US Army Corps of Engineers
Walla Walla District

Environmental Assessment

Dworshak Reservoir Master Plan Ahsahka, Idaho

March 2015

DRAFT FINDING OF NO SIGNIFICANT IMPACT
DWORSHAK RESERVOIR MASTER PLAN
AHSAHKA, IDAHO
2015

1. BACKGROUND

The U.S. Army Corps of Engineers, Walla Walla District (Corps), proposes to adopt a Master Plan (MP) as the strategic land use planning document to guide comprehensive management and development of all project recreational, natural, and cultural resources. The Corps prepared a Public Use Plan (PUP) for the Dworshak Operating Project (Project) in 2011. The PUP updated the land classifications from the original 1970 Design Memorandum 10, with new quantified classifications, providing information and analysis to address management necessary to accommodate changing conditions. From initial fill in 1973, the reservoir operated near full-pool during the summer recreation season. Since 1992, as a result of Snake River Chinook salmon being listed as endangered under the Endangered Species Act, the reservoir has been lowered approximately 80 feet each summer to provide cold water for migrating salmon. The PUP defined management strategies for acceptable public use and access for lands and waters during low pool operations. In January 2013, the Corps updated their MP policy, Engineering Pamphlet 1130-2-550, requiring the completion and approval of a MP for operating projects. The PUP did not meet all of the requirements.

2. PURPOSE AND NEED

The purpose of this action is to adopt the updated strategic land use planning document to meet the Corps' 2013 policy. The MP directs efficient and cost-effective management, development, and use of Corps' managed lands. It is vital for the responsible stewardship and sustainability of Project resources in response to public interests and consistent with authorized Project purposes. The MP provides for balanced resource management under special programs, such as environmentally sensitive areas, cultural resources protection, and protection of endangered species and critical habitat. The MP recognizes particular qualities, characteristics, and potentials of the Project and provides consistency and compatibility with national objectives and other state and regional goals and programs.

The approval and adoption of the Project MP will assure that the requirements of Corps' policies are met; comments from the public, local, state, federal agencies and tribes are addressed; and financial support for natural resources and facilities are confirmed.

3. ALTERNATIVES CONSIDERED

The assessment examined 4 alternatives: 1) No Action/No Change Alternative where the current PUP management plan would remain as the primary guidance document; 2) the Preferred Alternative of adopting the proposed MP would provide added detail

regarding the comprehensive management for balanced cultural, natural and recreation resources and ensure responsible stewardship and use of Project lands. This alternative would utilize existing land classifications developed during the PUP, with refinements and include analysis of recreation demand, carrying capacity, and cumulative effects required by Corps policy; 3) the Maximize Natural Resource Management/Protection MP Alternative would maximize management/preservation of all natural resources with reduced recreational development and visitor use; and 4) The Maximize Recreation Development MP Alternative which would maximize recreation facilities development and visitor use with reduced natural resources management. Alternatives 3 and 4 were rejected from detailed analysis as they failed to meet the purpose and need.

4. PROPOSED ACTION AND ENVIRONMENTAL EFFECTS

With adoption of the Balanced MP Alternative, the MP will supersede the PUP. The proposed MP would directly support Corps responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources. The MP would be a dynamic document projecting what would happen over the life of the Project and is flexible based upon changing conditions. The MP would work in combination with supplemental Operational Management Plans to provide long-term comprehensive planning related to decisions on natural and cultural resources as well as public use and presents detailed information to direct day to day implementation of the MP strategies.

The probable consequences (impacts and effects) of the preferred proposed Balanced MP (Alternative 2) on Project recreation, environmental and cultural resources were evaluated. The PUP and MP are conceptual planning documents that do not direct specific action, such as ground disturbing activities that would cause direct impacts to natural and cultural resources but provides guidance for planning future work based on meeting resource objectives.

Under Alternative 2, proposed Balanced MP, routine operation and maintenance activities would have minor or no impacts when using best management practices. Future management changes under the approved MP would improve management programs and process, resulting in beneficial impacts for forest, wildlife, water quality and aesthetics. The Corps also analyzed the effects of the No Action/No Change (Alternative 1) which were found to be similar to the effects of the Balanced MP.

5. COORDINATION, CONSULTATION, AND REVIEW

Agency and public involvement supporting the development of the MP has been ongoing since 2008, when public scoping meetings were held during the development of the PUP and deemed sufficient for the MP formulation; therefore, that information was carried forward into the MP.

A thirty-day public scoping for the proposed MP and associated EA was initiated on 30 July 2014. The Corps sent scoping letters to 56 individuals, businesses, organizations and agencies, encouraging the submission of ideas and comments regarding management of natural, cultural and recreational resources to be included in the proposed MP. Coordination with federal agencies included U.S. Fish and Wildlife Service, National Marine Fishery Service, and the U.S. Forest Service. Additional coordination was held with Nez Perce Tribal representatives. Scoping notifications were published in the Clearwater Tribune and the Lewiston Tribune newspapers.

In March of 2015, notification letters for review of the Draft Master Plan, Finding of No Significant Impacts (FONSI) and EA were sent to 115 individuals, businesses, organizations and agencies requesting their review and comments. Letters were also sent to Nez Perce Tribal representatives. Significant comments from the review of the Draft MP, FONSI and EA are incorporated herein.

6. CONCLUSION/FINDING

Having reviewed the EA and associated appendices, I find the documents provide sufficient discussions on the purpose and need for the proposed action, alternatives, the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. I have taken into consideration the technical aspects of the project, best scientific information available and public comments received. I believe these documents provide sufficient evidence and analysis to meet the Corps' requirements pursuant to the National Environmental Policy Act and for the Corps to make a finding of no significant impact to the quality of the human environment. I find that implementation of the preferred alternative would not result in significant impacts on the quality of the human environment. Therefore, an environmental impact statement is not required.

_____ _____

Timothy R. Vail Date
Lieutenant Colonel, Corps of Engineers
District Commander

Environmental Assessment
Dworshak Reservoir Master Plan

EXECUTIVE SUMMARY

Dworshak Dam and Reservoir is a multi-purpose Civil Works water resource project operated by the Corps of Engineers, Walla Walla District (Corps), located at river mile 1.9 on the North Fork of the Clearwater River in Clearwater County, Idaho. It is authorized for the primary purposes of flood damage reduction and hydroelectric power production, with other authorized purposes including, navigation, fish and wildlife, and recreation. The Dworshak Master Plan (MP) presents resource objectives, land classifications, conceptual land use, and planning guidance for lands and waters managed by the Corps at Dworshak Dam and Reservoir Project (Project) in Clearwater County, Idaho.

The Corps prepared a Public Use Plan (PUP) for the Project in 2011. The PUP updated the land classifications from the original Design Memorandum 10, with new quantified classifications. The PUP was developed by the Corps, providing additional information and analysis to address management necessary to accommodate changing conditions at Dworshak Reservoir. From initial use of the reservoir in 1973, the lake operated near full during the summer recreation season. Since 1992, the reservoir has been lowered approximately 80 feet each summer to provide cold water for juvenile salmon migrating in the lower Snake River. The PUP defined management strategies for acceptable public use and access for lands and waters of the Project. An environmental assessment was prepared for the PUP. The PUP and EA, with FONSI are incorporated herein by reference.

A Master Plan (MP) is the document that conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of a Corps water resource project. A MP is a strategic land use management planning document. It is focused on the operations and maintenance of an existing project. A MP does not include water management operations and associated prime facilities (dam, gates, powerhouses, spillways, etc.). Of critical importance is the need to emphasize that a MP is stewardship driven and must seek to balance recreational development and use with protection and conservation of natural and cultural resources.

Complying with new 2013 Corps guidance, Engineering Pamphlet (EP) 1130-2-550, the MP analyzes use, demand, and carrying capacity, and provides conceptual guidelines for the effective management of Dworshak Reservoir. The MP builds on work accomplished during development of the 2011 PUP. The planning team relied

heavily on previous efforts of working groups and interest groups, as well as the public input and collaboration used to develop the PUP. The result is a comprehensive, conceptual-level planning document to guide future use, maintenance and development at the Project.

This environmental assessment (EA) examines four alternatives: 1) No Action/No Change Alternative in which the current management plan (PUP), would remain in place; 2) the Preferred Alternative of adopting the proposed MP which provides additional detail regarding the comprehensive management and development of natural resources and recreational use and operations for responsible stewardship of project lands; 3) maximize management/preservation of all natural resources with reduced recreational development and visitor use; and 4) maximize recreation facilities development and visitor use with reduced natural resources management. Alternative 2, Preferred Alternative utilizes existing land classifications developed during the PUP with refinements to resource objects and includes additional analysis on recreation demand, carrying capacity, and cumulative effects analysis required by Corps guidance.

During initial implementation of the preferred alternative there would be no impacts to human and natural resources in the Project area from adoption of the proposed MP. Beneficial impacts to the resources would occur during long-term implementation. Some minor adverse impacts would also occur. The MP will comply with all applicable laws and regulations.

Photo ES-1. Dworshak Dam and National Fish Hatchery, Ahsahka, Idaho

List of Acronyms

°C	Degrees Celsius
°F	Degrees Fahrenheit
ATV	All-Terrain Vehicle
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
CAA	Clean Air Act
CatX	Categorical Exclusion
CFR	Code of Federal Regulations
Corps	US Army Corps of Engineers
CWA	Clean Water Act
DM	Design Memorandum
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EM	Engineer Manual
EMRI	Ecosystem Management Research Institute
EO	Executive Order
EOP	Environmental Operating Principle
EP	Engineer Pamphlet
ER	Engineer Regulation
ESA	Endangered Species Act
FCRPS	Federal Columbia River Power System
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Lands
IPIF	Idaho Partners in Flight

List of Acronyms (continued)

km^2	Square Kilometers
LCU	Land Classification Unit
MBTA	Migratory Bird Treaty Act
mi^2	Square Miles
MP	Master Plan
MSA	Magnuson-Stevens Fishery Conservation and Management Act
Msl	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRCS	National Resources Conservation Service
OHV	Off-Highway Vehicle
OMP	Operational Management Plan
ORDC	Outdoor Recreational Data Center
PL	Public Law
PUP	Public Use Plan
Reclamation	US Bureau of Reclamation
RV	Recreational Vehicle
USFS	US Forest Service
USFWS	US Fish and Wildlife Service

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SECTION 1 – INTRODUCTION

1.1 Introduction

This environmental assessment (EA) considers and describes potential environmental effects of the development and implementation of a Master Plan (MP) for management of natural, cultural and recreational resources at Dworshak Dam and Reservoir Project (Project). The MP is the strategic land use management document that guides the comprehensive management and development of all project recreation, natural and cultural resources throughout the life of the water resource project (Photo 1-1). The MP promotes the efficient and cost effective management, development, and use of project lands. It is a vital tool for the responsible stewardship and sustainability of project resources for the benefit of present and future generations.

Photo 1-1. Little North Fork at Full Pool

As required by the National Environmental Policy Act (NEPA) and subsequent implementing regulations promulgated by the Council on Environmental Quality, this assessment is prepared to determine whether the action proposed by the Corps

constitutes a ". . . major Federal action significantly affecting the quality of the human environment . . . "and whether an environmental impact statement is required. The EA is prepared pursuant to NEPA, Council on Environmental Quality (CEQ) regulation (40 CFR,1500-1517), and the Corps' implementing regulation, Policy and Procedure for Implementing NEPA, Engineering Regulation (ER) 200-2-2 (Corps 1988). The EA covers the action of adopting and implementing the proposed MP. Future site-specific development, operations and maintenance actions that may transpire following adoption of the MP, will undergo separate (tiered) analysis as required by the National Environmental Policy Act (NEPA).

The MP guides and articulates Corps responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources. The MP is a dynamic operational document projecting what could and should happen over the life of the project and is flexible based upon changing conditions. The MP deals in concepts, not details, of design or administration. Detailed management and administration functions are addressed in the Operational Management Plan (OMP) (Corps 1996a), which implement the concepts of the MP into operational actions. The MP does not include water management or operation of the dam facilities.

1.2 Project Authorization

The Project was authorized in the 1962 Flood Control Act (P.L. 87-874). The Dam and Reservoir is a multi-purpose water resource project operated by the Corps of Engineers (Corps). The Federal Water Project Recreation Act of 1965 (PL 89-72, 89th Congress, 1st Session, dated 9 July 1965), as amended, established recreation potential at Dworshak Dam and Reservoir as a full project purpose.

Dworshak Reservoir is a major water storage project in the Columbia River system. It has sufficient storage to provide regulation for downstream flood damage reduction; power generation for use in the Northwest hydropower system; and regulation for water quality, recreation, and other downstream requirements. The operation of Dworshak Reservoir in conjunction with the total system of Columbia River reservoirs is essential in order to meet ESA requirements for fish, power system load requirements, and flood regulation on the lower Columbia, lower Clearwater, and lower Snake Rivers.

