent of Reclamation's land at Prineville Reservoir (RMP, August 2003).



Photograph 5. This photo, taken just east of the existing Powder House Cove facilities, shows the typical vegetation found at the Cove. Rick Demmer, 2006.

Western juniper has become more prevalent around Prineville Reservoir since European settlement of the west, reaching densities of 100 trees per acre. Dense juniper coverage can lead to high percentages of bare soil coverage and poor sagebrush and grass cover (RMP, August 2003).

The following plant association groups are present in the project area:

Table 1. Plant associations at Powder House Cove, Bacheller, 2006.

Western juniper / big sagebrush / bluebunch wheatgrass woodland
Western juniper / big sagebrush / cheatgrass woodland
Western juniper / bluebunch wheatgrass savanna
Creeping spikerush – matted muhly – arctic rush – slenderbeak sedge – douglas sedge emergent marsh
Coyote / sandbar willow riparian fringe

The eastern portion of the project area is already impacted due to dispersed camping and day use (Photograph 6). The western edge of the project area, containing the existing Powder House Cove facilities, is also heavily impacted. The middle of the project area, along the proposed road alignment, is in good condition with minimal disturbance and invasive species (Bacheller, 2006).



Photograph 6. This is a view of the area upland of the proposed boat ramp. Note extent of current disturbance and evidence of dispersed unregulated camping. Rick Demmer, 2006.

3.2.2 Environmental Consequences

No Action Alternative

With the No Action Alternative, the vegetation at Powder House Cove will continue to experience pressure from human activity, invasive weeds and juniper domination. As user demand increases, dispersed boat launching and camping may occur more often, affecting both riparian and upland habitat.

Preferred Alternative

Approximately 5 acres will be developed after construction, with 0.5 acres of that built over currently developed land. One of the largest impacts to the vegetation in the project area would be due to the proposed road alignment between the Cove entrance and the new boat launch facilities and parking area, since this is the portion of the project area least impacted by current recreation activities.

A 40-foot long strip of riparian vegetation will be replaced with pavement for the new boat launch facility. The parking areas may require retaining walls with rip-rap near the normal maximum water surface elevation, displacing some vegetation near the water's edge.

An increase in invasive plant species at the Cove is a possible impact of implementing the Preferred Alternative. Invasive weeds are already present at the Cove, and constitute a large threat to the reservoir's natural environment (Bacheller, 2006).

3.2.3 Avoidance, Minimization and Mitigation of Impacts

- To the maximum extent practicable, all existing trees, shrubs, and other naturally occurring vegetation will be preserved and protected from construction operations and equipment (RMP, August 2003).
- Cut slopes, where practicable, shall be designed at an angle that is conducive to revegetation (RMP, August 2003).
- Disturbed areas resulting from construction will be aggressively revegetated (RMP, August 2003).
- Construction and post-construction activities will comply with the guidelines set forth in Reclamation's Integrated Pest Management Plan.
- An important location for revegetation is the existing boat ramp and associated parking area. These areas will be revegetated as part of the Preferred Alternative.

3.3 Biological Soil Crusts

3.3.1 Affected Environment

Biological Soil Crusts (BSC) are composed of lichens, mosses, liverworts and cyanobacteria. BSC provide very important functions: erosion protection, moisture retention, and in some cases, provide nitrogen to vascular plants. The Powder House Cove area was surveyed for BSC

in late March and early April of 2006. A list of BSC species found in the project area is in Appendix B.

Disturbed areas already occur in the Powder House Cove area (Photo 6 from vegetation section), and are mainly due to the construction of Bowman Dam and subsequent recreation. The area has not been grazed in many years (Demmer & Armson, 2006). Informal trails and old roads crisscross the Cove area east of the existing developed parking lot. In less disturbed areas of Powder House Cove, the BSC are well developed (Photograph 7). Cyanobacteria are wide spread and diverse at the site; cyanobacteria play an important role in stabilizing the soil surface after disturbances. Moss is diverse in the area, but usually accounts for less than 25% of the ground cover. This combination of moss diversity without moss dominance is a characteristic of mature BSC in central Oregon (Demmer & Armson, 2006).



Photograph 7. The rocky area between the current parking lot and the proposed boat ramp is covered in a near continuous BSC dominated by mosses but with a diversity of lichens. Rick Demmer, 2006.

3.3.2 Environmental Consequences

No Action Alternative

If activities at Powder House Cove continue without change, it is likely that the BSC community will become more degraded. If visitation numbers continue to increase at the Cove, there may be more pressure on the surrounding area. The disturbance to the BSC may be minimal, but continual.

Preferred Alternative

If the Preferred Alternative is chosen, several acres of well established BSC communities will be cleared and built upon. The Preferred Alternative uses as much of the existing developed or disturbed areas at Powder House Cove as possible, minimizing impacts to BSC. The Powder House Cove site has excellent recovery potential due to its northern exposure and diverse reproductive base of BSC communities. Areas that are disturbed during construction and revegetated can show signs of BSC recovery in as little as three years (Demmer and Armson, 2006).

3.3.3 Mitigation

The practices described in the Vegetation section (3.2.3) will also benefit BSC communities.

3.4 Visual Resources

3.4.1 Affected Environment

The southwest portion of Prineville reservoir is undeveloped except for Bowman Dam itself and the existing facilities at Powder House Cove (Photograph 8, next page). The views of this end of the reservoir are of a landscape that appears to be relatively undisturbed, dominated by bunch grass and juniper trees. Steep slopes, punctuated by basalt outcroppings, surround the reservoir.

3.4.2 Environmental Consequences

No Action Alternative

The current facilities at Powder House Cove are simple and do not take up much of the shoreline. The existing boat ramp is unattractive and operates poorly. Overflow parking on Highway 27 is a visual impact that will remain if the No Action Alternative is implemented. The cars and trucks are visible from the water, lined up along the highway.

Preferred Alternative

The Preferred Alternative will change the look of approximately 1500 linear feet of shoreline (Photograph 9, next page). The large truck and trailer parking lot will require retaining walls on both its north and south sides. Approximately 4.5 acres of vegetation will no longer be a part of the visual resources. The new road connecting to the large parking area will require cutting into the hill slope. Depending on the nature of the cut, either a retaining wall will be required, or a sloped revegetated cut. The new access road at Highway 27 will require an 18 to 20-foot high retaining wall. Lighting at the boat ramp and restrooms is a possible feature of the Preferred Alternative.

Preferred Alternative: Impact on Visual Resources



Photograph 8. View of the existing boat ramp (far right) and proposed project area.



Photograph 9. Visual simulation of Preferred Alternative superimposed over Photograph 8. For a larger view, see Appendix C.

3.4.3 Mitigation

Reclamation and OPRD are committed to minimizing the impacts to visual resources. The Prineville Reservoir Resource Management Plan lays out goals and objectives that protect the scenic values of the reservoir and surrounding areas. The RMP states that “developed facilities will complement and be subservient with the surrounding landscape wherever possible” (RMP, August 2003). Vegetation planted between the shoreline and the boat launch parking lot will serve to screen views of the parking lot from the reservoir. Islands within the boat trailer parking lot will contain native plantings, including trees. Any disturbed areas remaining undeveloped at the end of construction will be revegetated, as addressed in section 3.2.3. The construction of the access road leading from the day use area to the proposed boat launch and parking area will parallel existing contours. This alignment will minimize the cut and fill necessary for construction as well as reduce the visibility of the road from the reservoir.

Any retaining walls built as part of this project will be constructed to complement and blend in with the surrounding landscape.

If lighting is provided as part of the project, it can be placed on a timer to shut off after most boaters have returned to shore (e.g. after 10:00 pm). This will minimize the impact of lighting on visual resources, while increasing the safety of visitors to Powder House Cove.

3.5 Fish and Wildlife

3.5.1 Affected Environment

A diverse community of fish and wildlife species populate the Prineville Reservoir and surrounding area. The varied habitat at the reservoir supports over 70 species of birds, mammals, reptiles and amphibians (Clowers 2004). Raven Research conducted plant and wildlife surveys of the Prineville Reservoir from 2003 to 2005, and produced a list of species found in the reservoir area (Clowers 2005, Appendix B).

Nongame fish species (suckers and chiselmouth) dominate the fish population in the reservoir. Game fish present in the reservoir are brown bullhead, largemouth bass, smallmouth bass, rainbow trout, and black crappie (RMP, August 2003).

The Prineville Reservoir RMP identifies both a prairie falcon and red tailed hawk nest across the reservoir to the north, approximately 0.7 miles away from the project area. A second prairie falcon nest is shown approximately 0.7 miles to the west. The boundary of a golden eagle nest buffer is approximately 0.5 miles southeast from the project area, although the most recent wildlife survey of the reservoir does not identify any active golden eagle nests within the golden eagle buffer area (Clowers, 2005). The only active nest sites shown near the project area in Clower’s 2005 wildlife survey are a prairie falcon nest on the north shore of the reservoir (approx 0.7 miles away), a red tailed hawk nest just over a mile to the southeast, and a golden eagle nest about 0.9 miles to the northwest on the canyon of the Crooked River.

The Magnuson-Stevens Act (MSA) is a Federal law that requires heightened consideration of fish habitat in resource management decisions. The MSA defines Essential Fish Habitat (EFH) and requires that Federal agencies consult with the National Oceanic and Atmospheric Administration (NOAA) Fisheries if an agency action may adversely affect EFH. Communication with NOAA Fisheries occurred on May 25th and 26th of 2006 to establish the standing of Prineville Reservoir under the Magnuson-Stevens Act. NOAA Fisheries concluded that the Crooked River upstream of Bowman Dam, including Prineville Reservoir, is not designated as EFH and consultation with NOAA Fisheries for the Powder House Cove project is not required. A copy of that correspondence can be found in Appendix A.

3.5.2 Environmental Consequences

No Action Alternative

The No Action Alternative will maintain the current level of disruption to local fish and wildlife populations. Summer recreational use at Powder House Cove is already high, with approximately 50,000 visitors in the peak summer months (RMP, August 2003). Day use and some dispersed unregulated camping will continue to occur throughout the proposed project area.

Preferred Alternative

The Preferred Alternative could raise the visitation levels at the Cove and further disrupt wildlife. Despite this, the more formal boat launching facility and parking areas of the Preferred Alternative will make it easier for OPRD staff to regulate the number of visitors, and use of the Cove will have a finite limit.

If the two-lane paved boat ramp is installed, it will allow boats to be launched and docked more quickly, reducing boat and vehicle idling time. This can help reduce the impact of increased use at Powder House Cove. Boats spending less time idling in the water will reduce impacts to water and air quality, and result in lower noise volumes. Trucks will spend less time with idling motors waiting for the boat ramp to become available.

The paved boat ramp will help reduce the amount of sediment introduced into the reservoir, having a positive effect on fish habitat. There will be a loss of some existing reservoir substrate to the new boat ramp.

Approximately 4.5 acres of land used by wildlife will be lost. Trees will have to be removed in order to clear land for the parking areas and road.

Noise will be a temporary impact during construction, and may disturb nesting birds adjacent to the project area if construction continues into the spring of 2007. The majority of the construction should be accomplished before the 2007 nesting season.

3.5.3 Avoidance and Mitigation

The Migratory Bird Treaty Act (MBTA) prohibits disturbance of active nests of migratory birds. Most birds found at the reservoir are considered migratory. Tree and shrub clearing will occur after October 15th of 2006, and should be completed before March 15th 2007. This makes the chance of physically impacting an active nest very low. If tree and shrub clearing is delayed, and is scheduled to occur between March 15th and August 1st, the area will be surveyed by OPRD for active nests before clearing can occur. If active nests are found, communication with the Oregon Department of Fish and Wildlife and OPRD natural resource personnel will outline appropriate steps.

If construction continues into the 2007 nesting season, all attempts will be made by OPRD to monitor raptor nests in the surrounding area, and construction activities will be adjusted as necessary.

Revegetation will occur as described in section 3.2.3. These actions will enhance the plant communities, and at the same time, provide mitigation for wildlife habitat.

3.6 Threatened and Endangered Species

3.6.1 Affected Environment

Table 2 summarizes the federally listed and candidate species of Crook County and their occurrence in Powder House Cove. There are no proposed species in Crook County.

Table 2. Federally Listed and Candidate Species of Crook County.

Common Name	Latin Name	Jurisdictional Agency	Federal Status	Occurrence in Powder House Cove
Canada lynx	<i>Lynx canadensis</i>	USFWS	threatened	none
Bald eagle	<i>Haliaeetus leucocephalus</i>	USFWS	threatened	none
Steelhead	<i>Oncorhynchus mykiss</i>	NOAA-Fisheries	threatened	none
Bull trout	<i>Salvelinus confluentus</i>	USFWS	threatened	none
Columbia spotted frog	<i>Rana luteiventris</i>	USFWS	candidate	none
Oregon spotted frog	<i>Rana pretiosa</i>	USFWS	candidate	none
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	USFWS	candidate	none

OPRD requested a list of federally listed threatened and endangered species from the United States Fish and Wildlife Service (FWS) in March, 2006. A list of species federally listed in Crook County was provided, and can be found in Appendix A. The Oregon Natural Heritage Information Center (ORNHC) data base was queried for rare species in the High Lava Plains Ecoregion, and that list of species can be found in Appendix B.

Raven Research surveys of the reservoir from 2003-2005 did not reveal any listed or rare wildlife species in Powder House Cove (Clowers, 2005). There are no endangered species listed in Crook County, and the only threatened species known to be at Prineville Reservoir is the bald eagle. There are no bald eagle nest sites in the 5 acre project area. Powder House Cove is just under 2 miles away from the outer edge of the nearest bald eagle nest buffer (RMP, Figure 2.1-4, August 2003), putting the project area well out of the 0.5 mile radius of restricted activity.

3.6.2 Environmental Consequences

No Action Alternative

Although the No Action Alternative will continue to disrupt local plant and wildlife populations, it is unlikely that there will be impacts to any threatened or endangered species. The No Action Alternative will not impact bald eagles.

Preferred Alternative

If the Preferred Alternative is implemented, there will be no effect on any federally listed species, species proposed for listing, candidate species, or species of concern. The project site is approximately two miles from the nearest bald eagle nest buffer, and is not expected to have indirect impacts on bald eagles.

Because of the small size of the project, and the nature of the already degraded site, no indirect or cumulative affects to listed plant species are expected. No occurrences of species of concern were located in the project area, and it is unlikely the project will result in a loss of viability for any of the species of concern that have potential habitat in the area (Bacheller, 2006).

3.7 Floodplains

Executive Order 11988 states that each federal agency “has a responsibility to evaluate the potential effects of any actions it may take in a floodplain.”

3.7.1 Affected Environment

Based on the Federal Emergency Management Agency (FEMA) flood map for the Prineville Reservoir, the reservoir and its shoreline fall into Zone A, defined as “Special flood hazard areas inundated by 100-year flood; No base flood elevations determined.” The upland areas of the reservoir are in Zone X, determined to be outside the 500-year flood plain. The normal full pool elevation each year is 3,235 feet.

3.7.2 Environmental Consequences

No Action Alternative

The No Action Alternative will leave the floodplain as it is.

Preferred Alternative

The Preferred Alternative will change the landscape of the floodplain. Given the overall storage capacity of the reservoir and the length of its shoreline, the changes at Powder House Cove are not likely to have an impact on the function of the floodplain.

3.7.3 Avoidance and Mitigation

According to design guidelines in the RMP FEA, “recreation facilities located between surcharge elevations 3235 and 3238 feet will be constructed to withstand short-term inundation. All major facilities (i.e. restrooms) will be located above elevation 3238 feet to minimize flood potential.” (RMP FEA, Figures 4.1-4.8). To further minimize the potential for flood damage and health hazards, restrooms will be located above 3,240 feet.

3.8 Hydrology and Water Quality

3.8.1 Affected Environment

Within the reservoir itself, turbidity is the primary water quality issue due to highly erodible soils around the reservoir. Upstream logging, grazing and road building have contributed to turbidity in the reservoir, along with erosion at the reservoir shoreline (RMP, August 2003). The high density of juniper trees upland of the reservoir may also be contributing to the turbidity in the reservoir. High densities of juniper have been shown to increase the amount of bare ground between trees, thereby increasing the sediment load in storm water run off (OSU, 2006).

Greg Jones of David Evans and Associates, Inc. generated a hydrology technical memorandum for this EA that analyzed the Powder House Cove drainage basin. The memo is summarized in this section. During rain events, surface water sheet flows into the Powder House Cove area from the south. An ephemeral drainage along the east side of Highway 27 drains approximately 4.2 square miles and flows into the reservoir during storm events (Jones, 2006). The existing gravel access road into Powder House Cove crosses through the drainage, does not have a culvert, and allows storm events to wash over the road. There is no storm water treatment for the runoff from the existing access road and parking areas (Jones, 2006).

3.8.2 Environmental Consequences

No Action Alternative

If the No Action Alternative is chosen, storm water will continue to sheet flow over the existing gravel road, parking areas, and boat ramp into the reservoir without treatment. Dispersed day

use and unregulated overnight camping at the east end of the Cove area will continue to impact the shoreline and disturb the upland soils. During rain events, the disturbed soil will contribute to the turbidity in the reservoir.

Preferred Alternative

If the Preferred Alternative is implemented, existing vegetation and slopes will be changed, which will vary how surface water reaches the reservoir. Storm water will be treated in vegetated swales or settling basins, with the intention of reducing the amount of sediment and pollutants reaching the reservoir. A 54" soft bottom culvert will be placed under the access road at the ephemeral drainage to accommodate 25-year flood events per ODOT standards.

3.8.3 Mitigation

If the Preferred Alternative is implemented, runoff from the roads and parking areas will be routed to vegetated swales and detention basins for treatment prior to discharge into the ephemeral drainage and reservoir. Settling of pollutants will be the primary treatment mechanism. Swales and detention basins will be sized to achieve 85% to 90% treatment levels (Jones, 2006).

During construction of all proposed project components, turbidity will be controlled by implementing Reclamation's erosion control Best Management Practices (BMPs). Possible measures include silt fencing and hay bales. After construction, disturbed areas will be aggressively revegetated wherever practicable. Since more than one acre will be disturbed during construction, a permit may be required by the Department of Environmental Quality. The permit will require OPRD to show how sediment will be prevented from entering the ephemeral drainage and reservoir during construction.

It is likely that permits will be required by the Department of State Lands and the US Army Corps of Engineers to fill and remove material below the ordinary high water mark of the reservoir. The fill and removal will be needed primarily to construct the boat ramp. The ramp construction will be conducted during the low water period and will use erosion control BMPs to minimize introduction of sediment and construction material into the water of the reservoir. It is possible that portions of the retaining walls for the parking area and access road may extend below the ordinary high water mark; the fill and removal material required for the retaining walls would be addressed in the permit application for the boat ramp.

Rip-rap will be placed along the shoulders of the road where it crosses the ephemeral drainage to reduce erosion from sheet flow over the road during events larger than 25-year flood events.

3.9 Socioeconomics and Environmental Justice

3.9.1 Affected Environment

Prineville Reservoir is located in Crook County, Oregon, but residents of both Crook County and Deschutes County account for many of the visitors at Powder House Cove. Table 3 shows the race and income profile of the area surrounding Powder House Cove.

Table 3. U.S. Census Bureau statistics for Crook County, Deschutes County, and Oregon

U.S. Census Bureau Statistic	Crook County	Deschutes County	Oregon
Total Population, 2000	19,182	115,367	3,421,399
Percent Change, 1990-2000	35.9%	53.9%	20.4%
Total Population, 2004 estimate	21,424	134,479	3,594,586
% White	93.0	94.8	86.6
% Black or African American	< 0.5	0.2	1.6
% American Indian & Alaska Native	1.3	0.8	1.3
% Asian	0.4	0.7	3.0
% Native Hawaiian; other Pacific Islander	< 0.5	0.1	< 0.2
% Person of Hispanic or Latino origin*	5.6	3.7	8.0
Median household income, year	\$35,186	\$41,847	\$40,916
Per capita money income, year	\$16,899	\$21,767	\$20,940
% Persons below poverty, year	11.3	9.3	11.6
Persons per square mile, 2000	6.4	38.2	35.6

*Hispanics may be of any race, so also are included in applicable race categories.

Source: <http://quickfacts.census.gov/qfd/states/41/41031.html>

Both Crook and Deschutes Counties are growing faster than the statewide average. From 1990 to 2000, Crook County grew 15.5% faster than the statewide average, and Deschutes County grew 33.5% faster. Both counties are less racially diverse than the rest of the state. The poverty level of Crook County is 11.3%, slightly less than the state average of 11.6%, and Deschutes County's poverty level is 9.3%.

3.9.2 Environmental Consequences

No Action Alternative

If conditions remain the same at Powder House Cove, there are no foreseeable disproportionate impacts to low income or minority groups; all visitors to Powder House Cove will face the same inadequate facilities.

Preferred Alternative

Implementation of the Preferred Alternative will make access and use of Powder House Cove easier for all members of the population. Additional parking, ADA compliant vault toilets, and the improved boat ramp proposed in the Preferred Alternative will improve the health and safety conditions at the site, benefiting any visitor to the Cove, regardless of race or income. The Preferred Alternative will not cause disproportionately high adverse impacts to the local minority or low-income populations. No site fee is anticipated at this time. If a fee is required in the future to pay for site maintenance, it is likely that the fee will be \$3 per vehicle, which is the typical day use fee in OPRD managed recreation sites.

3.10 Indian Trust Assets

Indian trust assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Hunting, fishing, and water rights are just a few examples of trust assets. The Bureau of Reclamation is required to take all reasonable and necessary actions to protect trust assets. On April 19th, 2006, OPRD sponsored a site visit to Powder House Cove with members of the Confederated Tribes of Warm Springs of Oregon (CTWSRO) Culture and Heritage Committee.

3.10.1 Affected Environment

The April 19th 2006 field trip with the CTWSRO Culture and Heritage Committee revealed that there were several resources traditionally used by the Tribes at the Cove, but nothing that fell into the category of a trust asset. Tribal elders discussed use of western juniper, willow, bitterroot and Canby's desert parsley, but there were no indications that the proposed project area at the Cove was used as a traditional root camp (Claeyssens, May 2006).

3.10.2 Environmental Consequences

No Action Alternative

Indian trust assets would not be affected by the No Action Alternative, as there are no identified trust assets in the Cove area.

Preferred Alternative

Indian trust assets would not be affected by the Preferred Alternative, as there are no identified trust assets in the Cove area.

3.11 Indian Sacred Sites

An Indian sacred site is defined in Executive Order 13007 as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion."

Reclamation is required to seek to avoid damage to sacred sites and to consult with Tribal members about actions that may impact them.

3.11.1 Affected Environment

The April 19th 2006 field trip to Powder House Cove involving the CTWSRO Culture and Heritage Committee did not indicate that any Indian sacred sites were present in the vicinity of the proposed project area (Claeyssens, May 2006).

3.11.2 Environmental Consequences

No Action Alternative

There will be no impacts to Indian sacred sites if the No Action Alternative is implemented, as no sacred sites have been identified in the Powder House Cove vicinity.

Preferred Alternative

There will be no impacts to Indian sacred sites if the Preferred Alternative is implemented, as no sacred sites have been identified in the Powder House Cove vicinity.

3.12 Historic Properties

The term “historic property” is defined in the National Historic Preservation Act as “any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion on the National Register.” The term “historic properties” includes traditional cultural properties. Historic properties are also sometimes referred to as “cultural resources.”

3.12.1 Affected Environment

Archeological surveys of the proposed Powder House Cove project area have been completed and no sites have been found. However, a building and associated feature were documented immediately outside of the direct impact area for construction. No traditional cultural properties were identified during the previously mentioned April 19th, 2006, field trip to the location with the CTWSRO Culture and Heritage Committee (Claeyssens, June 2006).

Three overlapping archeological surveys have occurred within the project area. Eastern Washington University (EWU) conducted a survey in 1998 of the western and central portions of the project area and discovered three isolated finds (Regan and Crisson, 1998). “Isolated finds” are archeological material items found in too sparse of a density to meet the definition of an archeological “site”; a “site” consists of either a significant feature or 10 or more artifacts in a concentrated area. EWU identified two isolated finds in an ephemeral drainage and a third near the reservoir’s edge. In 2003 Heritage Research Associates (Heritage) surveyed the eastern portion of the project area and found no archeological materials, but they recorded a stone structure discussed further below (Oetting, 2003). Then, in 2006, Paul Claeyssens with the Deschutes and Ochoco National Forests assisted Reclamation by surveying the access road

alignment and revisiting the remainder of the development area. As a result of his supplemental archeological survey, two additional isolated finds were noted in the draw down zone. Claeysens concluded that it is likely that the isolated finds found in the project area were originally located upland and have moved downward towards the reservoir with surface run-off and soil erosion (Claeyssens, June 2006).