The 717 foot tall structure is a concrete gravity dam located at river mile 1.9 on the North Fork Clearwater River (NFCR). The dam is located 4 miles northwest of the city of Orofino, Idaho and 47 miles east of Lewiston, Idaho. The dam and lower portion of the reservoir are within the Nez Perce Indian Reservation and the entire project is in Clearwater County.

Dworshak Dam creates a long, narrow lake, extending 53.6 miles in the North Fork Clearwater River Canyon when the water is at elevation 1600 feet mean sea level (msl) (full pool). Prominent arms extend into Elk Creek Canyon and the Little North Fork River Canyon. The water surface area is 16,417 acres at elevation 1600 feet msl and

9,050 acres at the minimum pool elevation of 1445 feet msl. The shoreline length is 175 miles at 1,600 feet msl. When full, the reservoir contains 3,453,000 acre-feet of water. The difference between the full and minimum water level elevations is 155 feet providing 2,000,000 acre-feet of usable water storage for flood control or hydroelectric power production.

The drainage area is 2,440 square miles (mi^2), and the maximum operating pool is at 1,600 feet above msl. The project reservoir is surrounded by 29,318 acres of federal land, which the Corps manages (Appendix G, *Maps*, Figure 1). The total number of acres located within the Project is about 50,800, including 21 acres used for the operation of the Dworshak National Fish Hatchery in Ahshaka, Idaho, and lands inundated by the reservoir (Appendix G, *Maps*, Figure 2). Additionally, a flowage easement of approximately 2,150 acres was obtained from the Clearwater National Forest.

1.3 Background

1.3.1 Design Memorandum 10

Design Memorandum (DM) 10, "Public Use Plan for Development and Management of Dworshak Reservoir, North Fork Clearwater River, Idaho" (Corps, 1970) was the initial document developed for operation and care of project natural resources and public use at the Project. It was approved, …"as a basis for land use allocation, as a guide for continuing detailed recreation and wildlife management planning, and as a conceptual control for design and construction of facilities for initial access and use at the Dworshak Reservoir."

How the land would be used and managed was determined in a public process by development of resource objectives (RO) and land classifications (LC), based on project operation for specific authorizations. These LCs were originally established for all Dworshak project lands and documented in the DM. The LCs (Table 1-1) were based on guidelines established by the Corps prior to construction of the Project.

In 1996, new guidelines for the development of project master plans were adopted by the Corps and documented in Engineering Pamphlet (EP) 1130-2-550 (Corps 1996b). Chapter Three of EP 1130-2-550 documents how each project is to classify project lands. All lands acquired for project purposes were classified to provide for development and resource management consistent with authorized project purposes and other federal laws. The LC process refined the land allocations to fully use all project lands. The Corps considered legislative authority, regional and project-specific resource requirements, resource suitability, and public desires. Management and use of the lands assigned to each LC were considered in connection with the appropriate ROs.

Table 1-1. Land Classifications and Acreages*

Land Classification	Acres*
Project Operations	1,239
Fish and Wildlife	3,301
Big Game Habitat Development	5,033
Recreation—General Access	10,705
Recreation—Group Camping	707
Recreation—Initial Development	3,278
Recreation—Future Development	5,830
Industrial Use and Access	255
Public Port Terminal	461

*As estimated in DM 10, 1970.

1.3.2 The 2011 Public Use Plan

The Corps, through a public process starting in 2010, prepared an updated Public Use Plan (PUP) for the Project. The PUP defined management strategies for resources, acceptable public use and access for lands and waters of Dworshak Reservoir. The LCs were updated from DM 10, with the new quantified classifications developed in the PUP (Corps 2011b). The PUP was developed by the Walla Walla District to address management changes necessary to accommodate changed conditions at the Project.

From the time of initial use of the reservoir in 1973, the lake operated near full during the summer recreation season. Since 1992, the reservoir elevation has been lowered approximately 80 feet from full pool each summer to provide cold water for juvenile salmon migrating in the lower Snake River. This change in reservoir elevations resulted in decreasing use of designed recreation facilities, and increasing public requests for alternative forms of recreational access to the reservoir. The project reservoir was originally designed to maintain a pool level around 1,600 feet above sea level during the recreation season. In 1992, Snake River Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*) were listed as endangered species under the Endangered Species Act (ESA). Subsequent Federal Columbia River Power System (FCRPS) biological opinions continue this requirement. As a result, the Corps is required to draw on cold water from Dworshak Reservoir to facilitate fish migration on the Snake River. This drawdown typically begins after July 1st each year, and drops the pool level 80 to 155 feet below full pool. The outcome is low water elevations in the reservoir and significant loss of recreational access to shoreline, mini camps, boat ramps, and docks, starting around the first of July, every year.

The LCs, identified in the 1970, DM 10, were modified and better defined for the PUP to manage resources and public use for the changed operation of the reservoir. Updated LCs identified the primary management focus of the lands so designated, while other secondary uses were permitted. For example, low density recreation uses, including activities such as hunting, fishing, hiking, backpacking, picnicking, sightseeing, primitive

camping, etc., are permitted on most lands as a secondary use. Certain lands, identified as mitigation lands were specifically designated to offset elk habitat losses associated with the development of the Project. Additionally, environmentally sensitive area lands, identified for specific scientific, ecological, cultural, or aesthetic features were designated with a specific land classification. Vegetation management lands focused on the protection and development of forest resources and vegetative cover, although all project lands are primarily managed to protect and develop vegetative cover in conjunction with other land uses.

As required by NEPA, an EA was developed which addressed the procedures (actions) identified in the PUP. The document went through a public review process which identified LC changes in greater detail with a description considering and comparing the environmental effects of the proposed actions. A Finding of No Significant Impact (FONSI) was signed in February of 2011. The PUP and EA, with FONSI are incorporated herein by reference.

1.3.3 Dworshak Master Plan

In the past, budget issues prevented the Walla Walla District from conducting a full master planning effort. The Corps' MP policy, EP 1130-2-550, (Corps policy) was updated in January 2013. (Corps 2013) This policy requires the completion of the MP process for all operating projects. Under the new guidance, the 2011 PUP did not fulfill all new MP requirements.

In order to fully authorize changes in facilities, use and resource management, and to accommodate impacts of modified project operations, a planning document is required that meets Corps' policy. The primary objective of this MP is to publish a clear, concise, and strategic land use document that will guide the comprehensive management and development of all project recreational, natural, and cultural resources throughout the life cycle of the project. The MP will focus on four primary components: (1) regional and ecosystem needs, (2) project resource capabilities and suitability, (3) expressed public interests that are compatible with authorized purposes, and (4) environmentally sustainable elements. Analysis completed in the Dworshak Public Use Plan for the Development and Management of Public Access at Dworshak Reservoir 2011 will assist in the completion of this Master Plan. The plan seeks to provide public access and recreational opportunities that balance public input and desire with the protection and sustainable utilization of natural resources surrounding Dworshak Reservoir.

Drafting of the proposed MP utilized data from the planning and formulation of the 2011 PUP, including information collected during the extensive public involvement process. The PUP was considered a significant step toward development of necessary information for a MP and was used (when appropriate) as the bases for developing the proposed MP (Appendix A, *Draft Master Plan*) .

The proposed MP would meet new guidance and become the strategic land use management document that guides the orderly development, administration,

maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of a Corps water resource project. A MP does not include water management operations and associated prime facilities (dam, gates, powerhouses, spillways, etc.). Of critical importance is the need to emphasize that a MP is stewardship driven and must seek to balance recreational development and use with protection and conservation of natural and cultural resources.

All lands acquired for project purposes are classified to provide for potential development and resource management consistent with authorized project purposes and federal laws. The land classification process refined the land allocations in order to fully use project lands. The Corps considers legislative authority, regional and project-specific resource requirements, resource suitability, and public desires. Management and use of the lands assigned to each land classification are discussed in connection with the appropriate resource objectives.

As required by NEPA, an EA was developed which covers the procedures (actions) identified in the proposed MP. The EA and draft FONSI was provided for public, agency, and tribal review. A FONSI would be signed if appropriate. This MP EA evaluates the potential effects associated with adoption and implementation of a MP for the Project. Future specific development, operations and maintenance actions that would be proposed following implementation of the MP, would undergo separate/tiered analysis under NEPA, including public, tribal, agency review, and the assessment of potential environmental effects.

The public review process for the MP and EA provided the opportunity for the public to comment on the scope of the MP process. Agencies, the public and tribal representatives were also offered the opportunity to review and comment on the Draft MP and the EA with a Draft FONSI. Additional information on the review process is provided in Section 5 and Appendix D, *Agency and Public Involvement*.

1.4. Purpose and Need

The purpose of this action is to develop a MP for the Project. The MP is a strategic land use management document that guides the comprehensive management and development of all project recreation, natural, and cultural resources throughout the life of the water resources project. The MP directs efficient and cost-effective management, development, and use of project lands. It is a vital tool for the responsible stewardship and sustainability of project resources for the benefit of present and future generations.

The Corps regulations require each Civil Works operating project to develop a master plan. As stated in EP 1130-2-550, MP goals must include the following:

a. Provide the best management practices to respond to regional needs, resource capabilities, suitability's, and expressed public interests consistent with authorized project purposes;

b. Protect and manage project natural and cultural resources through sustainable environmental stewardship programs;

c. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project itself while sustaining project natural resources and special programs, such as Environmentally Sensitive Areas, cultural resources protection, and protection of endangered species and critical habitat;

d. Recognize the particular qualities, characteristics, and potentials of the project;

e. Provide consistency and compatibility with national objectives and other state and regional goals and programs.

An all-inclusive approach is needed to respond to public requirements while meeting all other Project goals. An approved MP, including public and agency review, would provide a strategic land use document for management and development of all project recreational, natural and cultural resources. The MP is a dynamic document that deals in concepts, not in the specific details of design or administration.

SECTION 2 – ALTERNATIVES

2.1 Identification of Alternatives

This section identifies a range of alternatives that could reasonably achieve the purpose and need identified in Section 1 above. The alternatives considered in this EA include: 1) No Action/No Change (NA/NC) from management based on the PUP; 2) Adopt proposed Dworshak Reservoir MP (Preferred Alternative); 3) maximize management/preservation of all natural resources with reduced recreational development and visitor use; and 4) maximize recreation facilities development and visitor use with reduced natural resources management. Alternatives considered are further described below.

- **Alternative 1: No Action/No Change**

  Inclusion of the NA/NC alternative is prescribed by CEQ regulations and serves as the benchmark against which Federal actions are evaluated. Under the NA/NC Alternative the District would not approve the adoption or implementation of the proposed MP and would not meet current regulations or goals requiring each Corps Project to have a current and approved master planning document. The 2011 PUP would continue to provide the only source of comprehensive management guidance with its associated ROs, LCs, and strategies for the operation and maintenance of project resources. Under this alternative, no new analysis would be completed.

  The NA/NC alternative would not meet the purpose and need stated in Section 1 above, but NEPA requires analysis of a “No Action” alternative as a baseline with which to compare other alternatives. The “no action” alternative does not mean there will be no environmental effects from this alternative.

- **Alternative 2: Adopt Proposed Dworshak Reservoir Master Plan (Preferred Alternative)**

  The District’s Preferred Alternative is the adoption of the MP which seeks to replace the PUP and provide a balanced, up-to-date management plan that is in compliance with EP 1130-2-550 (Corps, 2013a). The Preferred Alternative would provide strategic comprehensive management and development of all project recreational, natural, and cultural resources throughout the life of the Corps project. It would also guide planning for efficient and cost-effective management and development for comprehensive use, responsible stewardship, and sustainability.

- **Alternative 3: Maximize Natural Resources Management/Preservation**

  This alternative would require development and implementation of a MP that would strategically prioritize maintenance, operations and development for natural resource protection and preservation for the life of the project. Recreation development and use, multiple maintenance efforts for facilities, roads, trails and vegetation, and common access to some lands and waters would be restricted to protect plant, wildlife and fisheries species over other project uses. Project LCs and ROs would be developed to emphasize protection of specific habitats, animals and plants. Land classifications would restrict access in some areas for the purpose of environmental resource protection. This plan would restrict public access on or around the reservoir for the enhancement of species identified as high priority, such as ESA-listed species.

- **Alternative 4: Maximize Recreation Development and Visitor Use**

  This alternative would develop and put into practice a MP with a strategy to manage and utilize Dworshak project lands and waters for maximum recreation facilities development and visitor use on all lands for the life of the project. Many LCs currently allow some recreational use. Under this alternative, LCs and ROs would be developed to provide enhanced opportunity for Corps' and commercial recreational development on all lands and waters. Open access and formal access, such as hard surfaced roads, would be considered for all land classifications.