As indicated above, an on-site meeting occurred on April 19th with the CTWSRO Culture and Heritage Committee; Claeysens represented Reclamation, and OPRD facilitated the meeting. The objective of the meeting was to determine if sites or resources of traditional or religious significance to the Tribes were present. Culture and Heritage Committee members indicated that the general Prineville Reservoir area was a root digging area, but they didn't indicate that the project area was a root digging or food collection area. Following that meeting, using information about traditionally important plants provided by the Culture and Heritage Committee, Claeysens completed a plant survey of the project area. He noted individual specimens and small populations of some cultural/traditional-use plants, but no materials that would indicate the area served as a digging or food collection area.

In 2003 Heritage recorded a stone structure near the project area that is believed to be the powder house built by Reclamation in association with construction of Bowman Dam (Photograph 10). Then in 2006, Claeysens recorded a small stone feature approximately 50 feet to the east of the powder house (Photograph 11). He believes it was likely the storage site for blasting caps; for safety reasons, blasting powder and caps were always stored separately.

Section 106 consultation with the Oregon State Historic Preservation Office (SHPO) regarding the sufficiency of archeological investigations and treatment of the powder house was initiated on June 21st, 2006. SHPO responded in a letter dated August 25th, 2006, concurring with the determination that the powder house is eligible as part of a potential Bowman Dam Historic District (Appendix A).



Photograph 10. Stone structure, believed to be the powder house.



Photograph 11. Separate small structure, possibly for storing blasting caps.

3.12.2 Environmental Consequences

No Action Alternative

If the No Action Alternative is implemented, there should be no change in any existing effects that may be occurring to the powder house.

Preferred Alternative

If the Preferred Alternative is implemented, Reclamation determined that no effect would occur to archeological or traditional cultural sites, as none are present in or near the project area. The small populations of cultural/traditional use plants will likely be damaged or destroyed by the development or subsequent use. Construction would not directly impact the powder house. However, it is likely that visitation will significantly increase. This could have an adverse impact if people climb on walls or remove materials, and there is an increased chance of deliberate vandalism. In letters dated August 24th and 25th, 2006, the SHPO concurred that the Powder House Cove expansion would have no effect on historic properties of an archeological nature, and would have no adverse effect on the powder house and associated feature.

3.12.3 Mitigation

In advance of construction, OPRD will further document the existing condition of the structure as a baseline to detect if visitor use is causing degradation from the baseline condition. Following construction, the condition of the structure will be assessed by OPRD no less than twice a year to determine if increased public use is causing damage. If damage is occurring, Reclamation, OPRD and SHPO will assess actions to address the source of damage or mitigate for it.

Construction specifications will require avoidance of impacts to the structure and associated feature, and assurance that contractor employees will not alter or use the structure. Construction specifications will also include a stipulation dealing with inadvertent discovery of archeological materials or human burials. If any such materials or remains are discovered, construction activity will immediately halt in the vicinity of the find and the discovery will be examined by an archeologist. Construction will not recommence in those locations until consultations and treatment actions are completed consistent with 36 CFR 800 for archeological discoveries, or with 43 CFR 10 for discoveries of human remains of Native American origin.

As part of the first phase of development, OPRD plans to construct a short hiking trail to the powder house and install interpretive signage. At a minimum the interpretation would address the powder house and its role in dam construction. A low fence of a type appropriate to the setting will be installed as part of construction. The SHPO supported incorporation of the powder house into the overall design of the visitor use area, along with its interpretation for the public.

After the facility is in public use, regular monitoring of the powder house will occur with the presence of OPRD rangers and an on-site camp host. If vandalism is discovered, it is OPRD

policy that OPRD and Reclamation archeologists will be informed immediately of the damage, and an appropriate response can be implemented.

3.13 Cumulative Impacts

A cumulative impact is identified by the Council on Environmental Quality (CEQ) as an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time”(CEQ 40 CFR part 1508.7).

3.13.1 Preferred Alternative

Reclamation and OPRD worked together on an EA to assess the impacts of three different management strategies at Prineville Reservoir. Each strategy included a discussion of which areas of the reservoir would be further developed, which areas would be preserved for ecological value, and the cumulative impact of all proposed actions at the reservoir. The outcome of this planning process was a single management plan for Prineville Reservoir that identified the expansion of Powder House Cove as part of its strategy for the next 10 years and beyond. Reclamation determined that the chosen management strategy (the Resource Management Plan) would not have a significant impact to the natural or social environment (RMP FEA, June 2003). The finding of no significant impact supports the conclusion that the Powder House Cove Expansion will not have a significant cumulative impact at Prineville Reservoir.

CHAPTER 4

List of Preparers

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Prineville, Oregon

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CHAPTER 5

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CHAPTER 6

Environmental Commitments

I. Operation and Maintenance

- Powder House Cove will continue to be managed for day use, and a gate will be installed at the entrance. The gate will be closed at night. It is anticipated that OPRD will have a volunteer camp host on-site during peak summer months. The site will be open from May 31st to September 30th each year.
- As stated in the RMP, OPRD and Reclamation will work with appropriate agencies to eliminate parking on Highway 27 once alternative parking is provided.
- OPRD will install sign(s) in the Powder House Cove recreation site requiring all vehicles to remain on designated roadways.

II. Vegetation

- To the maximum extent practicable, all existing trees, shrubs, and other naturally occurring vegetation will be preserved and protected from construction operations and equipment (RMP, August 2003).
- Cut slopes, where practicable, shall be designed at an angle that is conducive to revegetation (RMP, August 2003).
- Disturbed areas resulting from construction will be aggressively revegetated (RMP, August 2003).
- Construction and post-construction activities will comply with the guidelines set forth in Reclamation's Integrated Pest Management Plan.
- An important location for revegetation is the existing boat ramp and associated parking area. These areas will be revegetated as part of the Preferred Alternative.

III. Biological Soil Crusts

- See Vegetation section (Part I above).

IV. Visual Resources

- Developed facilities will complement and be subservient with the surrounding landscape wherever possible (RMP, August 2003).
- Vegetation planted between the shoreline and the boat launch parking lot will serve to screen views of the parking lot from the reservoir.
- Islands within the boat trailer parking lot will contain native plantings, including trees.
- The construction of the access road leading from the day use area to the proposed boat launch and parking area will parallel existing contours. This alignment will minimize the cut and fill necessary for construction as well as reduce the visibility of the road from the reservoir.
- Any retaining walls built as part of this project will be constructed to complement and blend in with the surrounding landscape.
- If lighting is provided as part of the project, it can be placed on a timer to shut off after most boaters have returned to shore (e.g. after 10:00 pm).

V. Nesting Birds

- Tree and shrub clearing will occur after October 15th of 2006, and should be completed before March 15th 2007, minimizing the chance of impacting active nests. If tree and shrub clearing is delayed, and is scheduled to occur between March 15th and August 1st, the area will be surveyed by OPRD for active nests before clearing can occur. If active nests are found, communication with the Oregon Department of Fish and Wildlife and OPRD natural resource personnel will outline appropriate steps.
- If construction continues into the 2007 nesting season, all attempts by OPRD will be made to monitor raptor nests in the surrounding area, and construction activities will be adjusted as necessary.

VI. Floodplains

- Recreation facilities located between surcharge elevations 3235 and 3238 feet will be constructed to withstand short-term inundation.
- All major facilities (i.e. restrooms) will be located above elevation 3240 feet to minimize flood potential.

VII. Hydrology and Water Quality

- Runoff from the roads and parking areas will be routed to vegetated swales and detention basins for treatment. Swales and detention basins will be sized to achieve 85% to 90% treatment levels (Jones, 2006).
- During construction of all proposed project components, turbidity will be controlled by implementing Reclamation's erosion control Best Management Practices (BMPs). Possible measures include silt fencing and hay bales.
- The ramp construction will be conducted during the low water period and will use erosion control BMPs to minimize introduction of sediment and construction material into the water of the reservoir.
- Rip-rap will be placed along the shoulders of the road where it crosses the ephemeral drainage to reduce erosion from sheet flow over the road during events larger than 25-year flood events.

VIII. Historic Properties

- In advance of construction, OPRD will further document the existing condition of the structure as a baseline to detect if visitor use is causing degradation from the baseline condition. The condition of the structure will be assessed by OPRD no less than twice a year to determine if increased public use is causing damage. If damage is occurring, Reclamation, OPRD and SHPO will assess actions to address the source of damage or mitigate for it.
- Construction specifications will require avoidance of impacts to the structure and associated feature, and assurance that contractor employees will not alter or use the structure. Construction specifications will also include a stipulation dealing with inadvertent discovery of archeological materials or human burials. If any such materials or remains are discovered, construction activity will immediately halt in the vicinity of the find and the discovery will be examined by an archeologist.

Construction will not recommence in those locations until consultations and treatment actions are completed consistent with 36 CFR 800 for archeological discoveries, or with 43 CFR 10 for discoveries of human remains of Native American origin.

- As part of the first phase of development, OPRD plans to construct a short hiking trail to the powder house and install interpretive signage. At a minimum the interpretation would address the powder house and its role in dam construction. A low fence of a type appropriate to the setting will be installed as part of construction. The SHPO supported incorporation of the powder house into the overall project design, along with its interpretation for the public.
- Regular monitoring of the powder house will occur with the presence of OPRD rangers and an on-site camp host. If vandalism is discovered, it is OPRD policy that OPRD and Reclamation archeologists will be informed immediately of the damage, and an appropriate response can be implemented.

CHAPTER 7

Changes to Draft EA and Response to Comments

Changes made to the Draft EA in order to clarify the Preferred Alternative or to give updates on changes

➤ **Section 2.2 Preferred Alternative**

Expansion of existing day use parking and new parking area at proposed boat launch:

- Total parking spaces in Powder House Cove not to exceed 168
 - 120 truck and trailer parking spaces at the proposed boat launch area (approximately 100 built initially; the remainder built only if needed in the future)
 - 48 car spaces to be divided between the existing day use parking area and the proposed boat launch parking area

➤ **Section 2.2.3 Operations and Maintenance**

- Powder House Cove will continue to be managed for day use and a gate will be installed at the entrance. The Cove will be seasonally open, from May 31st to September 30th. It is anticipated that a volunteer camp host will live on-site during peak summer months.
- As stated in the RMP, OPRD and Reclamation will work with appropriate agencies to eliminate parking on Highway 27 once alternative parking is provided.
- OPRD will install sign(s) in the Powder House Cove recreation site requiring all vehicles to remain on designated roadways.

➤ **Figure 2**

- Figure 2 has been updated to reflect the decrease in parking spaces.

➤ **Section 3.9.2 Socioeconomics and Environmental Justice**

- No site fee is anticipated at this time. If a fee is required in the future to pay for site maintenance, it is likely that the fee will be \$3 per vehicle, which is the typical day use fee in OPRD managed recreation sites.

Changes made to the Draft EA based on comments on the Draft EA and Reclamation's responses

Comments were received from the FWS, Oregon Department of Fish and Wildlife, Crook County Historical Society and the Bureau of Land Management. What follows are letters from each commenter and Reclamation's response. The only formal written response was made to FWS; the rest of the responses are made in this chapter and changes made accordingly to the EA.

August 11, 2006

From: Crook County Historical Society
246 N. Main Street
Prineville, OR 97754

To: Ms. Tanya Sommer
Natural Resource Specialist

Re: Power House Cove Expansion

Dear Ms. Sommer

The Crook County Historical Society and the staff of the Bowman Museum have some concerns about the Preferred Alternative of an expanded parking lot at Powder House Cove at Prineville Reservoir. The Preferred Alternative indicates that visitation will likely increase significantly at the site of the old Powder House used for explosive storage during construction of Bowman Dam. Although the structure is not quite 50 years old and not officially eligible for a historic structure it is of significant historical interest to the residents of Crook County. It is stated that in the future a trail and interpretive sign would be installed. Our experience with increased uncontrolled visitation at historic sites results in increased damage and vandalism and waiting until a future date to initiate protective measures may be too late. We suggest that as part of the construction process that a barrier such as a fence be placed around the structure to protect it from a significant increase in visitation that might result in damage or vandalism. Immediate signing may also offset some potential damage or vandalism.

The Powder House has had unrestricted visitor use in the past but adding a significant opportunity for more visitors by the close proximity of a major parking area could lead to an unacceptable adverse impact to the historical resource. No mention was made in your analysis of patrolling of the site or immediate mitigating measures if vandalism or damage does increase, only that it would be monitored twice yearly.

The Historical Society is not opposed to the construction of the parking area but we are interested in preserving the historical structure of the Powder House adjacent to the proposed expanded parking site. Too often historical sites are damaged or destroyed and lost to future generations. We hope efforts will be made this time so a loss does not occur.