2.2 Screening of Alternatives

When screening alternatives, the Corps is obligated to consider the stated purpose and need (Section 1.4) and assure compliance with applicable laws/regulations and Corps' policies. The Corps developed the following screening criteria for all alternatives considered:

- Protect and manage project natural and cultural resources through sustainable environmental stewardship programs, such as Elk mitigation, environmentally sensitive areas, cultural resources protection, and protection of endangered species and critical habitat.

- Provide public outdoor recreation opportunities that support project purposes and expressed public interests/demands.

- Must comply with all applicable laws, regulations and Corps policies.

Table 2-1 Alternatives Matrix

Alternative	Criteria								
	A	B	C	D	E	F	G	H	I
(1) No Action	Y	Y	N	Y	Y	N	N	Y	Y
(2) Adopt Dworshak Master Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y
(3) Environmental Emphasis	N	Y	N	Y	N	N	Y	N	N
(4) Recreation Emphasis	N	N	Y	Y	N	N	N	Y	Y

Criteria Descriptions:

A. Provide best management practices to respond to regional needs, resource capabilities, and suitability and expressed public interests consistent with authorized project purposes.
B. Protect and manage project natural and cultural resources through sustainable environmental stewardship programs
C. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project while sustaining project natural resources and special programs such as Elk Mitigation, Environmentally Sensitive Areas, cultural resources protection, protection of endangered species, and critical habitat.
D. Recognize the particular qualities, characteristics, and potentials of the project.
E. Provide consistency and compatibility with state and national objectives, regional goals, and programs.
F. Project operating under an up-to-date land management document that is in compliance with current Corps Regulations regarding management of water resource development projects.
G. Manage vegetation along Dworshak Reservoir in accordance with ecosystem management principles to ensure the continued viability of ecosystems, enhance elk habitat, and to protect habitat for threatened, endangered, and sensitive species in concurrence with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service.
H. Manage the reservoir to maintain a full range of recreational opportunities ranging from existing developed campgrounds and marinas to natural sites with minimum facilities, while maintaining the general forest environment and preserving the remote nature found throughout much of the reservoir area.
I. Develop a plan for motorized and non-motorized recreational use that involves adjacent land owners and user group for public use. Work with these groups to develop education, enforcement, and plans to maintain roads and trails.

For Alternative 1, the Corps would continue to use the PUP document with its associated management practices, and not implement a MP update. The PUP document does not include regional analysis of recreation and ecosystem needs, project resource capabilities and suitability, recreation program analysis, and cumulative effects assessment, which are requirements of current Corps' policy. Although the Corps has the PUP in place for the Project, it does not fulfill all current Corps' requirements for an approved MP. Alternative 1 will be carried forward in this analysis, providing basis for comparison with other alternatives.

Alternative 2 (BALANCED) meets all the conditions of the stated purpose and need and responds to other Corps' policy and regulations. It provides the required analysis for regional needs, resource capabilities and suitability, and a strategic comprehensive recreation program. Alternative 2 will be carried forward in this analysis.

2.3 Alternatives Removed From Further Consideration

Alternative 3, “Maximize Natural Resource Management/Preservation” would include development and implementation of documentation to prioritize management, development, operation and maintenance of Project lands and waters specifically to preserve natural resources. Alternative 4, “Maximize Recreation Development and Visitor Use”, would include development and implementation of documentation to prioritize enhancement and expansion of recreation use, programs and facilities. Neither alternative 3 nor 4 fully respond to the purpose and need identified for this action. Of critical importance is the need to emphasize that a Corps MP is stewardship driven and must seek to balance recreational development and use with protection and conservation of natural and cultural resources. These alternatives do not consider resource capability and suitability, and are not consistent with multiple use authorized project purposes. These alternatives individually do not meet national objectives such as the Endangered Species Act or regional goals for elk mitigation objectives.

Alternative 3 and Alternative 4 have been eliminated from further consideration because they do not meet the screening criteria or the purpose and need requirements identified by the Corps guidance for a balanced comprehensive approach MP.

2.4 Alternatives Carried Forward for Detailed Analysis

Alternate 1, NA/NC, using the PUP and Alternative 2, adoption of the proposed MP, are described in following pages. Complete documentation for the existing PUP and the proposed MP can be found on the Corps website, listed below. The proposed MP is located in Appendix A, *Draft Master Plan*. A summary of the documents is provided below.

The full text of the Public Use Plan and the proposed Draft Master Plan is available on the Corps website: *http:www.nww.usace.army.mil/Missions/Projects/DworshakMasterPlan.aspx*

2.4.1 Alternative 1 - No Action/No Change 2011 PUP

Per NEPA, each EA or Environmental Impact Statement (EIS) must include an existing condition or “no action” alternative. This alternative serves as a baseline against which the effects of the other identified alternatives are measured and was therefore carried forward for further consideration. The no action alternative would continue to use the PUP (existing planning document). The PUP was developed by the Walla Walla District to address management changes necessary to accommodate changing conditions at Dworshak Reservoir. The PUP was intended to bridge the outdated DM10 and the proposed MP. Although MP updates have been initiated several times since 1970, various constraints have prevented the completion of a comprehensive Master Plan.

The PUP is a conceptual level planning document that identified ROs, updated LCs for the Project, and replaced land classifications developed in the 1970s which were out of

date or out of compliance with Corps policy. The PUP development included input from the public and addressed numerous current site conditions. The NA/NC alternative would leave the PUP analysis, land classifications, and land classification units as they have been since the plan was completed in 2011.

The NA/NC alternative does not require any site-specific development or Project modifications. Any future development or Project modifications would undergo separate analysis pursuant to NEPA, which would tier off of this EA.

In 1996, new guidelines for the development of MPs were adopted by the Corps and documented in EP 1130-2-550 (1996b). To initiate the update of DM 10 and development of the PUP, a detailed natural resource and recreation inventory was gathered and analyzed. This information was used in the decision-making processes for both the updated LCs and the conceptual implementation plans for future recreation use at the project. The information gathered during scoping meetings and working groups was combined with the detailed project inventory to form a list of opportunities, constraints, and other influencing factors for future recreation development and management at the Project.

From this inventory and public input, ROs were defined and updated LCs were developed. After addressing comments on these proposed classifications, a final land classification unit map was created. This map was used to determine the location and type of appropriate use, development and management actions in given locations. Conceptual implementation plans were created by addressing public input, natural resource inventory, and the updated land classifications. These conceptual plans were designed to be a guide for the future development and management of the Project. The intent of these conceptual plans was to provide public access and recreational opportunities that met public needs and were compatible with the natural resources stewardship values at the Project.

2.4.1.1 Resource Objectives - PUP

The function of the PUP was broader than identifying potential development and use of recreational facilities. The PUP also included the stewardship of project resources, both natural and manmade, excluding the dam and associated operating equipment. Sound stewardship requires the development and management of project resources for public benefit that is consistent with resource capabilities. An important component of this approach is the establishment of viable ROs. The PUP ROs were identified for the following areas: Access Management; Boundary Management; Cultural Resource Management; Fire Management; Forest Management; Road Management; Weed Management; Wildlife Habitat Management; Wildlife Species Management; Fisheries; and Recreation. Each RO provided specific language, defining purpose and intent.

ROs are clearly written statements that set forth measureable and attainable current and future management and development activities that support the stated goals of the MP. The ROs are realistically attainable goals for the use, development, and

management of natural and manmade resources. They are guidelines for obtaining maximum public benefits while minimizing adverse impacts and protecting and enhancing environmental quality. They are developed with full consideration of authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local governmental units, and expressed public needs. The over-arching, project-wide RO for the Project was to continue to safely, effectively, and efficiently provide benefits to the public from the congressionally-authorized purposes. For the complete text identifying ROs, please refer to the PUP document at the Corps' website.

2.4.1.2 Land Classifications - PUP

The LC of an area governs land uses, resource management activities, and permissible facility development. Combined with project-wide and site-specific ROs, the LC provides a conceptual guide for the use, management, and development of all project lands. As part of the planning process project lands were divided into individual management areas based on physical, administrative, operational, and use characteristics. Each area was assigned the most appropriate land classification. Together, the ROs and LCs were the bases for the PUP.

The Corps' EP 1130-2-550 (Corps 2013a), Chapter Three, provided guidance regarding how project lands would be classified. All lands acquired for project purposes are classified to provide for development and resource management consistent with authorized project purposes and federal laws. The classification process refines the land allocations to fully use project lands. The Corps considers legislative authority, regional and project-specific resource requirements, resource suitability, and public desires. LCs identified during development of the PUP were adopted in the proposed MP. These include: Project Operations Lands; Recreation Lands; Mitigation Lands; Environmentally Sensitive Areas; Multiple Resource Management Lands (Recreation-Low Density, Wildlife Management, Vegetative Management, Inactive and/or Future Recreation Areas), and Easement Lands. Each classification includes a general description of physical and use characteristics. The full list of LCs and definitions are proved in the description of Alternative 2, Proposed MP. Information is also provided in Appendix A, *Draft Master Plan*.

2.4.1.3 Land Classification Units - PUP

Land classification units (LCU) are zoning plans in the sense that they allow for specific types of management, development, and use within each LC. Designation of LCUs is based on the attractiveness of the resource, as well as their protection, capability, public desires, and agency missions and policies. The process used to determine the assignment of these land classification to a land unit is described below:

- **General -** Attractiveness, vulnerability, and compatibility models were developed for each land classification, using criteria from the regional and project inventory, as well as analysis data.

- **Attractiveness -** The first step in the process is to map those lands most attractive or best suited for a particular land classification. This is done by combining resource data maps (slope, existing facilities, and vegetation).

- **Vulnerability -** The next step is to identify and map those areas vulnerable to impact (positive and negative) for a particular land use, by using resource data maps that identify sensitive resources (i.e., wildlife habitat, wetlands, or highly erodible soil). Impacts can be caused by construction, use, or maintenance, among other things.

- **Compatibility -** The third step in the process is to create a compatibility map. This is done by combining attractiveness and vulnerability maps. The compatibility map identifies areas with high attractiveness and low vulnerability. Compatibility maps are subject to change as additional information is developed.

- **Tradeoff Analysis -** After all compatibility maps are completed for each different land use, they are compared. Sometimes the lands best suited for recreation and wildlife are the same. When this situation arises, a tradeoff occurs, and a decision is made as to which land use best serves both regional and project needs. This step uses the analysis of resources, the professional judgment of an interdisciplinary team, public input, and input from other agencies.

In 2011, an interdisciplinary team followed the process discussed above to identify LCUs for all lands at the Project. The PUP LCU provided rationale for each unit. There are 38 LCUs identified for Dworshak Project.

The LCUs designated during development of the PUP were also adopted in the proposed MP. The full list is provided in the Proposed MP in Appendix A, *Draft Master Plan*.

2.4.1.4 The PUP Summary and Conclusions

In 1992, the Corps began lowering reservoir water levels in response to ESA, Section 7 consultation for endangered species. This was not a consultation for DWA operations, but for the Federal Columbia River Power System (Corps 1992), that affected operation of the DWA reservoir and was required under the BiOp to address downstream conditions.

Historically, the reservoir remained full during the peak recreation season between Memorial Day and Labor Day. Currently, the reservoir is generally filled for the 4th of July weekend, and the drawdown begins after the holiday. The lower water elevations have created challenges for public access to recreation areas.

Many facilities designed for full pool, for a majority of the recreation season no longer meet the needs and desires of the public at the lower water levels. The existing recreation areas offer great variety in location, types, and levels of developed facilities for land-based and water-based recreation activities. However, because of fluctuating water levels, visitation peaks two weeks before and after the 4th of July holiday, when the reservoir is at full pool. The low pool elevations have required the Corps to look at implementing unique management practices (i.e., extending boat ramps and installing destination docks) to minimize the impacts of reservoir drawdowns.

Extensive coordination with the general public, and citizen-involved working groups, was incorporated in all aspects of the 2011 PUP. Coordination between Tribal, federal, state, and local agencies; as well as with non-governmental organizations was also important to the creation of this plan. Planning for the development, preservation, or enhancement of project resources will continue to be coordinated with Tribes, governmental agencies, non-governmental organizations, and members of the general public to ensure the efficient, effective, and timely implementation of resource objectives.

The PUP provided conceptual guidelines for the effective management of Dworshak Reservoir, developed in accordance with the Corps' master planning process as defined in pre-2013 Corps guidance. Preparation of the PUP required an appraisal of the natural and human-related resource conditions of the project and the surrounding region; and examination of environmental and administrative constraints and influences.