Thank you for the opportunity to share our concerns.

Sincerely,
Gordon Gillespie
Executive Director

Steve Lent,
Museum Assistant Director

Response to Crook County Historical Society

1. Your concern is noted, and the short trail to the powder house, interpretive signs, and an appropriate fence for the site will all be installed as part of the construction process. Change made to section 3.12.3.
2. Information has been added to the Powder House Cove Expansion EA in order to clarify the proposed project. A volunteer camp host is anticipated to be on-site during peak summer months and a gate will be installed to close the site at night and during the winter. These actions will help avert some of the potential damage to the powder house. In regard to immediate response to vandalism, OPRD has a policy in place to immediately notify OPRD and Reclamation archeologists if damage has occurred. There are OPRD rangers that regularly patrol the recreational sites at Prineville Reservoir. Once notified, the archeologists will be able to address the specific incident in the most appropriate manner. Changes made to sections 2.2.3 and 3.12.3.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Bend Field Office
20310 Empire Ave. Suite A-100
Bend, Oregon 97701
Phone: (541) 383-7146 Fax: (541) 383-7638

Reply To: 7275.004 (06)
File Name: BOR Pville Res PowderHouseCove.doc
Tracking Numbers: 06-2428

August 10, 2006

Memorandum

To: Natural Resource Specialist, Bureau of Reclamation, Pacific Northwest Region,
Portland, Oregon
Attn: Tanya Sommer

From: Field Supervisor, Bend Field Office, Bend, Oregon *Nancy Gilbert*

Subject: Comments on the Powder House Cove Expansion Draft Environmental
Assessment

The Fish and Wildlife Service Bend Field Office (Service) has reviewed your Powder House Cove Expansion Draft Environmental Assessment (EA) dated July 2006. The draft EA analyzes the effects of a No Action and Preferred Alternative concerning visitor use at Powder House Cove (Cove) that exceeds the capacity of site facilities located on the southwest shore of Prineville Reservoir in Crook County.

The Service recognizes the significant efforts made by the Bureau of Reclamation (BOR) and Oregon Parks and Recreation Department (OPRD) to address over-crowded, unsafe conditions, and environmental degradation along the shoreline. The Preferred Alternative focuses on formalizing camping and water access, particularly on the south shore of the reservoir, to reduce the continued widespread disturbance of vegetation by dispersed camping and an informal road network. The Preferred Alternative expands the parking area from the existing 20 spaces to a maximum of 120 truck and trailer spaces and 65 car spaces. The final footprint of this alternative is approximately five acres, 0.5 acres of which will cover already developed areas. Expansion of the existing day use parking area and trailhead has also been proposed. We offer the following comments and recommendations to assist the BOR in completing this analysis.

Of particular concern to the Service are the direct, indirect, and cumulative impacts to the bald eagle (*Haliaeetus leucocephalus*), and other wildlife and their habitat resulting from recreation use of the facilities and potential off road vehicle access to adjacent BLM lands.

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From 2002 – 2005, the Alkali Flat bald eagle pair utilized the entire Prineville Reservoir (river mile 71 – 89) as their exclusive territory (BOR 2005). The bald eagle pair was never observed perching or fishing along the shoreline below the nest snag due to human activity (BOR 2005), which indicates a direct adverse effect. Due to the death of the female bald eagle in 2006, additional bald eagle nest territories have a greater potential of being established along the Prineville Reservoir (Gary Clowers, personal communication). The Service concurs with your acknowledgement that the Preferred Alternative could raise the visitation levels at the Cove and further disrupt wildlife. However, the draft EA fails to adequately address expected increased use of the reservoir and surrounding area by visitors and potential increased harassment of eagles either at the nest or while feeding.

Private land surrounding Prineville Reservoir is being developed, which can potentially remove nest trees, roost trees, and perch trees, and can generally increase use of the reservoir and surrounding areas. Increased recreational activities and residential uses adjacent to the reservoir is likely to result in additional disturbance of bald eagles.

It is generally recognized that wildlife habitat within Bureau of Land Management (BLM) administered lands continue to be degraded in some areas as a result of adjacent recreational and urban development (e.g., increased recreational motorized activities within winter range). Cumulatively, the factors present a challenging dilemma to resource managers. Our ability to restore and support healthy ecosystems in conjunction with vegetation and wildlife habitat needs, while managing for expected increases in human population and use levels will become more difficult over time. The BOR should re-examine the project to determine whether it may affect the bald eagle. If the possibility of an effect cannot be eliminated, the BOR is required to initiate consultation with the Service pursuant to section 7 of the Endangered Species Act.

The Service is also concerned that the proposed expansion of the facilities will exacerbate habitat degradation from off road vehicle use and user created trails within BOR and adjacent BLM administered lands. For example, as presently proposed the Preferred Alternative's expanded day use parking area and trailhead can increase motorized access to BLM administered lands currently designated as "Non-Motorized Recreation Exclusive" (USDI 2005).

Specific Comments

The Service offers the following specific information and recommendations to assist you in planning for fish and wildlife and their habitats. We encourage the BOR to incorporate the following in the design of the proposed project to minimize or avoid adverse effects.

1. The Service recommends that the BOR fully evaluate current and proposed levels of wildlife disturbance, wildlife trends, and cumulative effects of all activities within the Prineville Reservoir area.
2. Clearly define the resource management goals and objectives for the proposed day use parking area and trailhead, and determine its consistency with the BLM's Upper

Deschutes Resource Management Plan particularly motorized access to BLM administered lands.

3. Analyze and determine the maximum number of visitors that would be allowed at the Cove while still maintaining bald eagle and other wildlife habitat viability for the long-term.
4. Develop an interagency management plan to conserve the North Alkali Flat bald eagle nest from short and long-term and cumulative effects resulting from anthropogenic disturbances.
5. Continue support to the current interagency effort to survey for bald eagles in Oregon.

We appreciate the opportunity to comment on the draft EA. We would like to work with BOR to further protect and enhance fish and wildlife species and their habitat within BOR administered lands. If we can be of any assistance, or if you have any questions regarding these comments, please contact me or Jerry Cordova at (541) 383-7146.

cc: Brian Ferry, ODFW, Prineville, OR
Jan Hanf, BLM, Prineville, OR

References

U.S. Department of the Interior. September 2005. Upper Deschutes Record of Decision and Resource Management Plan. 256 p.

U.S. Department of the Interior. 2005. BOR Prineville Reservoir Wildlife Study Final Report. 46 p.

Clowers, Gary. 2006. Personal communication. Raven Research West.



IN REPLY
REFER TO
LCA-6502
ENV-6.00

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
1201 NE Lloyd Boulevard, Suite 750
Portland, Oregon 97232



SEP 12 2006

MEMORANDUM

To: Field Supervisor, U.S. Fish and Wildlife Service, 20310 Empire Avenue, Suite A100,
Bend, Oregon 97701
Attn: Nancy Gilbert

From: Ronald J. Eggers /s/ RONALD J. EGGERS
Area Manager

Subject: Comments on the Powder House Cove Expansion Draft Environmental Assessment

The Bureau of Reclamation has reviewed the comments provided by the U.S. Fish and Wildlife Service, Bend Field Office (Service) on the Powder House Cove Expansion Draft Environmental Assessment (Draft EA). Thank you for taking the time to review and comment on the Draft EA. We are responding to the Service with additional details that were not in the Draft EA, which clarify future management actions at Powder House Cove, and to the five specific comments in your memorandum of August 10, 2006.

Both construction activity and future recreation use of the site were considered for possible effects to bald eagles at Prineville Reservoir. Several factors led Reclamation and Oregon Parks and Recreation Department (OPRD) to determine that the expansion of the Powder House Cove facilities would have no effect to bald eagles. Powder House Cove is just under 2 miles (in a direct line) from the outer edge of the closest 0.5 mile nest buffer. A small fraction of the nest buffer extends over the actual reservoir waters and the expanded parking lot is not in the line of site of the nest. Perching is common in the upper end of the reservoir and winter roosting occurs on the Crooked River upstream of the reservoir.

In addition to distance, the timing of construction and of future public use were taken into account. From the standpoint of construction, the parking lot can be expanded almost any time of the year but building the boat ramp must be done in the fall after summer irrigation has drawn the reservoir down. After, or during boat ramp construction, the parking lot work can occur. Reclamation made a commitment in the Draft EA to monitor raptor nests in the vicinity of Powder House Cove if construction continues into the nesting season. The death of the female eagle that has used the Alkali Flat nest will certainly mean changes for eagle breeding at Prineville Reservoir. Additional nest territories may be established due to the loss of the female as noted by the Service; however, the reservoir overall has few suitable nest trees. That, and proximity to the Alkali Flat nest territory, make it unlikely that a new nest would be located near

Powder House Cove. Better sites at the reservoir are mainly located upstream of Powder House Cove. The change in the breeding pair presents an unexpected advantage to constructing the project this fall and winter because it is not likely for a new pair to establish and breed successfully in the first year. Under the circumstances, the possibility of impacting breeding success is substantially lowered.

The potential for increased public use of the site to disturb the Alkali Flat nest after the proposed expansion project is limited on the earlier end of the breeding season because the parking lot will be closed to vehicle access by a locked gate from October 1 until May 30 annually. This detail was inadvertently omitted in the Draft EA but has been part of the intended management plan for the expanded site. As the site is currently managed there is no seasonal closure of the site.

Current visitation to Powder House Cove is already high. A traffic count showed 2,500 vehicles entering and leaving Powder House Cove in July of 2005, which is an average of 83 vehicles per day. It is reasonable to assume that visitation on the weekends is higher, and that total vehicles may exceed 100 during summer weekend days. These vehicles currently use the limited parking spaces at the Cove and overflow parking occurs dangerously on the shoulders of Highway 27. The Draft EA listed a total of 205 parking spaces but the Final EA will reduce that number to a maximum of 168. It is likely that there will be an increase in visitation to Powder House Cove due to the facility improvements but there will be a limit on the number of vehicles able to access the site. Once adequate parking is provided, Reclamation and OPRD are committed to working with appropriate state and local agencies to eliminate parking on Highway 27. This commitment was made in the Final Environmental Assessment for the Prineville Reservoir Resource Management Plan (RMP). This was not re-stated in the Powder House Cove Expansion Draft EA, but will be stated in the Final EA.

The Service's comment regarding the lack of bald eagle use of the shoreline below the Alkali Flat nest is likely due to the floating restroom positioned in the reservoir outside of the 0.5 mile buffer zone around the nest site. The restroom has been temporarily removed from the reservoir and new locations away from the bald eagle nest territory are being considered. The State Marine Board and OPRD have selected the alternate sites based on location criteria for the safe operation of the restroom. Reclamation and OPRD would like to discuss these potential locations with the Service and ask for input for the selection decision.

The finding that cumulative impacts of this project are not likely to adversely affect bald eagles was made in the informal consultation on the Prineville Reservoir RMP. During the RMP development process, the Service concurred that the implementation of the RMP may affect, but is not likely to adversely affect, bald eagles. This concurrence was supported by Reclamation's commitment to implement four different management actions reducing human conflicts with bald eagles. The implementation of those actions has been ongoing since the RMP was developed and include Reclamation's Prineville Reservoir Wildlife Study Final Report 2005 (Gary Clowers) along with a Wildlife and Habitat Management Plan that is in draft.

The following are Reclamation's responses to the five specific comments and recommendations provided by the Service:

1. The Service recommends that the BOR fully evaluate current and proposed levels of wildlife disturbance, wildlife trends, and cumulative effects of all activities within the Prineville Reservoir area.

As stated above, this work was already a commitment in the Final EA for the Prineville Reservoir RMP, based in part on informal consultation with USFWS. This process is ongoing and includes the Prineville Reservoir Wildlife Study Final Report 2005 and Wildlife and Habitat Management Plan (near completion).

2. Clearly define the resource management goals and objectives for the proposed day use parking area and trailhead, and determine its consistency with the BLM's Upper Deschutes Resource Management Plan particularly motorized access to BLM administered lands.

We apologize for the confusion over the intended use of the day use parking and trailhead, and will clarify the issue in the Final EA. Powder House Cove will not be managed for off road vehicle use and was never intended to be. The trailhead is intended for hikers. The Final EA will commit OPRD to install signs that prohibit off road vehicle use from anywhere in Powder House Cove. The Prineville Reservoir RMP describes the proposed trail as "non-motorized" (pg. 5-21) and Reclamation and OPRD are committed to implementing that goal. The RMP also has a reservoir-wide access goal to "improve enforcement of 'Off Highway Vehicle Regulations' for all areas not designated as roads or open areas including reservoir drawdown zone and unplanned roads" (RMP, pg 5-19). The site will be closed to all vehicles from October 1 through May 30 annually by a locked gate.

3. Analyze and determine the maximum number of visitors that would be allowed at the Cove while still maintaining bald eagle and other wildlife habitat viability for the long term.

A limit has been set for this site by the limitation of parking spaces and parking on the highway will no longer be tolerated.

4. Develop an interagency management plan to conserve the North Alkali Flat bald eagle nest from short and long-term and cumulative effects resulting from anthropogenic disturbances.

As the Alkali Flat nest is located on BLM land, their involvement is necessary. Reclamation continues to implement its RMP commitments including coordinating with BLM on a nest management plan.

5. Continue to support to the current interagency effort to survey for bald eagles in Oregon.

Reclamation and OPRD are both committed to supporting this effort.

Thank you for the opportunity to clarify and provide additional project details for the Service. Our determination was based on the information summarized above. The location, timing, parking space reduction, and seasonal closure of the site, are elements of the project that lead to the determination of No Effect to bald eagles. A new site for the floating restroom used by boaters over the entire reservoir can further reduce disturbance to bald eagles, especially during the breeding season. Reclamation continues to honor its commitments made in the RMP by working towards a bald eagle nest management plan with the BLM, conducting monitoring, and adaptively managing Prineville Reservoir with our managing partners. We would welcome the opportunity to discuss this project and a new location for the floating restroom, and will contact you to arrange a mutually convenient time.

cc: Ms. Letha Sanderson
Oregon Parks and Recreation Department
1645 NE Forbes Road, Suite 112
Bend, OR 97701

bc: LCA-6500, LCA-1003 (Admin. Records)
BFO-3000

WBR:TSommer;rvaughn:9/07/06:503-872-2846
h:\users\rvaughn\w\USF&WS\Response to Comments~Powder House Cove Expansion-Draft EA

August 11, 2006

Tanya Sommers
Bureau of Reclamation
1201 NE Lloyd Blvd.
Portland, OR 97232

Dear Tonya

In response to your Powder House Cove Expansion Draft Environmental Assessment, Oregon Department of Fish and Wildlife (ODFW) would like to submit the following comments.

ODFW feels that the preferred alternative will have the least negative impact on the surrounding natural resources, and we will support that alternative. We also encourage strict control of construction site activities to minimize off site damage or the introduction of noxious weed species by increased activity in the area.

The site is located in winter deer range and in near proximity to critical winter deer range as well as known sensitive raptor nesting areas. We have concerns that the new expansion area will become a staging area for recreational activities which could threaten both wintering deer and nesting sites. This would include motorized uses, such as off road vehicle usage; (ATV's and motorcycles); and non motorized uses (hiking, mountain biking, equestrian users, etc). There is no mention in the EA of the BOR or Oregon Department of Park and Recreation monitoring and controlling these activities. An informational effort, as well as control measures up to and including law enforcement will need to be implemented as part of this expansion to maintain control of and minimize negative impacts to the surrounding areas.

Thank you for your consideration and the opportunity to provide these comments.

Gary Soules
Assistant District Habitat Biologist

Cc: C.Kunkel, G.Ardt, B.Ferry

Response to Oregon Department of Fish and Wildlife

Most of the concerns raised in the letter from Oregon Department of Fish and Wildlife are addressed in the response to the FWS, noted earlier in this chapter. The following point is made to complement the response given to the FWS:

1. We have concerns that the new expansion area will become a staging area for recreational activities which could threaten both wintering deer and nesting sites.

Response: The site will be closed in the winter, minimizing harm to wintering deer and their habitat (change made to section 2.2.3). The day use trail covered in this EA only extends to the powder house. In the future, a hiking trail may extend further south of the Powder House Cove, and will not travel towards raptor nesting areas. A hiking trail beyond the immediate Powder House Cove area is out of the scope of this EA and will be covered by a future NEPA document if managers decide to pursue an extended hiking trail.

Tanya Sommer, Natural Resource Specialist
Bureau of Reclamation - Lower Columbia Area Office
1201 NE Lloyd Blvd.
Suite 750
Portland, OR 97232
503-872-2846
tsommer@pn.usbr.gov

>>> <John_Swanson@blm.gov> 7/28/2006 5:01:46 PM >>>

Hi Tanya.

The EA implies (in Table 1, p. 12) thru its tagging of western juniper "associations" that juniper domination is "natural" in the Powder House Cove landscape setting. Also on page 12, it indicates that under the No Action alternative, "vegetation will stay generally the same". On page 13, it indicates that invasive weeds constitute the largest associated threat to the Reservoir's natural environment. On page 21, the EA says that: "Upstream logging, grazing and road building have contributed to turbidity in the reservoir, along with erosion at the reservoir shoreline".

Attached is a copy of an approved (in 2003) BLM Rangeland Health Assessment for the Dunham North Allotment area. Powder House Cove is located within this general assessment area. The reason we are doing assessment work on BOR-admin'd land is that the BOR/BLM MOU specifies BLM as being responsible for livestock grazing management here.

As with the several other assessments completed within the "Prineville Reservoir bowl", this one was prepared by an Interdisciplinary Team. Team members include those with substantive education, skills, and experience in fields ranging from physical edaphology to wildlife biology; from hillslope and riparian hydrology to plant autecology & veg community synecology. Of course, these are on-the-ground field assessments. They are not based on office record and literature reviews (altho these do become supporting instruments).

If you do a read of the enclosed, you might see some information which differs from that displayed in the Powder House Cove Draft EA. I can share with you the Rangeland Health Assessments from other Prineville Reservoir bowl areas...as well as from some of the upper watersheds surrounding them. They all pretty much say the same thing...in terms of wildlife habitat and soil/watershed risks and deterioration...and their significant causal (contributory) factors.

Thank you for the comment opportunity!

[P.S. I'd like to reinforce Claeysens' statement...on page 26 of the draft EA...."isolated finds found in the project area were originally located upland and have moved downward towards the reservoir with surface run-off and soil erosion". After thunderstorms, rain-on-snow, or rain-on-frozen soil events, I have often found fresh deposition of lithics in channel bottoms. Just

like with the soil and rocks, they're headed to the bottom of the Reservoir. Another lost resource].

(See attached file: Dunham North ROA.doc)

John Swanson
541-416-6726

Response to John Swanson (Bureau of Land Management)

John Swanson's comments focused on a desire for the Prineville Reservoir existing conditions description to acknowledge the overgrowth of western juniper and its associated impacts. Mr. Swanson provided the following reference materials:

- Dunham North Rangeland Health Assessment. BLM, 2003
- Bear Creek Watershed Management Plan. BLM, 1973
- Research Progress Report 2005: Eastern Oregon Agricultural Research Center, Burns. Oregon State University, 2006
- Biology, Ecology, and Management of Western Juniper. Oregon State University, 2005
- Two photographs: one from 1972 and the other in 1996. The photos showed the landscape before and after western juniper thinning in 1986. The 1996 photo displayed a more functional drainage.

Although the overgrowth of western juniper at Prineville Reservoir does not play a role in choosing an alternative in this EA, we felt it was good to incorporate Mr. Swanson's comments to more completely portray the existing conditions in the project area.

1. The EA implies (in Table 1, p. 12 [*now page 13*]) thru its tagging of western juniper "associations" that juniper domination is "natural" in the Powder House Cove landscape setting.

Response: The style of reporting western juniper associations in the Powder House Cove Expansion EA is consistent with the RMP. The intent of the botanist is not to imply that western juniper dominance is natural, but that it is part of the existing conditions at Powder House Cove. No change will be made to the table, but the following language was added just before Table 1 (section 3.2.1): "*Western juniper has become more prevalent around Prineville Reservoir since European settlement of the west, reaching densities of 100 trees per acre. Dense juniper coverage can lead to high percentages of bare soil coverage and poor sagebrush and grass cover (RMP, August 2003).*"

2. Also on page 12 [*now page 13*], it indicates that under the No Action alternative, "vegetation will stay generally the same".

Response: Change made (section 3.2.2): "*...vegetation at Powder House Cove will continue to experience pressure from human activity, invasive weeds and juniper domination.*"

3. On page 13 [*now page 14*], it indicates that invasive weeds constitute the largest associated threat to the Reservoir's natural environment.

Response: Mentioning juniper domination as an additional threat in the paragraph referenced above doesn't seem appropriate, as the discussion is regarding invasive weeds spreading during and after construction. However, the language was changed to state that invasive weeds constitute a large threat (not the largest) to the Reservoir's natural environment (section 3.2.2).

4. On page 21 [*now page 22*], the EA says that: "Upstream logging, grazing and road building have contributed to turbidity in the reservoir, along with erosion at the reservoir shoreline".

Response: The following language was added to section 3.8.1: *"The high density of juniper trees upland of the reservoir may also be contributing to the turbidity in the reservoir. High densities of juniper have been shown to increase the amount of bare ground between trees, thereby increasing the sediment load in storm water run off (OSU, 2006)."*

APPENDIX A

Agency and Tribal Coordination

- March 28th, 2006, OPRD's letter to FWS
- March 31st, 2006, FWS ESA species list and letter to OPRD
- May 26th, 2006, Correspondence with National Oceanic and Atmospheric Administration (NOAA) Fisheries regarding Essential Fish Habitat
- June 13th, 2006, OPRD's scoping letter to agencies and mailing list for letter
- June 21st, 2006, Reclamation's letter to SHPO
- August 24th, 2006, SHPO's concurrence with determination of no effect
- August 25th, 2006, SHPO's concurrence with eligibility of powder house as part of a potential Bowman Dam Historic District; no adverse effects
- Distribution list for the Powder House Cove Expansion Final EA



Oregon

Theodore R. Kulongoski, Governor

Parks and Recreation Department

Central Oregon

Area 5 Office

1645 NE Forbes Rd., Suite 112

Bend, OR 97701

(541) 388-6211

Fax: (541) 388-6391

March 28th, 2006

State Supervisor, U.S. Fish and Wildlife Service, Oregon State Office
2600 SE 98th Avenue, Suite 100
Portland, OR 97266

Attn: Kemper M. McMaster



Subject: Request for List of Threatened and Endangered Species under the Endangered Species Act for the proposed Powder House Cove Project, Prineville Reservoir, Crook County, Oregon

The Oregon Parks & Recreation Department (OPRD), in conjunction with the Bureau of Reclamation (BOR), is proposing improvements to the Powder House Cove recreational site on Prineville Reservoir in Central Oregon. The proposed project consists of additional parking capacity and changing the location of the existing boat launch. The number of visitors exceeds the current capacity of the single vault toilet and overflow parking commonly occurs on the shoulders of Highway 27. The proposed improvements are on Bureau of Reclamation lands located in Crook County, Oregon T17S, R16E, Section 11 S1/2 and Section 14 N1/2.

As part of OPRD and BOR's National Environmental Policy Act compliance procedure and as required by the Federal Endangered Species Act (ESA) of 1973, we are formally requesting information on any listed or proposed endangered and threatened species that may be present in the project area. We request that your species list cover the location listed above.

We would appreciate receiving the ESA species list at your earliest convenience. Please send your response and any other correspondence related to this project to me 1645 NE Forbes Rd, Suite 112, Bend OR 97701. If you have any questions regarding this project, please contact me at (541) 388-6073.

Sincerely,

Letha Sanderson

Natural Resource Specialist, Area 5, Central Oregon



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Oregon Fish and Wildlife Office
2600 SE 98th Avenue, Suite 100
Portland, Oregon 97266

Phone: (503)231-6179 FAX: (503)231-6195

Reply To: 8330.SP03(06)

March 31, 2006

Letha Sanderson
Oregon Parks and Recreation
1645 NE Forbes Rd., Suite 112
Bend, OR 97701

Subject: Powder House Cove Boat Launch and Parking Improvement Project
USFWS Reference # CC13FE43F6B6386988257142007FBBE7

Dear Ms. Letha Sanderson:

This is in response to your request, dated March 31, 2006, requesting information on listed and proposed endangered and threatened species that may be present within the area of the Powder House Cove Boat Launch and Parking Improvement Project in Crook County(s). The Fish and Wildlife Service (Service) received your correspondence on March 31, 2006.

We have attached a list (Enclosure A) of threatened and endangered species that may occur within the area of the Powder House Cove Boat Launch and Parking Improvement Project. The list fulfills the requirement of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). U.S. Bureau of Reclamation requirements under the Act are outlined in Enclosure B.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, the U.S. Bureau of Reclamation is required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) which are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA) (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species. Recommended contents of a Biological Assessment are described in Enclosure B, as well as 50 CFR 402.12.