The Corps considered development and improvement needs at new and existing recreation areas, needs for resource protection, visitation trends, and public requests for new development, as well as improvements to current development. The conceptual guidelines presented in the PUP authorized the Natural Resources staff to propose projects that would address current problems and demands. Each proposed project was evaluated for environmental compliance before it was implemented; and based on proper approval, public desires and available funding. The guidelines also incorporated revisions to federal regulations, changes to socioeconomic conditions in the project area, and improvements made at the Project since the 1970 PUP (DM 10) was first issued.

The PUP recommendations looked to improve operation and maintenance of recreational facilities for increased efficiency. Many site features, such as steep slopes and fluctuating water levels, made the operation and maintenance of recreational facilities expensive and time consuming. Creating more efficient recreational opportunities would help to ensure the continued success of public access.

2.4.2 Alternative 2 - Proposed MP

With adoption of this alternative, the MP would supersede DM 10 and the PUP. The MP is a strategic planning document that would guide and articulate Corps responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources. The MP

would be a dynamic document projecting what could and should happen over the life of the project and is flexible based upon changing conditions. The MP would deal in concepts, not in details of design or administration. It would work in combination with the Operational Management Plans (OMP) to provide long-term comprehensive planning for future goals and strategies related to decisions on natural and cultural resources as well as public use. The OMP presents highly detailed information specifically to direct the day to day tools required to implement the MP strategies.

The proposed MP would be developed to comply with Corps regulation, update the current PUP, and consider expanded up-to-date analysis. The EP 1130-2-550, date 30 June 2013, provides the following MP guidance. "A current, approved MP is necessary before any new development, construction, consolidation, or land use change can be pursued. These activities will not be included in budget submissions unless they are included in an approved MP". The MP would include up-to-date descriptions of natural resources and recreation facilities. Incorporated into the document would be ecosystem requirements, project resource capabilities and suitability, regional analysis of recreation, including trail inventory, visitor trends and demands, and socioeconomic analysis. A cumulative effects assessment would also be included.

Alternative 2 would guide comprehensive management and development, but it would not identify or require any site-specific development or Project modifications. If and when future development or Project modifications were proposed, they would undergo separate analysis under the NEPA, which would tier off of this EA.

2.4.2.1 Resource Objectives - Proposed MP

The ROs identified in the PUP were restructured and updated for the MP. The ROs better respond to Corps' guidance and updated analysis on public use and natural and cultural resource management. The objectives continue to fully consider authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local governmental units, and public concerns. The over-arching, project-wide resource objective for Dworshak Reservoir is to continue to safely, effectively, and efficiently provide benefits to the public from the congressionally-authorized purposes of Flood Damage Reduction, Hydropower, Recreation, Fish and Wildlife.

Table 2-2 illustrates the 2011 PUP ROs and the proposed MP ROs. The PUP used general titles, while the proposed MP altered the organization of the objectives and expanded the list under three specific categories. (See Table 3) Additional resource headings allow better focus in response to current issues at Dworshak and provide understanding on how the Project would address specific natural resource and public use opportunities and concerns. For example, important activities that were included under broad general objectives in the PUP are now expressly identified, commensurate with importance to project management. These include safety, aesthetics, interpretive services and outreach, universal access, water-based facilities and design, and recreation quality and optimization. These added ROs allow the Corps to focus in greater detail about specific issues unique to the Project.

Table 2-2. PUP and MP Resource Objectives Comparison

PUP Resource Objectives	MP Resource Objectives
Access Management	**General**
Boundary Management	Boundary Management
Cultural Resources Mgmt	Safety
Fire Management	Aesthetics
Forest Management	**Recreation**
Road Management	Access Management
Weed Management	Interpretive Services and Outreach Program
Wildlife habitat Management	Water Based Facilities and Infrastructure
Wildlife Species Management	Day Use and Camping Facilities
Fisheries Management	Recreation Quality and Optimization
Recreation Management	Universal Access
	Environmental Stewardship
	Cultural Resources Management
	Fire Management
	Forest Management
	Weed Management
	Wildlife Habitat Management
	Fisheries

The MP ROs provide a high degree of regional recreation diversity and emphasize the special characteristics of the project. They are consistent with national objectives and regional goals.

The vision of the MP ROs is to:

- Manage vegetation along Dworshak Reservoir in accordance with ecosystem management principles, to ensure the continued viability of ecosystems, to enhance elk habitat, and to protect habitat for threatened, endangered, and sensitive species in concurrence with the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service.

- Manage the reservoir to maintain a full range of recreational opportunities, ranging from a few highly developed full-service campgrounds and marinas to natural sites with minimum facilities, while maintaining the general forest environment at all locations and maintaining the remote nature of much of the upper reservoir area.

- Develop a plan for motorized and non-motorized recreational users and work with adjacent land owners to provide trail systems for the public. Work with user groups to develop education and enforcement plans and maintain roads and trails.

A condensed list of the MP ROs is shown in Table 2-3. For complete information, please refer to the MP in Appendix A, *Draft Master Plan,* or the Corps' website: *https:www.nww.usace.army.mil/Missions/Projects/Dworshak/MasterPlan.aspx*

Table 2-3. The MP ROs

RO	Objective
General	
Boundary Management	Prevent unintentional trespass and negative impacts associated with timber trespass, livestock trespass, and other unauthorized use of government property.
Safety	Provide public use areas and facilities that are safe.
Aesthetics	Plan all management actions with consideration given to landscape quality and aesthetics.
Recreation	
Access Management	Actively address unauthorized motorized access along the Operating Project boundaries to reduce negative impacts to fish and wildlife habitat and conflicts with non-motorized recreational users.
Interpretive Services and Outreach Program (ISOP)	Interpretive services will focus on Agency, District and Operating Project Missions, benefits and opportunities. Interpretive services at Dworshak will be used to help enhance public safety through promoting increased public awareness, understanding, and appreciation of Dworshak Reservoir and its resources.
Water-Based Facilities and Infrastructure	Provide well-designed water-based facilities and infrastructure that helps to alleviate problems associated with recreation on a reduced pool.
Day Use and Camping Facilities	Maintain and improve day use and camping facilities to meet public demand and reduce operation and maintenance costs while maintaining the integrity of the Operating Project's natural resources.
Recreation Quality and Optimization	Future development and/or rehabilitation of recreation facilities should focus on improving opportunities to best use the resource at any given water level. Opportunities should be sought to provide where possible recreation opportunities and development that expand recreation seasons and resource availability for more users.

Table 2-3. The MP ROs

RO	Objective
Universal Access	Provide safe and accessible recreation opportunities for all Operating Project visitors.
Environmental Stewardship	
Cultural Resource Management	Carry out all legal requirements of the National Historic Preservation Act in support of ongoing work on Operating Project lands.
Fire Management	Minimize the negative effects of wildfires, including impacts to federal property and recreating public.
Forest Management	Manage forestland along Dworshak Reservoir to meet various resource objectives, including ecosystem integrity, forest health, wildlife habitat and recreational opportunities.
Weed Management	Minimize negative impacts to the native flora and fauna by reducing and/or eradicating noxious weeds on Operating Projects lands.
Wildlife Habitat Management	Conserve, protect, monitor, restore, and/or enhance habitat and habitat components important to the survival and proliferation of threatened, endangered, special status, and other regionally important species on Operating Project lands.
Fisheries	Continued work with Idaho Fish and Game and other possible partners to improve the aquatic ecosystem.

2.4.2.2 Land Classifications - Proposed MP

The LC of an area governs land uses, resource management activities, and permissible facility development. Combined with project-wide and site-specific ROs, the LCs provides a conceptual guide for the use, management, and development of all project lands. As part of the planning process project lands were divided into individual management areas based on physical, administrative, operational, and use characteristics. Each area was assigned the most appropriate land classification.

Land classifications have not changed since the completion of the PUP. In depth efforts in land use analysis and an extensive public involvement process was executed during development of the PUP. LCs were developed at that time for the Project that continue to meet Project needs and fulfill requirements of current Corps policy.

- **Environmentally Sensitive Area:** These are lands where scientific, ecological, cultural, or aesthetic features have been identified.
- **Mitigation:** These are lands specifically designated to offset elk habitat losses associated with the development of the Project.

- **Multiple Resource Management:** These are lands managed for one or more of the activities described in the following bullets:
  - **Recreation-Future Development:** These are lands where recreation areas are planned for the future, or lands that contain existing recreation areas that are temporarily closed.
  - **Recreation-Low Density:** These lands emphasize opportunities for dispersed or low-impact recreation use.
  - **Wildlife Management:** These lands are designated for wildlife management, although all project lands are managed for fish and wildlife habitat in conjunction with other land uses.
  - **Vegetation Management:** These lands focus on the protection and development of forest resources and vegetative cover, although all project lands are primarily managed to protect and develop vegetative cover in conjunction with other land uses. The Corps chose not to designate any Project lands in this classification unit as the Recreation-Wildlife Management unit contains the primary areas where vegetation management would occur.
- **Flowage Easement:** These are USFS lands for which the Corps does not hold fee title, but has acquired the right to enter onto the property in connection with the operation of the project.
- **Project Operations:** These are lands required for the dam and associated structures, administrative offices, maintenance compounds, and other areas used to operate and maintain the Project.
- **Recreation:** These lands are designated for intensive recreational use to accommodate and support the recreational needs and desires of project visitors. They include lands where existing or planned major recreational facilities are located; and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use.

The LCs in the PUP identified the primary management focus of the lands as designated, but other secondary uses were permitted. For example, low density recreation uses, including activities such as hunting, fishing, hiking, backpacking, picnicking, sightseeing, primitive camping, etc., are permitted on most lands as a secondary use. Information related to the classifications has been reviewed and confirmed for the MP. Each LC includes a general description of physical and use characteristics. Additional information on LCs is provided in the proposed MP, Appendix A, *Draft Master Plan*.

2.4.2.3 Land Classification Units - Proposed MP

The LCUs for the MP are the same as those identified in the PUP. In 2011, during development of the PUP, an interdisciplinary team followed the process discussed in Section 2.4.1.3, to identify LCUs for all lands at Dworshak Project.

The PUP LCs provided rationale for each LCU. There are 38 LCUs identified for Dworshak Project. The PUP LCUs were reevaluated by the planning team for use in the proposed MP. LCU locations remain the same in the MP. For complete information regarding the LCUs please see the proposed MP in Appendix A, *Draft Master Plan* or at the Corps' website: *https:www.nww.usace.army.mil/Missions/Projects/DworshakMasterPlan.aspx*

2.4.2.4 Summary and Conclusions - Proposed MP

The proposed MP would provide conceptual guidelines for the effective management of the Project, developed in accordance with the Corps' MP regulations. Preparation of this plan would required an appraisal of the natural and human-related resource conditions of the project and the surrounding region; and an examination of environmental and administrative constraints and influences. Sound stewardship of public lands requires development and management of project resources for the public's benefit that are consistent with resource capabilities.

MP studies would look at reservoir regulation and effects on users, fish, and wildlife. Influence from adjacent land uses was identified. The authority of laws and regulations, such as the Endangered Species Act, were considered. Additionally, other factors would be studied, including current and future projected visitation, use trends, carrying capacity, regional population changes, demographics and socioeconomics.

The formulation of the proposed MP for the development and management of the Project has sought balance between maximum public benefits on a continuing basis and protecting the environmental resources of the area for future ecological benefits. This effort has extended over many years. It required the interaction and involvement of the general public and recreational user groups, as well as federal, state, and local offices. This proposed MP would guide the use, development, and management of the Project in a manner that optimizes public benefits within resource potentials and the authorized function of the project

The proposed MP would seek to improve operation and maintenance for recreational facilities for increased efficiency. Many site features, such as steep slopes and fluctuating water levels at Dworshak, make the operation and maintenance of recreational facilities expensive and time consuming. Creating more efficient recreational opportunities would help to ensure the continued success of public access and use at the Project.

The conceptual development guidelines presented in this MP would authorize the Natural Resources staff to propose projects that address current problems and demands. Each proposed project would be evaluated for environmental compliance before it is implemented; and based on proper approval, public desires and available funding. The guidelines specifically consider types of recreational uses and facilities, including motorized access, boating, fishing, floating facilities and docks, marinas, boat launch ramps, camping, campsites, swimming, hiking, biking, and equestrian use.

Other analysis would include visitation and future demands. Facilities design principles and criteria extracted from EM 1110-1-400, "Recreation Planning and Design Criteria" (Corps 2004), appropriate to the Project would be provided and discussed. These include structures, utilities, landscaping, and other support items.