If the U.S. Bureau of Reclamation determines, based on the Biological Assessment or evaluation, that threatened and endangered species and/or critical habitat may be affected by the project, the U.S. Bureau of Reclamation is required to consult with the Service following the requirements of 50 CFR 402 which implement the Act.

Enclosure A includes a list of candidate species under review for listing. The list reflects changes to the candidate species list published May 11, 2005, in the Federal Register (Vol. 69, No. 86, 24876) and the addition of "species of concern." Candidate species have no protection under the Act but are included for consideration as it is possible candidates could be listed prior

to project completion. Species of concern are those taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

If a proposed project may affect only candidate species or species of concern, the U.S. Bureau of Reclamation is not required to perform a Biological Assessment or evaluation or consult with the Service. However, the Service recommends minimizing impacts to these species to the extent possible in order to prevent potential future conflicts. Therefore, if early evaluation of the project indicates that it is likely to adversely impact a candidate species or species of concern, the U.S. Bureau of Reclamation may wish to request technical assistance from this office.

Your interest in endangered species is appreciated. The Service encourages the U.S. Bureau of Reclamation to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact Kevin Maurice at (503) 231-6179. All correspondence should include the above referenced file number. For questions regarding salmon and steelhead trout, please contact NOAA Fisheries Service, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232, (503) 230-5400.

For future species list requests, please visit our website (http://www.fws.gov/pacific/oregonfwo/EndSpp/EndSpp_SpLstReq.html) for instructions on how to make requests.

Enclosures

EnclosureA: Crook COUNTY.PDF

EnclosureB: EnclosureB_Federal_Agencies_Responsibilities.PDF

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES,
CANDIDATE SPECIES AND SPECIES OF CONCERN THAT MAY OCCUR
IN CROOK COUNTY

LISTED SPECIES^{1/}MammalsCanada lynx^{2/}*Lynx canadensis*

T

BirdsBald eagle^{3/}*Haliaeetus leucocephalus*

T

FishSteelhead (Middle Columbia River)^{4/}*Oncorhynchus mykiss*

**T

Bull trout (Columbia River pop.)^{7/}*Salvelinus confluentus*

CH T

PROPOSED SPECIES

None

CANDIDATE SPECIES^{4/}Amphibians and Reptiles

Columbia spotted frog

Rana luteiventris

Oregon spotted frog

*Rana pretiosa*BirdsYellow-billed cuckoo^{5/}*Coccyzus americanus*SPECIES OF CONCERNMammals

Pygmy rabbit

Brachylagus idahoensis

Pale western big-eared bat

Corynorhinus townsendii pallescens

California wolverine

Gulo gulo luteus

Silver-haired bat

Lasionycteris noctivagans

Small-footed myotis (bat)

Myotis ciliolabrum

Long-eared myotis (bat)

Myotis evotis

Fringed myotis (bat)

Myotis thysanodes

Long-legged myotis (bat)

Myotis volans

Yuma myotis (bat)

Myotis yumanensis

Preble's shrew

*Sorex preblei*Birds

Northern goshawk

Accipiter gentilis

Western burrowing owl

Athene cunicularia hypugea

Upland sandpiper

Bartramia longicauda

Ferruginous hawk

Buteo regalis

Greater sage grouse

Centrocercus urophasianus

Black tern

Chlidonias niger

Olive-sided flycatcher

Contopus cooperi borealis

Willow flycatcher

Empidonax traillii adastus

Yellow-breasted chat

Icteria virens

Lewis' woodpecker
Mountain quail
White-headed woodpecker

Melanerpes lewis
Oreortyx pictus
Picoides albolarvatus

Amphibians and Reptiles

Tailed frog

Ascaphus truei

Fish

Interior redband trout

Oncorhynchus mykiss gibbsi

Invertebrates

Cascades apatanian caddisfly

Apatania tavalala

Plants

Henderson ricegrass
Wallowa ricegrass
Estes' artemisia
Bastard kentrophyta
Upward-lobed moonwort
Crenulate grape-fern
Mountain grape-fern
Peck's mariposa-lily
Cusick's eriogonum
Ochoco lomatium
Disappearing monkeyflower
Little mousetail
Oregon semaphore grass
Howell's thelypodium

Achnatherum hendersonii
Achnatherum wallowaensis
Artemisia ludoviciana ssp. *estesii*
Astragalus tegetarioides
Botrychium ascendens
Botrychium crenulatum
Botrychium montanum
Calochortus longebarbatus var. *peckii*
Eriogonum cusickii
Lomatium ochocense
Mimulus evanescens
Myosurus minimus ssp. *apus* var. *sessiliflorus*
Pleuropogon oregonus
Thelypodium howellii ssp. *howellii*

(E) - Listed Endangered

(T) - Listed Threatened

(CH) - Critical Habitat has been designated for this species

(PE) - Proposed Endangered

(PT) - Proposed Threatened

(PCH) - Critical Habitat has been proposed for this species

(S) - Suspected

(D) - Documented

Species of Concern - Taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

^{1/} U. S. Department of Interior, Fish and Wildlife Service, October 31, 2000, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12

^{2/} Federal Register Vol. 65, No. 58, Mar 24, 2000, Final Rule-Canada lynx

^{3/} Federal Register Vol. 60, No. 133, July 12, 1995 - Final Rule - Bald Eagle

^{4/} Federal Register Vol. 69, No. 86, May 4, 2004, Notice of Review - Candidate or Proposed Animals and Plants

^{5/} Federal Register Vol. 66, No. 143, July 25, 2001, 12-Month Finding for a Petition To List the Yellow-billed Cuckoo

ENCLOSURE B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires: 1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or Threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects¹

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct an on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if any species are present and whether suitable habitat exists for either expanding existing populations or for potential reintroduction of species; (2) review literature and scientific data to determine species distribution(s), habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species present in terms of effects to individuals and populations, including consideration of cumulative effects to the species and habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not any listed species will be affected. Upon completion, the report should be forwarded to our Portland Office at 2600 SE 98th Ave., Suite 100, Portland, Oregon, 97266.

¹A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other than construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

Email correspondence with Spencer Hovekamp of NOAA regarding Essential Fish Habitat (EFH) at Prineville Reservoir:

From: "Spencer Hovekamp" <spencer.hovekamp@noaa.gov>
To: Jenny Severson <Jsse@deainc.com>
Date: 5/26/2006 8:40:15 A.M.
Subject: Re: EFH status, Prineville Reservoir Oregon

Hello Jenny. You are correct, the Crooked River upstream of Bowman Dam, including Prineville Reservoir, is not designated Essential Fish Habitat under the Magnuson-Stevens Act. No consultation with NMFS is necessary regarding your proposed action.

Spencer Hovekamp
Eastern Oregon Branch Chief
National Marine Fisheries Service

Jenny Severson wrote:

Hi Spencer,

Thank you for taking the time to chat with me yesterday; your help was greatly appreciated. This email summarizes our phone call of May 25, 2006.

Bowman Dam is located on the Crooked River of Central Oregon, and creates the Prineville Reservoir. Our project is at Powder House Cove, approximately 1/2 to 3/4 mile upstream of the Bowman Dam, on the south west shore of the Reservoir. The project entails boat ramp work during the reservoir drawdown period, along with new parking facilities and an access road upland of the Reservoir.

As per our conversation, it is my understanding that upstream of Bowman Dam is not considered Essential Fish Habitat, and that Bureau of Reclamation and Oregon Parks and Recreation Department will not need to consult with NOAA regarding Essential Fish Habitat for the proposed Powder House Cove project.

I look forward to your confirmation of this understanding, and thank you again for your time!

Jenny Severson
Environmental Planner
David Evans and Associates, Inc
709 Wall Street, Suite 102
Bend, OR 97701
541.389.7614

Notice of Powder House Cove Expansion Project

June 13, 2006

Larry Miller
OPRD/Area 5 Manager
1645 NE Forbes Rd, Suite 112
Bend, OR 97701

Oregon Parks & Recreation Department (OPRD) is working on an Environmental Assessment to address the impacts of expanding the Powder House Cove facilities at Prineville Reservoir. The Prineville Reservoir Resource Management Plan (RMP) has already identified the need for improvements at Powder House Cove, but in order to more directly assess the impacts of the proposed project, an Environmental Assessment (EA) will be completed. This memo is simply to notify you that OPRD and the Bureau of Reclamation plan on moving forward with the EA. OPRD welcomes any comments you may have regarding this project.

The preferred alternative consists of the following elements (as shown in the RMP):

- New boat launch east of the existing boat launch
- Realigned entrance
- New road from entrance to proposed boat launch and parking area
- New truck and trailer parking area at boat launch (120 spaces maximum)
- Demolition of existing boat ramp and related facilities
- Day use area and Trailhead facility
- Storm water conveyance facilities (swales)
- New vault toilets at proposed boat launch area

See the attached figure for the conceptual plan for the Powder House Cove expansion. Please note that details of the design may change based on environmental and engineering constraints, but this sketch illustrates the basic concepts of the preferred alternative.

Any concerns or comments can be sent to the following address:

Oregon Parks & Recreation Department
Attn: Letha Sanderson
1645 NE Forbes Rd., Suite 112
Bend, Oregon 97701

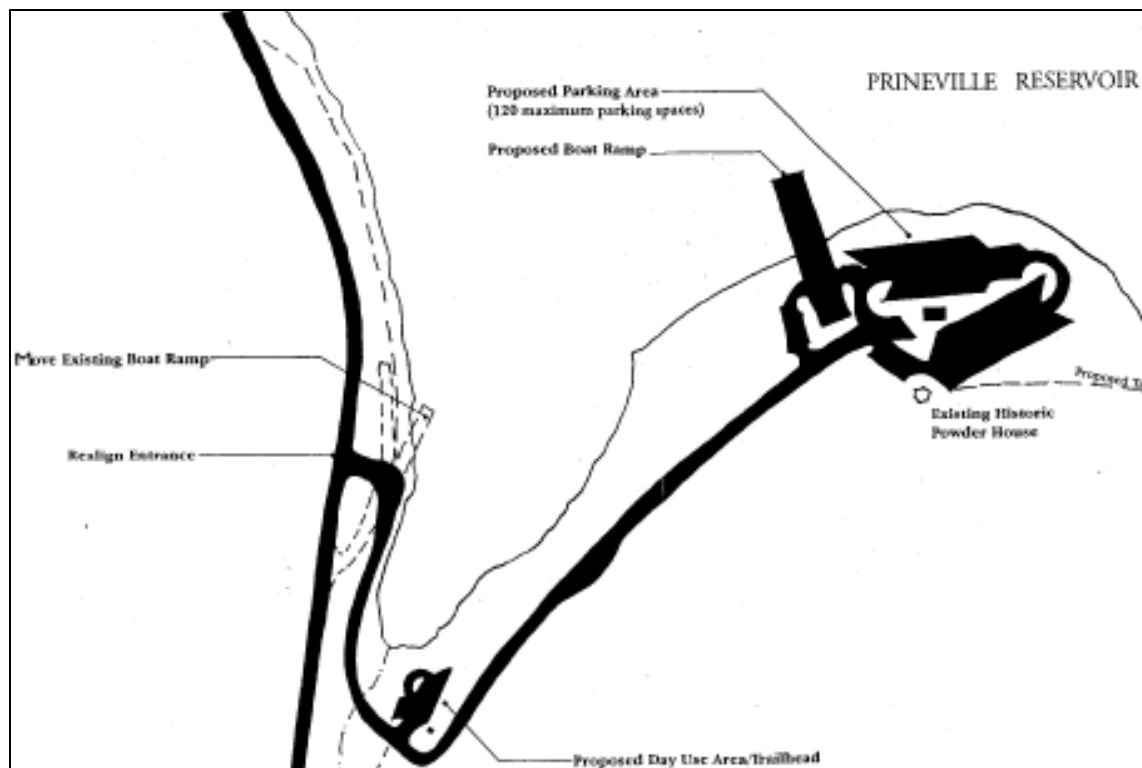
Once the Draft Environmental Assessment is completed there will be a formal 30 day comment period in which to respond. A copy will be forwarded to you for comments.

Sincerely,

Letha Sanderson
Program Coordinator

Attachment for Notice of Powder House Cove Expansion Project

Powder House Cove Expansion Conceptual Plan for Preferred Alternative



Recipients of Notice of Powder House Cove Expansion Project

Tanya Sommer

Bureau of Reclamation
1201 NE Lloyd Blvd.
Portland, OR 97232

Vicky Kellerman

Bureau of Reclamation
1150 North Curtis Rd.
Boise, ID 83706-1234

Larry Zakrasjek

Bureau of Reclamation
1375 SE Wilson Ave.
Bend, OR 97701

**Robert Brunoe, Natural
Resource Manager**

Confederated Tribes of Warm
Springs
Warm Springs, OR 97761

Bill Zelenka

Crook County Planning Dept.
300 NE 3rd
Prineville, OR 97754

Jim Hensley

Crook County Sheriff's Dept.
308 NE 2nd
Prineville, OR 97754

Jason Dedrick

Crook County Watershed Council
489 SE Lynn Blvd.
Prineville, OR 97754

Planning Director

Deschutes County Planning Dept.
117 NW Lafayette Ave.
Bend, OR 97701

Russell Rhoden

Ochoco Irrigation District
1001 N. Deer St.
Prineville, OR 97754

Tom Mottl

Bureau of Land Management
3050 NE Third
Prineville, OR 97754

John Swanson

Bureau of Land Management
3050 NE Third
Prineville, OR 97754

Wayne Shuyler

Oregon State Marine Board
PO Box 14145
Salem, OR 97309-5065

Brian Ferry

ODFW
2042 SE Paulina Highway
Prineville, OR 97754

Larry Miller

OPRD
1645 NE Forbes Rd.
Bend, OR 97701

Letha Sanderson

OPRD
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Kathy Schutt

OPRD
725 Summer St. NE, Ste C
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Amy Gillette

OPRD
725 Summer St. NE, Ste. C
Salem, OR 97301

Jerry Cordova

US Fish & Wildlife Service
20310 Empire Ave
Bend, OR 97701

Steve Memminger

OPRD/Prineville Res. State Park
19020 SW Parkland Drive
Prineville, OR 97754

Bill Crawford

OPRD/The Cove Palisades State
Park
7300 Jordan Rd
Culver, OR 97734



United States Department of the Interior

BUREAU OF RECLAMATION

Pacific Northwest Region
Lower Columbia Area Office
1201 NE Lloyd Boulevard, Suite 750
Portland, Oregon 97232



IN REPLY REFER TO:
LCA-6000
ENV-3.00

JUN 21 2006

Dr. Dennis Griffin
Staff Archaeologist
Oregon State Historic Preservation Office
1115 Commercial Street NE, Suite 2
Salem, OR 97301-1012

Subject: Cultural Resources Investigations for the Powderhouse Cove Area of Prineville Reservoir, Crook County, Oregon

Dear Dr. Griffin:

Enclosed are a letter report (Claeyssens 2006) documenting cultural resource inventories and a finding of No Historic Properties that supplements past inventories by Regan and Crisson (1998) and Oetting (2003) of the proposed Powderhouse Cove project located at Prineville Reservoir, Crook County, Oregon.

Claeyssens located two isolated finds and Regan and Crisson located three isolated finds, for a total of five located in or near the project area. Isolated find records are enclosed, as are copies of Regan and Crisson and Oetting.

If you have any further questions, please contact Mr. Larry Zakrajsek of our Bend Field Office, 1375 S.E. Wilson Avenue, Suite 200, Bend, OR 97701, phone 541-389-6541, or email at: zakhome@bendcable.com.

Sincerely,


ACTING FOR Ronald J. Eggers
Area Manager



Oregon

Theodore R. Kulongoski, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St. NE, Suite C

Salem, OR 97301-1271

(503) 986-0707

FAX (503) 986-0793

www.hcd.state.or.us

August 24, 2006

Mr. Ronald Eggers
Bureau of Reclamation PNW Region
1201 NE Lloyd Blvd., Suite 750
Portland, OR 97232-1274

RECEIVED
SEP 01 2006

RE: SHPO Case No. 06-1541
Powderhouse Cove Area of Prineville Reservoir Project
17S 16E 11, 14, Crook County

Dear Ronald:

Our office recently received your report about the project referenced above. I have reviewed your report and agree that the project will have no affect on any known cultural resources. No further archaeological research is needed with this project.

Please be aware, however, that if during development activities you or your staff encounters any cultural material (i.e., historic or prehistoric), all activities should cease immediately and an archaeologist should be contacted to evaluate the discovery. Under state law (ORS 358.905-955) it is a Class B misdemeanor to impact an archaeological site on public or private land in Oregon. Impacts to Native American graves and cultural items are considered a Class C felony (ORS 97.740-760). If you have any questions regarding any future discovery or my letter, feel free to contact our office at your convenience.

Mollie Manion M.A.
SHPO OTIA Archaeologist
(503) 986-0683
Mollie.Manion@state.or.us

CC: Letha Sanderson (ORPD)





Oregon

Theodore R. Kulongoski, Governor

Parks and Recreation Department

Heritage Conservation Division

725 Summer St. NE, Suite C

Salem, OR 97301-1271

(503) 986-0707

FAX (503) 986-0793

www.hcd.state.or.us

RECEIVED
SEP 01 2006

August 25, 2006

Mr. Ronald Eggers
Bureau of Reclamation PNW Region
1201 NE Lloyd Blvd., Suite 750
Portland, OR 97232-1274

RE: SHPO Case No. 06-1541
Powderhouse Cove Area of Prineville Reservoir Project
17S 16E 11, 14, Crook County

Dear Mr. Eggers:

We have reviewed the materials submitted on the project referenced above, and we concur with the determination that the powderhouse is eligible as part of a potential Bowman Dam Historic District in accordance with 36 CFR Part 60.4. There will be no historic properties adversely affected for this boat ramp construction. Additionally, we recommend that this powderhouse be incorporated into the overall design of the visitor use area and interpreted for the public.

Our response here is to assist you with your responsibilities under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800). Please feel free to contact me if you have further questions, comments or need additional assistance.

Sincerely,

Sarah Jalving
Historic Compliance Specialist
(503) 986-0679 or Sarah.Jalving@state.or.us

Powder House Cove Expansion Final EA Distribution List

Tanya Sommer

Bureau of Reclamation
1201 NE Lloyd Blvd.
Portland, OR 97232

Vicky Kellerman

Bureau of Reclamation
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Powder House Cove Expansion Final EA Distribution List, Continued

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Bend Public Library

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Bend, OR 97701

Crook County Library

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Prineville, OR 97754

**Crook County Historical
Society**

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Prineville, OR 97754

APPENDIX B

Plant Species in Powder House Cove Area and Wildlife Species at Prineville Reservoir

PLANTS

Prineville Reservoir, Powder House Cove Area
Rick Demmer and JoAnne Armson
April, 2006

Grasses and grasslike species

<i>Agropyron cristatum</i>	Crested wheatgrass
<i>Agropyron intermedia</i>	Intermediate wheatgrass
<i>Bromus tectorum</i>	Cheatgrass
<i>Carex sp</i>	Sedge
<i>Distichlis stricta</i>	Saltgrass
<i>Elymus cinereus</i>	Basin wildrye
<i>Elymus elymoides</i>	Bottlebrush squirreltail
<i>Festuca idahoensis</i>	Idaho fescue
<i>Juncus balticus</i>	Baltic rush
<i>Koeleria cristata</i>	June grass
<i>Oryzopsis hymenoides</i>	Indian ricegrass
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Poa secunda</i>	Sandberg's bluegrass
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass
<i>Stipa thurberiana</i>	Thurber's needle grass
<i>Vulpia octoflora</i>	Six-weeks fescue

Forbs

<i>Achillea millefolium</i>	Yarrow
<i>Alyssum alyssoides</i>	Pale alyssum
<i>Allium sp.</i>	
<i>Antennaria dimorpha</i>	Pussy toes
<i>Arabis sp.</i>	Rockcress
<i>Astragalus conjunctus</i>	Milkvetch
<i>Astragalus filipes</i>	Milkvetch
<i>Astragalus purshii</i>	Milkvetch
<i>Centaurea maculosa</i>	Spotted knapweed
<i>Centaurea repens</i>	Russian knapweed
<i>Cirsium vulgare</i>	Bull thistle
<i>Conyza canadensis</i>	
<i>Collinsia sparsiflora</i>	
<i>Descurania sp.</i>	

Forbes (Cont.)

<i>Draba verna</i>	
<i>Erigeron</i> sp.	Fleabane
<i>Fritillaria pudica</i>	Yellow fritillary
<i>Haplopappus</i> sp.	
<i>Leptodactylon pungens</i>	
<i>Lewisia rediviva</i>	Bitterroot
<i>Lithophragma bulbifera</i>	
<i>Linum perenne</i>	
<i>Lomatium</i> spp.	
<i>Melilotus</i> sp.	
<i>Penstemon</i> sp.	
<i>Phlox hoodii</i>	
<i>Ranunculus glaberrimus</i>	
<i>Ranunculus testiculatus</i>	Burr buttercup
<i>Rumex crispus</i>	Rumex
<i>Sedum</i> sp.	
<i>Senecio</i> sp.	
<i>Verbascum thapsus</i>	Mullein

Shrubs and half-shrubs

<i>Artemisia tridentata</i> subsp. <i>tridentata</i>	Big sagebrush
<i>Chrysothamnus nauseosus</i>	Gray rabbitbrush
<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush
<i>Eriogonum microthecum</i>	Buckwheat
<i>Eriogonum ovalifolium</i>	Buckwheat
<i>Eriogonum sphaerocephalum</i>	Buckwheat
<i>Ribes velutinum</i>	Gooseberry
<i>Salix</i> sp.	Willow

Trees

<i>Juniperus occidentalis</i>	Western juniper
<i>Pinus ponderosa</i>	Ponderosa pine

WILDLIFE

BOR Prineville Reservoir Wildlife Study Final Report, Gary Clowers, 2005

Raptors

Bald eagle (*Haliaeetus leucocephalus*)
Golden eagle (*Aquila chrysaetos*)
Osprey (*Pandion haliaetus*)
Northern harrier (*Circus cyaneus*)
Western red-tailed hawk (*Buteo jamaicensis*)
Cooper's hawk (*Accipiter cooperii*)
Sharp-shinned hawk (*Accipiter striatus*)
Peregrine falcon (*Falco peregrinus anatum*)
Pacific merlin (*Falco columbarius*)
Prairie falcon (*Falco mexicanus*)
American kestrel (*Falco sparverius*)
Great-horned owl (*Bubo virginianus*)
Long-eared owl (*Asio otus*)

Other Birds

White pelican (*Pelecanus erythrorhynchos*)
Great-blue heron (*Ardea herodias*)
Black-crowned night heron (*Nycticorax nycticorax*)
Double-crested cormorant (*Phalacrocorax auritus*)
American coot (*Fulica americana*)
Western Canada goose (*Branta canadensis moffitti*)
Mallard (*Anas platyrhynchos*)
American wigeon (*Anas americana*)
Northern shoveler (*Anas clypeata*)
Green-winged teal (*Anas crecca*)
Ring-necked duck (*Aythya collaris*)
Common goldeneye (*Bucephala clangula*)
Common merganser (*Mergus merganser*)
Ring-billed gull (*Larus delawarensis*)
California gull (*Larus californicus*)
Belted kingfisher (*Ceryle alcyon*)
Western grebe (*Aechmophorus occidentalis*)
Clark's grebe (*Aechmophorus clarkii*)
Horned grebe (*Podiceps auritus*)
Pied-billed grebe (*Podilymbus podiceps*)
Common loon (*Gavia immer*)
Spotted sandpiper (*Actitis macularia*)
Killdeer (*Charadrius vociferus*)
Greater yellowlegs (*Tringa melanoleuca*)
Lesser Yellowlegs (*Tringa flavipes*)

Other Birds (Cont.)