This proposed MP would address the need to provide additional recreation features that will allow the reservoir to be more accessible at any given time of the year and at varying water levels. Recommendations that specifically allow the reservoir to be more accessible to the public include the possibility of designating trails for ATV use, and designating the shore in the drawdown zone as an approved location for camping. The majority of the shoreline on the reservoir was classified as low density recreation in order to support public use of that resource. The majority of the lands above the shoreline would be managed for the primary purpose of wildlife. However, this does not limit the ability of the public to access and use these lands for approved activities. Developed recreation areas have also been identified, and have potential for future development based on initial evaluations. Funding, visitation, public demand, and environmental effects, as well as other effects, would be studied before any of these areas are developed.

Planning for the development, conservation, and enhancement of project resources would continue to be coordinated with Tribes, governmental agencies, non-governmental organizations, and members of the general public to ensure the efficient, effective, and timely implementation of resource objectives.

It is recommended that changes to current operations and facilities be implemented when the Corps has received sufficient public demand, available funding, and completion of the environmental compliance process. Additional development would only occur if it meets the criteria provided in the proposed MP, is appropriate in scale to the level of demand, and does not significantly affect natural or cultural resources, as described in, and evaluated by, the NEPA process. The current OMP for the Project would be reviewed for consistency with this MP and updated as needed.

Photo 2-1. North Fork Clearwater River Downstream

SECTION 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This section identifies and describes: (1) the affected environment – i.e. the Project recreation, natural and cultural resources which have the potential to affect or to be affected by the alternatives, and (2) what the effects on those resources might be with implementation of the alternatives. Although all existing resources within the Project area were initially considered, only those resources determined relevant to the proposed action were included in the affected environment. While the intent is to focus on relevant resources, it is important to recognize that the level of relevance of each identified resource to the proposed action is not the same. The Corps considered all resources in the proposed project and made a determination as to which to evaluate. Some resources figure more prominently in an undertaking than others. For purposes of this EA, all relevant resources are identified but not all are discussed in detail. Level of detail is limited for this analysis. As detailed plans are developed for specific actions, added NEPA analysis will occur to either confirm or test less than significant effects, or an EIS would be written.

The probable consequences (impacts and effects) of the NA/NC (PUP) alternative and the preferred alternative (proposed MP) on Project recreation, environmental and cultural resources were evaluated. The PUP and MP are conceptual planning documents that do not direct specific action, such as ground disturbing activities that would cause direct impacts to natural and cultural resources. Using the current PUP or the proposed MP would affect planning and management of Project resources and how the resources are best managed for conservation and public use. The plans provide guidance for planning future work based on meeting resource objectives.

3.2 Summary of Environmental Resources and Impacts

Alternative 1, NA/NC, would continue to use the PUP as the planning document. There would be no change from the current management of Project resources and no impacts associated with current routine operation and maintenance activities. The PUP does not direct specific actions, but provides guidance for meeting resource objectives. However, the PUP does not currently meet Corps policy. Inability to meet Corps policy would limit capability to complete some tasks for the improvement of management for Project resources. Some impacts identified in the following pages are caused because certain management actions would be limited.

Table 3-1. Effects of the Proposed Alternatives on Project Resources

General	Aesthetics	Recreation	Fish	Wildlife
Alternative 1 – No Action/No Change				
Routine activities would have minor or no impacts using best management practices (BMPs) Inability to meet new Corps' policy limits capability to execute future program changes, resulting in adverse impacts (e.g. limits to forest sanitation harvest and new recreation facilities).	No adverse impacts from routine maintenance and operation actions. Long-term, adverse impacts would occur due to Corps' policy that limits management program changes.	No adverse impacts from routine maintenance and operation actions. Future development is limited by Corps' policy, resulting in long-term adverse impacts to resources and users.	No adverse impacts to resident fish. Fishery improvement programs, such as Kokanee nutrient enhancement could be adversely impacted long-term by Corps' policy restrictions.	No adverse impacts from routine maintenance and operation actions. Current habitat maintenance activities would be restricted by Corps' policy. Limiting maintenance programs would result in adverse impacts to habitat and associated wildlife species.
Alternative 2 – The Proposed MP				
Routine activities would have minor or no adverse impacts using BMPs. Future management changes may result in minor short-term adverse impacts. Program changes would achieve beneficial impacts for project resources and users.	No adverse impacts from routine maintenance and operation actions. Long-term management changes include beneficial impacts on forest, wildlife, water quality for positive aesthetics.	No adverse impacts from routine maintenance and operation actions. Modernization and upgrading may cause short-term minor adverse impacts. Actions for improvement to wildlife and habitat would cause beneficial impacts for users.	No adverse impacts to resident fish. Future management strategies to improve vegetation care, visitor access and updated facilities may have minor short-term adverse impacts resulting in significant beneficial impacts.	No adverse impacts from routine maintenance and operation actions. Beneficial impacts would occur with land management techniques to meet objectives of improved habitat for sustainable wildlife populations.

Table 3-1. Effects of the Proposed Alternatives on Project Resources

Vegetation	Endangered Species	Cultural Resources	Water Quality
Alternative 1 –No Action/No Change			
No adverse impacts from routine maintenance and operations actions. Future vegetation maintenance program actions would be restricted by Corps' policy, creating long-term adverse impacts. Adverse impacts would occur to project vegetation, habitat and associated wildlife species.	No adverse impacts from routine maintenance and operation actions. Future development or program changes would be restricted by Corps' policy, creating long-term adverse impacts. Actions that may impact ESA species would be coordinated with appropriate agencies.	No adverse impacts from routine maintenance and operations actions. Future development or program changes would be restricted by Corps' policy, creating long-term potential adverse impacts. Actions that may impact cultural resources would be coordinated with Tribes and agencies.	No adverse impacts from routine maintenance and operation actions. Future development or program changes would be restricted by Corps policy, creating potential adverse impacts. Actions that may impact water quality would be coordinated with appropriate agencies.
Alternative 2 – The Proposed MP			
No adverse impacts from routine maintenance and operation actions. Enhanced vegetation management to meet sustainable forest objectives would provide beneficial impacts.	No adverse impacts form routine maintenance and operations actions. Enhanced planning for sustainable resources would provide beneficial impacts for ESA species. Some short-term minor adverse impacts may be anticipated.	No adverse impacts from routine activities at the Project. Miner adverse impacts from ground-disturbing work would be likely with future vegetation and visitor facility management changes.	No adverse impacts from routine maintenance and operation actions. Sustainable natural resource planning would provide beneficial impacts by improved vegetation management and recreation development.

1 Best Management Practices (BMP) are techniques used during ground disturbing activities and construction to avoid impacts to natural resources, cultural resources, or humans.

2 "Corps Policy Change" refers to the 2013 MP policy requiring an approved MP, EP 1130-2-550.

3 Under the "no action" alternative a new master plan would not be approved, limiting acceptable comprehensive planning for the project.

4 Emergency actions are not included in the table above. These actions would require consultation and or coordination with the appropriate agencies and Tribes.

Alternative 2, the proposed MP. The following analysis assumes changes in management of the Project would occur with adoption of the proposed MP. During initial implementation of the MP, when work is typically for operation and maintenance, there would be no impacts. As decisions are made that reflect changes in management, based on the proposed MP, impacts are likely. Long-term, improvement of natural resources and visitor facilities through execution of the preferred alternative (proposed MP) would result in beneficial impacts to recreation, natural resources and cultural resources at the Project. Implementation of MP recommendations, based on updated information, expanded ROs and analysis, would improve overall management of Project resources.

3.3 Environmental Review by Resource

Arrays of recreational, cultural and natural resources were evaluated relate to the alternatives. Utilizing the MP as a planning document for future development and management of facilities and resources would have beneficial impacts on environmental resources. Impacts could occur as land use, facility type, availability, and natural resource management is altered over an extended period of time in response to guidance in the MP.

The intent of the MP is to develop a guide to the sustainable use of resources at the Project. It was not possible to define the exact nature of potential impacts prior to receiving proposals for specific management actions, such as construction of new facilities or vegetation management. As detailed plans are developed for specific actions, added NEPA analysis would occur to either confirm or test less than significant effects, or an EIS would be written. In the following paragraphs, Alternative 1, the NA/NC alternative is evaluated to establish a baseline from which to compare other alternatives.

3.3.1 Aesthetics/Visual Quality

Aesthetics are subjective and are absorbed to a varying degree by each individual. At Dworshak Dam both positive and negative aesthetic aspects can be identified. In terms of the natural aesthetic qualities, a reservoir bordered with forested slopes can afford a beautiful mountain setting for the outdoor recreationist provided that two conditions are met: (1) the viewer must be out of sight of the dam and other areas of intensive human development and (2) the reservoir must be at near-full capacity so the bare banks are not visible in order that the setting can retain pristine-like qualities.

Of particular issue at Dworshak is the drawdown of the reservoir during mid-summer, exposing hundreds of feet of steep bare mineral soils between the water surface and the forests. Perspective regarding visual quality during drawdown varies by person. However, the bank view of no water and no vegetation, plus difficult access to forests

and facilities generally detracts from the recreation experience for many users. Aesthetics can be enhanced by other positive experiences such as a fishery that offers the angler the chance to catch fish. These attributes can enhance the aesthetics of the situation through anticipation or success.

Some viewers may enjoy an aesthetic experience in observation and use of the man-made project elements, such as the dam, visitor facilities, fish hatchery, and recreation areas. The degree to which these elements may be positive aesthetic features depends in large measure upon the architectural qualities (design sensitivity) and maintenance practices associated with each constructed feature.

The Corps' visitation figures indicate fishing, boating, and sightseeing are the primary motivation for visiting Dworshak. Scenic natural meadows, mixed conifer forests, brush fields along with logging roads, and burned and logged areas (both on Project land and on adjacent property) are visible from the reservoir.

- **Environmental Consequences**

  Alternative 1 NA/NC would utilize ROs, LCs and LCUs as identified in the PUP. There would be no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. Under the PUP alternative, timber maintenance or removal for forest health would be limited. Forest changes caused by insect infestation may show large areas of dead and dying evergreen forests. Visually, this would adversely impact aesthetics from the lake view.

  Natural resource management would continue as it has since adoption of the PUP in 2011. Adverse impacts to aesthetics could occur as certain activities, such as timber removal for forest health and wildlife habitat maintenance may be limited by 2013 Corps policy. Limiting forest sanitation maintenance would lead to poor forest health and modification of natural forest succession stages. The visual character of the forest and other landscapes would adversely impact aesthetics.

  Under Alternative 2, the proposed MP, there would be no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. Long-term, alternative 2 would improve vegetation management activities, such as planning for sanitation timber cuts and, would have long-term beneficial impacts on forest health, and habitat maintenance. As ROs are met with improved forest health and diversity of habitat improves, positive classic aesthetic values would be achieved. With any construction, or ground disturbing actions, best management practices (BMP) would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc.

3.3.2 Recreation

The recreation facilities at Dworshak provide for a wide range of recreational pursuits. With the exception of Dworshak State Park and Big Eddy Marina, which are leased to the State of Idaho, all other facilities and lands are operated and maintained by the Corps. The majority of recreation activities occur at the lower end of the reservoir, from Dworshak Dam to Dent Acres Bridge; and major recreation developments are located at Big Eddy, Dworshak State Park, and Dent Acres. These recreation sites were primarily built with project construction money when the project was originally developed and have been updated and improved since initial construction.

Dworshak provides recreational opportunities for over 120,000 visitors each year. The number and variety of recreational facilities has increased, and many improvements have been made to overcome issues caused by low reservoir elevations and access. While most recreation occurs on the lower end of the reservoir, there are recreational opportunities at the upper end of the project as well, such as camping, hiking, fishing, hunting, and boating. Facilities include boat-in campsite and drive in campgrounds, trail systems for hikers, ORV's and horses, swim areas, docks, boat ramps, and interpretive services, to name a few.

Dworshak recreation is essential to the communities of Orofino and Lewiston, providing a large percentage of the region's recreational opportunities. The reservoir provides, in many cases, the only access to the upper reaches of the North Fork Clearwater River and many of its tributaries and perennial streams.

Drawdown of the reservoir during the summer recreation season began in 1992 and has modified recreational use at the project. Changes in desired activities and visitor use mandated changes in facilities and resource maintenance. In some instances, there are conflicting recreational uses of the lands around the reservoir. The Corps-owned recreation facilities at Dworshak Reservoir vary from well-developed campgrounds to primitive areas with few facilities. Because of topography, road access, and location relative to population centers, most development of intensive-use recreation facilities have been concentrated on the lower third of the reservoir.

- **Environmental Consequences**

  Alternative1, NA/NC, would allow recreation activities, facilities and access maintenance on project lands to continue as current. There would be no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. Although maintenance of current recreational facilities would continue under the NA/NC alternative, the PUP would not accurately reflect the current status of the facilities, changing use patterns, and future requirements. Recreation use would continue to varying degrees on the project, with some increase in visitation. According to Corps' policy, without an approved MP, funding for new recreational development, construction, consolidation or land use

change would not be approved. Adverse impacts may occur due to unauthorized use in undeveloped locations as users attempt to utilize reservoir resources that don't respond to visitor needs at low pool elevations. Adverse impacts could occur as future facility development for changing use is limited by Corps policy.

Alternative 2, the proposed MP, would enable more efficient land management. There would be no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. The recreation needs of the public would be better accommodated through the implementation of the MP. Future recommendations would be based on review of existing facilities, resource suitability, carrying capacity, environmental and social effects, trends and forecast of future demands. There would be beneficial impacts on recreation, not only from modernization and upgrading existing facilities but also from increasing management of natural resources through some of the MP recommendations. The proposed MP would comply with Corps policy. Future development would provide beneficial impacts providing for sustainable use of reservoir resources. With any construction, or ground disturbing actions, best management practices (BMP) would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc.

Recreation has been limited at Dworshak Reservoir due to the annual drawdown that occurs to benefit anadromous fish downstream. Despite the drawdown, approximately 120,000 people visit the Dworshak Project annually. As project uses changes and management is modified to meet changing use and presumably increased visitation, there would be short term, minor adverse impacts due to new or upgraded facilities and improved land management changes. The Preferred Alternative is expected to have beneficial impacts to socioeconomics, (population, economy, transportation, safety). The opportunity to provide future recreational access, while maintaining the undeveloped lands that characterize much of the project, would serve the community and attract tourists to the region.

3.3.3 Fish

Fish are high priority for all project waters. Project lands classified as "Multiple Resource Management" or "Recreation" are managed for either direct or incidental benefit to fish for enhancement or protection. The Corps has limited authority for direct management of fish species inhabiting the reservoir. However, the Corps has authority to protect and improve terrestrial or aquatic habitat, both providing benefits to fish. Most fish species are directly managed by Idaho Department of Fish and Game. The U.S. Fish and Wildlife Service manages bull trout, pursuant to the Endangered Species Act.

Dworshak Reservoir is a deep, oligotrophic storage reservoir with a steep shoreline (Corps 1982). The reservoir stratifies during the summer, providing warm-water habitat on the surface layer and cold water at depth (Corps 1982). Dissolved oxygen is typically sufficient to support fish populations. Most phytoplankton and zooplankton production occurs in the epilimnion (the upper layer of a stratified lake) which generally extends over the upper 40 feet of the reservoir. Current objectives of flow augmentation to enhance downstream conditions for endangered salmon migration result in dramatic drawdown (80 to 155 feet), exposing up to 200 feet of mineral soil around the perimeter of the 54-mile reservoir for most of the year. Because of the extensive variation in water surface elevation and contained wave action, aquatic macrophytes are virtually nonexistent along the shoreline and benthic production is low (Corps 1992). Within the Stewardship project boundary, there are 24 streams. Of these, two are fish bearing, eight are permanent, and fourteen are intermittent.

Twenty-one fish species inhabit Dworshak Reservoir (Maiolie *et al*. 1993). Primary sport species present in the reservoir include kokanee, rainbow trout, smallmouth bass, largemouth bass, cutthroat trout, brook trout, mountain whitefish, crappie, and brown bullhead (Maiolie 1988). Because of the steep shorelines and drastic fluctuations in pool level, little shallow water habitat is available to support natural reproduction of smallmouth bass. Maximum shoreline spawning habitat exists at full pool. Cutthroat and rainbow trout spawn in the tributaries in the spring. Bull trout and kokanee spawn in the fall primarily in the tributaries to the reservoir (Maiolie 1988). It is presumed that mountain whitefish also spawn in the streams or in the North Fork Clearwater River upstream of the reservoir. See table 3-2 for a list of fish species inhabiting Dworshak Reservoir.

The distribution and abundance of westslope cutthroat trout has declined throughout its former range since the late 1800s (Liknes and Graham 1988; Shepherd 2005). The decline of cutthroat trout has been attributed to overfishing, genetic introgression, competition with nonnative species (especially stocked rainbow trout), and habitat destruction (Liknes and Graham 1988). As a result of study findings, indicating that many healthy populations still exist and thrive in Idaho waters, the USFWS denied listing the westslope cutthroat. The species is listed as a sensitive species in Idaho. Westslope cutthroat occurs in the reservoir and spawns in larger tributaries. It has been documented to occur in the following creeks feeding Dworshak Reservoir; Long Meadow, Elk, Cranberry, Swamp, Weitas, Gold, Benton, Little North Fork of the Clearwater, Breakfast, and North Forth of the Clearwater (Clearwater Subbasin; www.StreamNet.org 2009).

Table 3-2 Fish Species Inhabiting Dworshak Reservoir

Common Name	Scientific Name
Chiselmouth	*Acrocheilus alutaceus*
Bridgelip sucker	*Catostomus columbianus*
Largescale sucker	*Catostomus macrocheilus*
Sculpin	*Cottus spp.*
Northern pike	*Esox lucius*
Pacific lamprey	*Entosphenus tridentatus*
Brown bullhead	*Ictalurus nebulosus*
Pumpkinseed	*Lepomis gibbosus*
Smallmouth bass	*Micropterus dolomieui*
Largemouth bass	*Micropterus salmoides*
Kokanee	*Oncorhynchus nerka*
Black crappie	*Pomoxis nigromaculatus*
Mountain whitefish	*Prosopium williamsoni*
Northern pike minnow	*Ptychocheilus oregonensis*
Longnose dace	*Rhinichthys cataractae*
Speckled dace	*Rhinichthys osculus*
Redside shiner	*Richardsonius balteatus*
Cutthroat trout	*Oncorhynchus clarki*
Rainbow trout	*Oncorhynchus mykiss*
Bull trout	*Salvelinus confluentus*
Brook trout	*Salvelinus fontinalis*

Source: Maiolie, M.A.; D.P. Statler; and S. Elam 1993.

- **Environmental Consequences**

  To varying degrees the greatest impact to fish is the annual drawdown of the reservoir. This action improves river conditions downstream for aquatic organisms, but has a negative effect for aquatic organisms within the reservoir, related to food, spawning, entrainment, cover and water quality associated with soil erosion. These impacts to the reservoir and to fish would continue under either of the proposed alternatives.

  Alternative 1, NA/NC would utilize ROs, LCs and LCUs as identified by the PUP. Resource management would continue as it has since adoption of the PUP in 2011. Routine operations and maintenance using the NA/NC, would have no impacts on resident fish and/or aquatic resources. Land uses would remain unchanged and management of the land and activities on the project would be conducted as it has in the past. Existing impacts to fish and other aquatic organisms would occur primarily as a result of negative water quality impacts in the reservoir and streams created in the drawdown zone.

Alternative 2, proposed MP, would have no impacts on resident fish and/or aquatic habitat. Under this alternative, the new MP would enable more effective land management, protecting water quality by assuring forest health and providing improved engineered access to the reservoir and facilities. The MP would comply with Corps policy, and would provide analysis of use, demand, carrying capacity, environmental and social effects of proposed actions. Future management of natural resources and recreation access would create minor adverse impacts from vegetation and facilities management. These efforts would result in beneficial impacts, providing for sustainable use of reservoir resources and reduced long-term impacts to project resources. Impacts from long-term, modifications to facilities or natural resources are likely under this alternative to better meet the needs of the recreating public and to better respond to resource objectives. With any construction, or ground disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc.

3.3.4 Wildlife

A listing of wildlife species is presented in Appendix B, *Wildlife Species List*. A total of 42 waterfowl and shorebird species were observed on Dworshak Reservoir during terrestrial resource surveys conducted by the Idaho Department of Fish and Game (IDFG) (Bowers and Nadeau, 2002). Six of these species are known to nest along the reservoir: Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), wood duck (*Aix sponsa*), green-winged teal (*Anas crecca*), common merganser (*Mergus merganser*), and spotted sandpiper (*Actitus macularia*). However, Dworshak Reservoir is primarily used by waterfowl and shorebirds as a loafing area during the spring and fall migratory periods, with peak waterfowl usage occurring during late fall, winter, and spring. Some feeding by geese and puddle ducks occurs along the exposed shoreline during the winter drawdown. The extreme fluctuations in pool level limit the growth of aquatic vegetation, reducing the amount of food available for waterfowl. Fourteen species of waterfowl and shorebirds are currently listed as “Species of Greatest Conservation Need”.

Sixteen raptor species were documented as occurring at Dworshak by IDFG (Bowers and Nadeau, 2002). Among these are eagles, hawks, ospreys, falcons, and owls. Four species are listed by the state: bald eagle, Swainson’s hawk, merlin, and flammulated owl. A large population of bald eagles winter on the reservoir, but only five nests have been documented. Over 150 osprey nests have been documented at the project.

Six upland game bird species were documented during IDFG surveys: mourning dove (*Zenaida macroura)*, California quail (*Callipepla californica)*, ruffed grouse (*Bonasa umbellus)*, blue grouse (*Dendragapus obscurus)*, spruce grouse (*Dendragapus canadensis)*, and wild turkey (*Meleagris gallopavo*). Asherim and Orme (1978) observed one male mountain quail at Magnus Bay in September 1977. Mountain quail were also reported near Reeds Creek in 1990 and 1993. Of these species, only the

mountain quail is classified as a special status species in Idaho. Wild turkeys are not native to Dworshak. In 1985, however, 16 wild turkeys were released by IDFG in the Canyon Creek drainage. In 1993, additional releases of wild turkeys were made near Orofino Creek (26 birds) and Whiskey Creek (22 birds) to supplement the population. Wild turkey populations are now thriving.

Thirty-nine species of mammals, excluding domestic species, were documented during IDFG surveys at Dworshak. Those include small mammals (14), bats (7), mid-sized mammals (3), furbearers and carnivores (11), cervids (4), and domestic species. Of the 39 mammal species detected, only 2 are on Idaho's "Species of Greatest Conservation Need" list: Townsend's big-eared bat (*Corynorhinus townsendii*) and gray wolf (*Canis lupus*). Undocumented sightings of fisher (*Martes pennanti*) and wolverine (*Gulo gulo*) have also been reported to Dworshak staff.

Townsend's big-eared bats are found in a variety of xeric to mesic habitats, including desert scrub, sagebrush, chaparral, and deciduous and coniferous forests. They are strongly associated with caves and mineshafts (Pierson et al., 1999). The Townsend's big-eared bat captured during IDFG surveys was found in an adit located 0.25 mile (~0.4 kilometer) south of Dworshak Dam, in ponderosa pine habitat. Since then, surveys of the adit by the Project Wildlife Biologist have documented numerous Townsend's big-eared bats using the adit as hibernacula.

Gray wolves have large home ranges, and are habitat generalists. They are not associated with any particular habitat but, instead, inhabit areas with sufficient prey bases to support their populations. Primary prey species include deer, elk, moose (*Alces alces*), caribou (*Rangifer tarandus*), and other ungulates.

Eight amphibian species were detected in IDFG surveys. Three of these species have special status in Idaho: the Idaho giant salamander (*Dicamptodon aterrimus*), the Coeur d'Alene salamander (*Plethodon idahoensis*) and the Columbia spotted frog (*Rana luteiventris*). According to the Idaho Conservation Data Center, Columbia Spotted frog populations are only of concern south of the Snake River. All amphibians documented as occurring in and around Dworshak require moist sites for reproduction and development of their young. Idaho salamander adults are terrestrial. They seek cover under logs, bark, rocks, and other surface debris, most often in the riparian zones of streams and lakeshores, but in other moist upland environments as well. The Coeur d'Alene salamander is associated with flowing water of seeps, streams, and creeks. Columbia spotted frogs are highly aquatic, and seldom found far from water. Several amphibian species, including the Columbia spotted frogs, utilize standing water, ranging from ephemeral pools to permanent wetlands and shallow margins of the reservoir. Isolated wetlands located throughout Dworshak project lands provide valuable habitats for amphibian reproduction.

Six species of reptiles occur on Dworshak, as documented in IDFG surveys. These include the rubber boa (*Charina bottae*), gopher snake (*Pituophis melanole*), western terrestrial garter snake (*Thamnophis elegans*), common garter snake (*T. sirtalis*),

western skink (*Eumeces skiltonians*), and northern alligator lizard. The western yellow-bellied racer (*Coluber constrictor mormon*) is likely to occur in the open forests and meadows below Dent Bridge, but has not been documented recently. The northern alligator lizard is the only reptile listed by the state. Dworshak is located at the very southern extent of the northern alligator lizard's range in Idaho (Groves et al., 1997). Northern alligator lizards inhabit cool, moist forests near riparian areas, forest clearings, or forest edges, which they utilize for foraging and basking, and they hibernate in logs and rock crevices in (Brown et al., 1995).