Common snipe (*Gallinago gallinago*)
Long-billed dowitcher (*Limnodromus scowpaceus*)
Red-necked phalarope (*Phalaropus lobatus*)
Pectoral sandpiper (*Calidris melanotos*)
Semipalmated sandpiper (*Calidris pusilla*)
Western sandpiper (*Calidris mauri*)
Least sandpiper (*Calidris minutilla*)
Baird's sandpiper (*Calidris bairdii*)
Turkey vulture (*Cathartes aura*)
Western raven (*Corvus corax sinuatus*)
Black-billed magpie (*Pica hudsonia*)
Pinyon jay (*Gymnorhinus cyanocephalus*)
Northern flicker (*Colaptes auratus*)
Common nighthawk (*Chordeiles minor*)
Spotted towhee (*Pipilo maculatus*)
California quail (*Callipepla californica*)
Mountain quail (*Oreotryx pictus*)
Chukar (*Alectoris chukar*)
American robin (*Turdus migratorius*)
Townsend's solitaire (*Myadestes townsendi*)
Mountain bluebird (*Sialia currucoides*)
Brewer's blackbird (*Euphagus cyanocephalus*)
Red-winged blackbird (*Agelaius phoeniceus nevadensis*)
Rock dove (*Columba livia*)
Mourning dove (*Zenaidura macroura*)
Ashthroat flycatcher (*Myiarchus cinerascens*)
Western kingbird (*Tyrannus verticalis*)
Say's phoebe (*Sayornis saya*)
Gray flycatcher (*Empidonax wrightii*)
Loggerhead shrike (*Lanius ludovicianus*)
Rock wren (*Salpinctes obsoletus*)
Canyon wren (*Catherpes mexicanus*)
Lincoln sparrow (*Melospiza lincolnii*)
Clay-colored sparrow (*Spizella pallida*)
Chipping sparrow (*Spizella passerina*)
White-crowned sparrow (*Zonotrichia leucophrys*)
American pipit (*Anthus rubescens*)
Cedar waxwing (*Bombicilla cedrorum*)
Orange-crowned warbler (*Vermivora celata*)
Yellow warbler (*Dendroica petechia*)
Black-throated gray warbler (*Dendroica nigrescens*)
Yellow-rumped warbler (*Dendroica coronata*)
Western tanager (*Piranga ludoviciana*)
Black-headed grosbeak (*Pheucticus melanocephalus*)

Other birds (Cont.)

Dark-eyed junco (*Junco hyemalis*)
Western meadowlark (*Sturnella neglecta*)
Brown-headed Cowbird (*Molothrus ater*)
Bullock's oriole (*Icterus bullockii*)
House finch (*Carpodacus mexicanus*)
American goldfinch (*Carduelis tristis*)
House sparrow (*Passer domesticus*)
European starling (*Sturnus vulgaris*)
Mountain chickadee (*Pocile gambeli*)
Warbling vireo (*Vireo gilvus*)
Red-eyed vireo (*Vireo olivaceus*)
Bank swallow (*Riparia riparia*)
Violet-green swallow (*Tachycineta thalassina*)

Mammals

Mule deer (*Odocoileus hemionus*)
Bobcat (*Lynx rufus*)
Coyote (*Canis latrans*)
American beaver (*Castor Canadensis*)
Northern river otter (*Lontra Canadensis*)
Muskrat (*Ondatra zibethicus*)
Black-tailed jackrabbit (*Lepus californicus*)
Mountain cottontail (*Silvilagus nuttallii*)
California ground squirrel (*Spermophilus beecheyi*)
Belding's ground squirrel (*Spermophilus beldingi*)
Golden-mantled ground squirrel (*Spermophilus laterallis*)
Least chipmunk (*Tomais minimus*)

Herps

Western toad (*Bufo boreas*)
Northern Pacific rattlesnake (*Crotalus viridis oreganus*)
Great-basin gophersnake (*Pituophis catenifer deserticola*)
Western yellow-bellied racer (*Colubar constrictor mormon*)
Great-basin fence lizard (*Sceloporus occidentalis longipes*)

The above list reflects all species recognized and noted between 9/30/03 and 10/30/05 at Prineville Reservoir by Raven Research and others in the course of this study. Bird species were included from observations by Craig and Marilyn Miller, Chuck Gates and Stephen Dougill, who make regular birding surveys in the entire reservoir area.

Rare Species known from the ORNHIC High Lava Plains Ecoregion, Oregon

<u>Scientific Name</u>	<u>Common Name</u>	<u>Heritage Global Rank</u>	<u>Heritage State Rank</u>	<u>Federal Status</u>	<u>State Status</u>	<u>ONHP LIST</u>
Achnatherum hendersonii	Henderson ricegrass	G3	S2	SOC	C	1
Allium campanulatum	Sierra onion	G4	S3			
Allium pleianthum	Many-flowered onion	G3Q	S3			
Allium tolmei var. platyphyllum	Flat-leaved tolmei's onion	G4T3Q	S3?			3
Artemisia ludoviciana ssp. estesii	Estes' artemisia	G5T2	S2	SOC		1
Astragalus diaphanus var. diaphanus	Transparent milk-vetch	G3G4T3Q	S3			
Astragalus diaphanus var. diurnus	South John Day milk-vetch	G3G4T2Q	S2		LT	1
Astragalus peckii	Peck's milk-vetch	G3	S3		LT	1
Astragalus tegetarioides	Bastard kentrophyta	G3	S3	SOC	C	1
Calochortus longebarbatus var. peckii	Peck's mariposa-lily	G4T3	S3	SOC	C	1
Camissonia pygmaea	Dwarf evening-primrose	G3	S1	SOC	C	1
Carex hystericina	Porcupine sedge	G5	S2			2
Carex interior	Inland sedge	G5	S3			4
Castilleja chlorotica	Green-tinged paintbrush	G3	S3			1
Castilleja xanthotricha	Yellow-haired indian-paintbrush	G4	S4			
Chaenactis nevii	Nevius' chaenactis	G4	S4			4
Collomia macrocalyx	Bristle-flowered collomia	G3G4	S3S4			
Coryphantha vivipara var. vivipara	Cushion coryphantha	G5T4	S1			2
Cryptantha rostellata	Beaked cryptantha	G4	S1			
Gilia sinistra ssp. sinistra	Sinister gilia	G4G5T4T5	SNR			3
Heuchera grossulariifolia var. grossulariifolia	Gooseberry-leaved alumroot	G4T4	S4			
Juncus torreyi	Torrey's rush	G5	S2			
Lesquerella douglasii	Columbia bladderpod	G4?	SNR			3
Linanthus bakeri	Baker linanthus	G5	SU			
Lomatium farinosum var. hambleniae	Hamblen's lomatium	G4G5T4	S1			2
Lomatium laevigatum	Smooth desert parsley	G3	S3			4
Lomatium sp. 2	Ochoco lomatium	G1	S1	SOC		1
Lomatium watsonii	Watson's desert-parsley	G4	S1			2
Luina serpentina	Colonial luina	G2	S2	SOC		1
Lupinus biddlei	Biddle's lupine	G5T3	S3			4
Malacothrix stebbinsii	Stebbins desert-dandelion	G3?	SNR			3
Mimulus evanescens	Disappearing monkeyflower	G2	S2	SOC	C	1
Mimulus jungermannioides	Hepatic monkeyflower	G2	S2		C	1
Mimulus washingtonensis var. washingtonensis	Washington monkeyflower	G4T4	S4			
Penstemon deustus var. variabilis	Hot-rock penstemon	G5T1T2	SNR			3
Penstemon eriantherus var. argillosus	John Day penstemon	G4T4	S4			
Penstemon peckii	Peck's penstemon	G3	S3	SOC		1
Penstemon seorsus	Short-lobed beardtongue	G4?	S3			4
Ribes inerme var. klamathense	Klamath gooseberry	G5T3?	SNR			3
Salix bebbiana	Bebb's willow	G5	S4			
Scribneria bolanderi	Scribner's grass	G3G4	S3			4
Silene scaposa var. scaposa	Scapose catchfly	G4T3T4	S3S4			
Talinum spinescens	Spiny flame-flower	G4	S2			2
Texosporium sancti-jacobi	Woven-spored lichen	G2	S1	SOC		2
Thelypodium eucosmum	Arrow-leaf thelypody	G2	S2	SOC	LT	1
Thelypodium howellii ssp. howellii	Howell's thelypody	G2T2	SH	SOC		

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APPENDIX C

Preferred Alternative

Conceptual Plan and Graphics

Visual Simulation of Preferred Alternative



MATCH LINE - SEE SHEET 2

NORMAL HIGH
POOL ELEV. 3235

ACCESS ROAD
SCALE: 1"=80'

PRELIMINARY
LAYOUT
PLAN

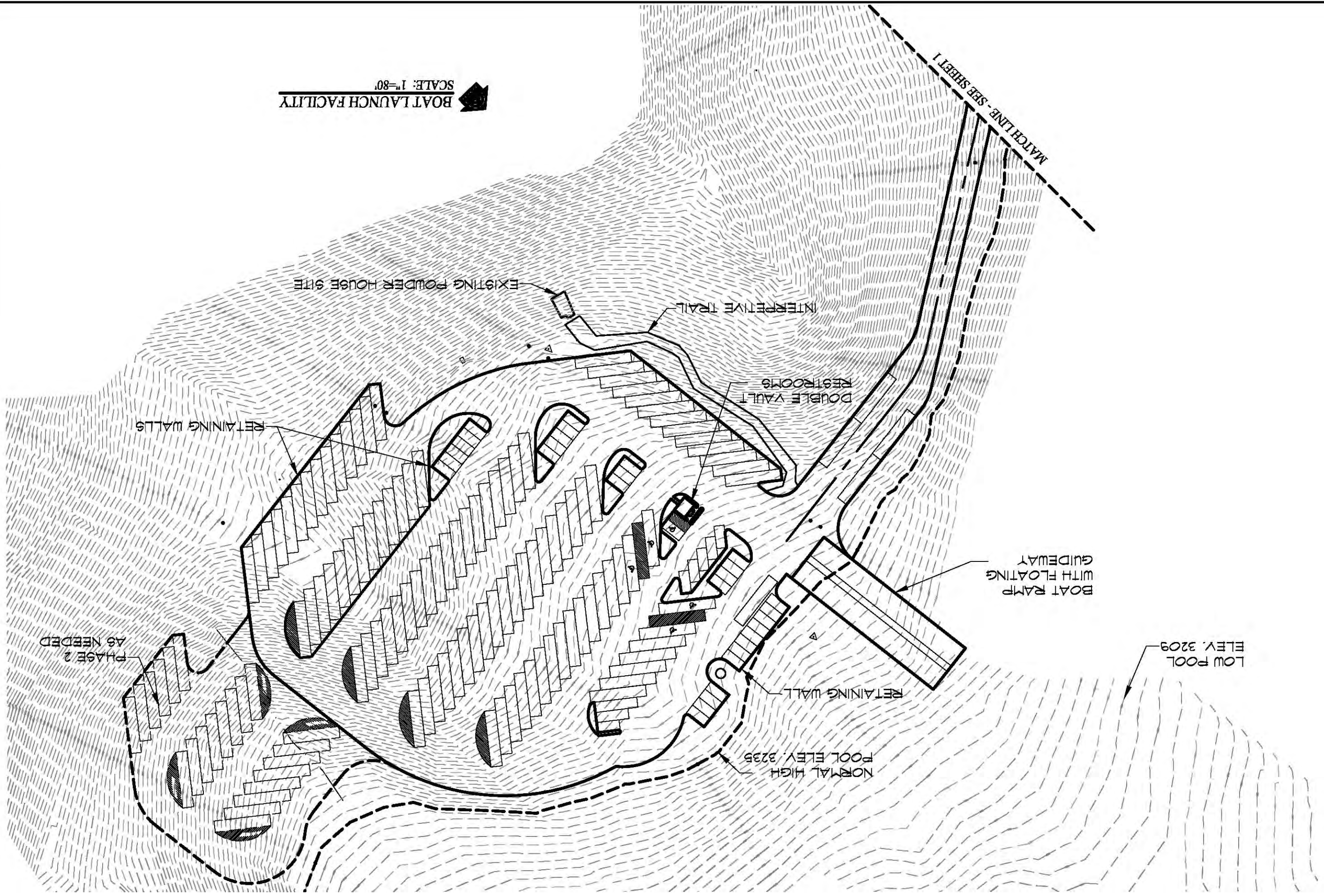


POWDER HOUSE COVE BOAT
LAUNCH FACILITY
PRINEVILLE RESERVOIR
CROOK COUNTY, OREGON

DE **DAVID EVANS
AND ASSOCIATES INC.**
709 NW Wall Street, Suite 102
Bend, Oregon 97701 (541) 388-7814

DESIGN	FILE	CHECKER	DATE
DRAWN	FILE		
DATE	AUGUST 2008		
SCALE	AS SHOWN		
FILE			
REVISIONS			

SHEET 1 OF 5



BOAT LAUNCH FACILITY
SCALE: 1"=80'

SHEET 2 OF 5

DESIGNER	JULE	CHECKED	XXXX
DRAWN	JULE		
DATE	AUGUST 2008		
SCALE	AS SHOWN		
FILE			
REVISIONS			

DE DAVID EVANS
AND ASSOCIATES INC.
708 NW Wall Street, Suite 102
Bend, Oregon 97701 (541) 389-7814

POWDER HOUSE COVE BOAT
LAUNCH FACILITY
PRINEVILLE RESERVOIR
CROOK COUNTY, OREGON

OREGON
STATE
PARKS

PRELIMINARY
LAYOUT
PLAN