- **Environmental Consequences**

  The Corps manages wildlife habitat in the project area. Wildlife is directly managed by Idaho Department of Fish and Game. Wildlife is affected by a wide array of natural and human-caused impacts. Heavy human use in an area can displace certain species. Severe winters and depredation can have a major impact on many species. The Corps manages habitat for the success of multiple species. The current vegetative composition, form, and structure provides habitat for a variety of wildlife species but may not provide all habitat needs. Any ongoing impacts to wildlife would occur primarily as a result of conflicting uses on project lands such as informal motorized recreational use on wildlife in environmentally sensitive areas. Most wildlife would avoid high density recreation areas, but could come into contact with humans in low-density recreation areas. All habitats would continue to be protected under these two alternatives, except where work such as sanitation cutting to remove trees that have been damaged by insects, diseases, or wind, is not currently authorized and may be limited under new Corps policy without an approved MP.

  Alternative 1, NA/NC, no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources would occur. Current habitat maintenance actions, restricted by new Corps policy, could eliminate future habitat maintenance or modification with this alternative, resulting in adverse impacts. Maintaining the required succession stages of forest habitat for specific animals within the Project ecosystem may not be achieved. The loss of favorable current and future site conditions increases loss of multiple species. Thus, regional populations of sensitive wildlife species that use and/or require the specific habitat characteristics would be impacted. Adverse impacts to habitat are expected from this alternative.

  Alternative 2, implementing the proposed MP, would have no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources. Alternative 2 is intended to enable efficient and improved land management over an extended period of time. The new MP would comply with new Corps policy, and would provide analysis of use, demand, carrying capacity, environmental and social effects of

proposed actions. Utilizing the guidance and updated analysis would help sustain the long-term natural ecosystem succession process for many habitats and protecting regional populations of wildlife species that use and/or require the habitat characteristics associated with Dworshak regional lands. Impacts from long-term habitat modifications to better meet ROs are likely under this alternative. With any construction, or ground disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc. Beneficial impacts would occur with land management techniques as planning under this alternative is expected to achieve forest and wildlife health by meeting management objectives and will provide long-term beneficial impacts for enhancement of wildlife populations.

3.3.5 Vegetation

Dworshak Reservoir and environs encompass a diversity of forest habitats, and contain several rare plant species and unique plant communities. The unusual flora of the area is due, in part, to its location in a core area of inland-maritime climate. Biodiversity of the area is further enhanced by its location between two ecoregions: the Bitterroot Mountains Section of the Northern Rocky Mountains Province and the Palouse Prairie Section of the Columbia Plateau Province (McNab and Avers, 1994).

Soil data for the Clearwater Basin indicates that fourteen forest habitat types, as described by Cooper et al. (1991), occur on Corps-managed land surrounding Dworshak Reservoir. Based on regional geology, topography, soils, and climate; disturbance has played a significant role in shaping the composition, form, and structure of these forests.

Historic ecosystem processes included the deposition of ash through volcanic activity, glaciation, flooding, landslides, wind events, and wildfire. Several of these processes have occurred with high enough frequency and severity to be considered when managing natural resources. Although these types of events are natural occurrences, modern man has had substantial effect on their frequency and magnitude, either directly or indirectly. Resource managers should take care in planning new road construction to minimize the potential for landslides. Similarly, forest management practices can affect the impact of wind events as well. By overharvesting, remaining trees are left with little protection to withstand even moderate wind events. However, of these natural ecological processes, none have been more altered by man then wildfire.

The ecosystem process known as “wildfire” was historically the most dramatic process to shape North Idaho forests. The impacts of fire to an ecosystem are dependent on the localized fire regime. The exclusion of fire from fire-dependent ecosystems can alter forest composition, form and structure, nutrient cycling, soil properties, erosion potential, and fish and wildlife habitat. Active efforts to suppress fires from Pacific Northwest ecosystems, including lands surrounding Dworshak Reservoir, began in the early 1900s. Years of fire suppression in the basin have resulted in dramatically altered fire regimes. There has been a significant reduction in the frequency of low-severity fire

regimes (ground fires). The reduction in low-severity fire frequency has drastically altered the composition, form, and structure of many drier forest types throughout the basin. Unnatural forest change occurs when fire-intolerant tree species (e.g., grand fir) are allowed to mature in the absence of fire, and take over areas historically dominated by fire tolerant species (e.g., ponderosa pine). In contrast, wetter forest types, where frequent low-severity burns were not part of their historic fire regime, are not altered as drastically with the absence of fire. Reduced fire frequencies result in increased forest fuel loads as well, and more severe fires would be expected under more natural conditions.

Understanding the ecological processes that have shaped these forests historically, as well as the resulting composition, form, and structure should be used in natural resource planning. Land managers should also recognize that the forests created by these processes also shaped the wildlife species composition as well. The Corps land surrounding Dworshak Reservoir will be managed based on this ecological understanding. Drier forest types will be managed to promote natural forest conditions, given a historic fire regime, which will involve forest thinning followed by prescribed under-burns. Wetter forest types will be managed with much less frequency, as the natural disturbance regime was much less frequent.

Bunchgrass steppe vegetation extends into the lower reaches of the canyon on warm aspects, and elements of Palouse prairie flora, including several regional endemic species, merge with those of moist, western redcedar (*Thuja plicata*) forests of the Clearwater Mountains. Major forest cover types of the area are ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), and western redcedar (Lane, 1995).

During vegetative inventories of the Dworshak area conducted by IDFG in 2000 and 2001, 450 different vascular plants were recorded (Bowers and Nadeau, 2002). These included 15 tree species, 50 shrub species, 18 ferns and their allies, 82 grasses, and 283 forbs. Of these species 1 fern, 1 graminoid, and 9 forbs are on the state list of Special Status Plants. Management should make provisions to protect these plants and their habitats. The Jessica's aster populations at Dworshak Reservoir should have special protection, as they represent some of the only populations occurring on federal land.

- **Environmental Consequences**

  Alternative 1, NA/NC, would allow vegetation management on Project lands to continue as currently operated. No adverse impacts from routine operation and maintenance of facilities, natural and cultural resources would occur. Maintenance of vegetation would continue under the NA/NC alternative. Future maintenance and improvement actions would be restricted by Corps policy. Adverse impact to vegetation would occur, including degradation of current site conditions, and potential for adverse impacts to wildlife, and water quality.

Alternative 2, proposed MP, would have no impacts from routine operation and maintenance of facilities, natural and cultural resources during initial implementation. Future vegetation management, in compliance with Corps policy, would provide forest sanitation and thinning, resulting in beneficial impacts to forest land on the Project. Various resource considerations, including ecosystem integrity, forest health, wildlife habitat and recreational opportunities would improve. Alternative 2 is intended to enable efficient and improved land management over a long time period. The new MP would comply with new Corps policy, and would provide analysis of use, demand, and carrying capacity. Alternative 2 would have no new direct impacts on vegetation management. Implementing the MP guidance and updated analysis would assist in sustaining the natural ecosystem process for many habitats and protecting regional populations of wildlife species that use and/or require the habitat characteristics associated with Dworshak lands. Minor adverse habitat impacts are expected, when implementing maintenance actions, but would improve habitat based on meeting long-term management objectives for forest health. With any construction, or ground disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc.

3.3.6 Endangered Species

Species that may occur within the area, listed as threatened or endangered under the Endangered Species Act of 1973 (ESA), are Fall Chinook salmon *(Oncorhynchus tshawytscha)*, Snake River steelhead *(O. mykiss)*, Bull trout *(Salvelinus confluentus) Canada Lynx, Spaldings catchfly (Silene Spaulding) and water howellia (Howellia aquatilis).* All of these species are listed as Threatened. Fall Chinook and Snake River steelhead are anadromous species listed under the jurisdiction of the National Marine Fisheries Service (NMFS). It should be noted that anadromous fish have not existed above Dworshak dam since its completion in 1972. All other species are listed under the jurisdiction of the US Fish and Wildlife Service (USFWS).

Bull trout use the area, but are distributed more commonly in the upper tributaries. There are no fish-bearing tributaries in the Lower NFCR (reservoir side of the dam) that occur near the proposed project area. Not only are there no fish-bearing streams, but there are no permanent streams within the project boundary. There is also an experimental (non-essential) population of gray wolves that may occur within the action area, the Northern Rocky Mountain (NRM) distinct population (DPS) of gray wolves. It should be noted that the NRM DPS was considered recovered and delisted in Idaho, Montana, Wyoming and eastern Washington and Oregon by 2012.

- **Fall Chinook Salmon (*Oncorhynchus tshawytscha*) and Steelhead (*Oncorhynchus mykiss*)**

  Snake River fall Chinook and steelhead were listed as threatened in July 2000. These species historically migrated up the North Fork Clearwater River prior to the construction of Dworshak Dam in the 1970s. The dam now permanently prevents upstream fish passage and, as a result, no anadromous fish species currently occur on Dworshak Reservoir or within any of its tributaries. Mitigation efforts have established strong hatchery runs of both fall Chinook and steelhead on the mainstem Clearwater River. Kokanee salmon stocked in Dworshak Reservoir and reproducing in its tributaries provide a salmon fishery in the reservoir.

- **Bull Trout (*Salvelinus confluentus*)**

  Bull trout were listed as a threatened species by USFWS in June 1998. The species spawns from August to November in larger tributaries of the reservoir (Corps, 1997), and can exhibit both resident and migratory life histories. Migratory bull trout spawn in tributary streams, where juvenile fish rear from 1 to 4 years before migrating to either a lake (adfluvial) or river (fluvial), where maturity is reached. Growth and maturity vary with environmental conditions, and first spawning is often noted after 4 years of age (Rieman and McIntyre, 1993). Resident and juvenile migratory bull trout prey on terrestrial and aquatic insects, macro-zooplankton, and small fish. Adult migratory bull trout are freshwater piscivores, apex predators, and opportunistic feeders. At all life history stages, they need access to an adequate prey base. For adults, this necessitates habitats with suitable temperature, habitat complexity, and passage that are accessible through migratory corridors (USFWS, 1998).

  Dworshak Dam is a barrier to upstream fish passage. The reservoir has an isolated sub-population of migratory bull trout. Migratory bull trout formerly linked resident bull trout to the overall gene pool for this species, but migration barriers have isolated these populations, potentially causing a loss of genetic diversity. In some cases, reservoirs such as Libby, Hungry Horse, and Dworshak provide habitat used by adfluvial populations of bull trout (USFWS, 2000).

  Available historical data does not suggest bull trout spawning/early rearing habitat was inundated when Dworshak or the lower Snake River dams were completed. All evidence suggests that the impounded areas were historically used as adult/subadult foraging and over-wintering areas. This use continues today for these age groups (USFWS, 1998).

In December 2000, the USFWS issued a Biological Opinion in response to a request by BPA, the Corps, and the Bureau of Reclamation (Reclamation) regarding the effects of hydroelectric facilities on Kootenai River white sturgeon (*Acipenser transmontanus*), bull trout, and bald eagle (*Haliaeetus leucocephalus*). Actions for implementation by the action agencies (i.e., increased monitoring; and studies to evaluate distribution, timing, and usage of Dworshak Reservoir) would provide further information that may be beneficial to future actions.

Spatial and temporal distribution, migration patterns, spawning sites, and basic life history information of bull trout in Dworshak Reservoir were investigated by IDFG from the spring of 2000 through 2003. In total, 192 adult bull trout were captured, radio-tagged, and monitored. The results indicated extensive use of the reservoir by bull trout for overwintering. Bull trout spend the entire winter in the reservoir, beginning their upstream migration in late May to early June. The highest concentrations of wintering bull trout have been documented between Cranberry and Elkberry Creeks (Personal Communication with Dani Schiff, project supervisor, Idaho Department of Fish and Game, 2003). Although bull trout are found within Dworshak Reservoir, it is unlikely that bull trout spawning exists within the Project boundary.

- **Canada Lynx (*Lynx canadensis*)**

The contiguous U.S. distinct population segment of Canada lynx was listed as threatened in March 2000. Mesic coniferous forests with cold, snowy winters and a prey base of snowshoe hare provide good habitat for lynx (Koehler and Brittell, 1990; and Koehler, 1990). In North America, the distribution of lynx is nearly coincident with that of snowshoe hares (McCord and Cardoza, 1982). Snowshoe hares inhabit early successional forests, typically with conifer overstories, low-growing understories, and high stem densities. Lynx also utilize late-successional forests with a high component of deadfalls for denning and rearing young. Intermediate successional stages may be used for travel cover and connectivity, but such habitats are not as critical to lynx survival as foraging and denning habitats.

In western states, most lynx occurrences (83%) were associated with Rocky Mountain Conifer Forest, and most (77%) were within the 4,920 to 6,560 foot (1,500 to 2,000 meter) elevation zone (McKelvey et al., 1999). Primary vegetation contributing to lynx habitat is lodgepole pine, subalpine fir, and Engelmann spruce (Aubry et al., 2000; Squires et al. 2010). In central Idaho, Douglas fir on moist sites and at higher elevations may also be considered primary vegetation.

Using 12 remote camera stations and live traps, IDFG conducted surveys for furbearers and carnivores throughout Dworshak Reservoir in 2000 and 2001. Eleven species of furbearers and carnivores were documented. No lynx were observed within the study area. Additional surveys for furbearers and carnivores were conducted by the Corps between 2002 and 2008, employing snow-tracking, remote camera bait stations, and hair snag traps. Lynx were not documented during Corps surveys. However, lynx have been documented within the lower North Fork subbasin in two locations north of Breakfast Creek, one on Floodwood Road (1997) and one at Stocking Meadows Ridge (1998). These sightings were approximately 40 miles from the Project.

Based on the characteristics of lynx habitat, primarily elevational and vegetative, and the lack of lynx observations within the area, it is highly unlikely that Canada lynx would occur on the Dworshak Project. Most documented sightings of lynx occur above 5000 feet elevation in western states, while the highest elevation within the Project boundary is 3500 feet.

- **Spalding's Catchfly**

  No onsite surveys have identified Spalding's catchfly within the Dworshak Project. Therefore, it is unlikely that this species would be affected by actions included in the proposed MP.

- **Water Howellia**

  Given the environment in which water howellia occur, it is possible that suitable conditions may be present within the Dworshak Project; however, no onsite surveys have identified the plant. Therefore, it is unlikely that this species would be affected by actions included in the proposed MP.

- **Environmental Consequences**

  Alternative 1, NA/NC, would have no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources on ESA listed species. The existing LCs, ROs, LCUs would not change. Requirements for ESA listed species are fulfilled pursuant to the Endangered Species Act and other associated regulations and executive orders.

  Alternative 2, proposed MP, would have no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources on any ESA listed species. With long-range balanced planning, this

alternative may be more effective for enhancing habitat for endangered species with current and future uses of Dworshak natural resources. Alternative 2 is intended to enable efficient and improved land management over a long timeline. Minor adverse habitat impacts are expected, when implementing maintenance actions but would improve habitat based on meeting long-term management objectives for forest health, and water quality. With any construction, or ground disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc. Beneficial impacts would improve habitat based on meeting long-term management objectives for forest health, and water quality. Beneficial environmental impacts from specific habitat maintenance actions are anticipated.

In 2011, the Corps developed a biological assessment and consulted with NMFS and USFWS on Dworshak Project general land use management program activities. The BA, is called, “Dworshak Natural Resources Land Management Program Activities: Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat”. U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington”. (Corps 2011a) The consultation was amended in 2013 by the following document. “Dworshak Natural Resources Land Management Program Activities: Amendment to the Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat”. August 15, 2013 (Corps 2013c). (See Appendix F, *ESA Coordination – Land Management Program Activities*).

The first BA was developed to analyze effects of management activities to meet objectives of the Dworshak Public Use Plan. Actions included managing forestland along Dworshak Reservoir to meet various resource objectives, including ecosystem integrity, forest health, wildlife habitat, and recreational opportunities. Forest management actions included use of large and small-scale timber sales, pre-commercial thinning, brush slashing, prescribed burning, road construction, re-construction, and demolition, and planting of native plant species.

As the proposed MP is implemented, any future proposed activities that fall outside of the scope of the BA will be addressed in a supplemental BA and request for informal consultation with FWS and NMFS.

3.3.7 Cultural Resources

The archaeological record indicates the continuous human habitation of the Dworshak area for the past 10,000 years (Ames 1980). The subsistence pattern of the prehistoric inhabitants of the Clearwater Valley was based on a hunting, fishing, and gathering economy. Stable use of the resources is reflected through time, with slightly greater dependence on fishing and processing of plant foods reflected in the tool assemblages

of the last few millennia (Mattson et al. 1982). Many of the archaeological resources at Dworshak are closely related to Nez Perce culture as the Clearwater River and its tributaries have been used by the Nez Perce Tribe since precontact times. The Euro-American presence in the area began with Lewis and Clark's journey along the Clearwater River in 1805 and continues to the present day.

Several types of cultural resources have been documented on Dworshak managed lands, including archaeological sites, and Traditional Cultural Properties, and isolated finds. There are 349 recorded archaeological sites on Dworshak managed project lands. A majority of these sites are related to prehistoric occupation of the area, with a smaller number dating to the historic period. Only 18 of these sites have been formally evaluated for National Register of Historic Place (NRHP) eligibility, with 1 found eligible, and 17 found not eligible. While recommendations have been provided for eligibility determinations for other sites in various reports, they have not been formally evaluated. Until they are formally evaluated, they are considered eligible for listing on the NRHP.

Traditional Cultural Properties are areas tied to beliefs, customs, and practices of a living community. They may coincide with the boundaries of archaeological sites, or be comprised of a number of landscape features. Identification and evaluation of Traditional Cultural Properties on Dworshak managed lands is ongoing.

A number of isolated finds are documented at Dworshak. Isolated finds often contain isolated artifacts or features that on their own are not considered archaeological sites, but when taken together provide information on the prehistoric or historic use of the landscape.

Most of the archaeological sites recorded at Dworshak are comprised of lithic scatters ranging from several flaked pieces of stone to thousands of flakes and formed tools. Peeled trees (old trees where the tree bark and inner cambium was removed and used as a starvation food source by the Nez Perce during the precontact and ethnographic period) have not yet been documented at Dworshak but are likely present. Other resources present include remnants of historic camps, often times with associated structures such as trash scatters, fences, and structure remnants. These types of resources, when lying exposed on the ground surface, can be very easily impacted by a variety of activities, including artifact collection, wildland and prescribed fire, erosion, dragging (such as dragging downed trees to logging trucks), and trampling. Unauthorized use, including creation of user-defined roads, trails, and campsites can also cause an effect, by opening new areas to use and shifting recreation into sensitive areas, leading to effects on nearby cultural resources.

A Cultural Resources Management Plan (Cannell et al 2001) was prepared for the Dworshak Project in 2001. A majority of the lands located in the drawdown zone were surveyed by archaeologists from the University of Idaho and the Nez Perce Tribe. A plan for surveying the remainder of Dworshak lands was completed in 2011. Surveys are ongoing. In addition to those large inventory surveys, a variety of smaller surveys have taken place at Dworshak over the years as part of planning for individual

undertakings, mainly activities like road and trail maintenance, fire and vegetation management, and development or improvements to recreation sites, State Parks, the Dam, and Dworshak National Fish Hatchery. Thousands of acres of Dworshak Project lands still require archaeological survey, and there are numerous unrecorded archaeological sites likely present in those areas.

- **Environmental Consequences**

  Cultural resources would not be affected by Alternative 1, NA/NC. Land management actions and activities as well as necessary coordination requirements would remain the same.

  Under Alternative 2, the proposed MP, LCs and designated LCUs would not be modified. ROs would remain the same in regards to this resource. The ROs respond to Corps' guidance and updated analysis on public use and natural and cultural resource management. The ROs continue to fully consider authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local governmental units, and public concerns. Minor adverse impacts from ground disturbing work would likely continue. With any construction, or ground disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc. Cultural resource reviews are required and would be conducted prior to any ground-disturbing activities taking place on Corps land. Surveys are on-going and will continue. Alternative 2 is intended to enable efficient and improved land management over a long timeline. (See Appendix E, Cultural Resource Coordination)

3.3.8 Water Quality

Dworshak Reservoir is narrow and reaches depths of 600 feet near the forebay area of the dam. Consequently, the lake thermally stratifies every year with a thermocline (the middle layer of water in thermal stratification) at a depth of approximately 40 to 50 feet. Deep-water (below 40 to 50 feet) temperatures remain consistent throughout the year at about 39 degrees Fahrenheit (ºF) [4 degrees Celsius (ºC)] to 41 ºF (5 ºC). The reservoir has been characterized as oligotrophic, which constitutes low productivity and nutrient limited. The oligotrophic characterization of the reservoir indicates exceptional water quality that is low in dissolved solids and devoid of inorganic contaminants [U.S. Department of Energy (DOE 1996)].

No permanent or serious water quality problems have been observed in Dworshak Reservoir since it was completely filled in 1973. Dworshak is approaching equilibrium as a cold, nutrient-poor lake with high water quality, low watershed nutrient contribution, and lack of point sources of pollution. The reservoir's cooling trend, noted in the post-

impoundment study, has apparently stabilized. Oxygen depletion and hydrogen sulfide concentrations in the colder non-circulating water, brought about by the decomposition of organics in the first few years after filling, are not expected to recur (Corps 1982).

The chemical quality of water released from Dworshak Dam is monitored at the fish hatchery, located downstream. The U.S. Fish and Wildlife Service, who operates the hatchery, have the capability to measure oxygen, turbidity, pH, hydrogen sulfide, and other chemical parameters. The Idaho Department of Fish and Game also takes periodic samples of chemical quality in the main stem Clearwater River, downstream from the North Fork.

- **Environmental Consequences**

  Water control operations for the Federal Columbia River Power System significantly impact reservoir resources at the Project, including water quality. Implementation of alternative 1 or 2 would not influence decisions related to reservoir operations. Impacts discussed below are correlated to management of natural, cultural resources and visitor access and facility use. Operations of the reservoir have adverse impacts on reservoir water quality, but are not within the purview of management discussed in these alternatives. Any construction or vegetation management activities would require analysis and coordination with regulating agencies to protect water quality.

  Alternative 1, NA/NC, would have no adverse impacts from routine operation and maintenance of facilities, natural and cultural resources on water quality. The existing LCs, LCUs, ROs, would not change. Requirements for water quality are fulfilled pursuant to the Clean Water Act and other associated regulations and executive orders. Routine maintenance actions, such as road, trail, parking lot and boat ramp construction and repair and drainage from recreation facilities, use of reservoir shoreline by the public, and forest vegetation actions such as timber harvest, would use BMPs for all potential activities associated with possible impacts to water quality. With the PUP, Corps policy may limit implementation of new management strategies for storm water retention and contaminant reduction in reservoir and streams.

  Alternative 2, proposed MP; no adverse impacts would occur while initially implementing the proposed MP. Implementation of the MP program would allow utilization of additional analysis to make improvements for maintenance and new construction for natural and cultural resources and public access and recreation facilities. With long-term balanced planning, this alternative would be more effective for protecting water quality through improved vegetation management and managed development. Water quality impacts from specific recreation and environmental management actions are anticipated to be minor. With any construction, or ground

disturbing actions, BMPs would be used to reduce potential adverse impacts such as soil disturbance, turbidity, noise, etc. Alternative 2 is intended to enable efficient and improved land management over a long time period.

3.3.9 Cumulative Effects

The NEPA and the CEQ regulations require federal agencies to consider the cumulative impacts of their actions. Cumulative effects are defined as, "the impact on the environment which results from the incremental impact of an action when added to other past, present and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR § 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

The Dworshak area has a detailed history of environmental impacts tracing back to the construction era of the dam. The environmental impacts were considered in the *Final Environmental Impact Statement for Dworshak Dam and Reservoir, North Fork Clearwater River Idaho* (USACE, 1975a).

3.3.9.1 Elk Mitigation

Management of the Corps' forested lands surrounding the project has also involved providing mitigation for some of those impacts under guidelines established in the Fish and Wildlife Coordination Act (Public Law 85-624) and Department of the Army Engineer Regulations (ER 1105-2-129, ER 1120-2-400, and ER 1165-2-104).
The filling of the reservoir resulted in the loss of about 15,000 acres of terrestrial habitat. The greatest loss of wildlife habitat was the winter range of Rocky Mountain Elk (*Cervus elephus*), white-tailed deer (*Odocoileus virginianus*) and mule deer (*0.hemionus*). To offset this loss, mitigation lands have been developed and are managed specifically for winter range. Elk habitat mitigation maintenance requirements at Dworshak are managed through Design Memorandum No. 15, *Plan for Development of Rocky Mountain Elk Habitat* (DM-15). A total of 5,119 acres upstream of Grandad Bridge were acquired and have been managed for elk habitat mitigation since the 1970s.

With Alternative 2, timber sales are expected to occur in the Ahsahka Project area in the foreseeable future. The cumulative impacts resulting from implementing Alternative 1, the NA/NC Alternative, would be continued poor forest health conditions, and suboptimal wildlife habitat conditions in the project area. This future condition would have no cumulative impact on the Wildlife Mitigation Area designated under DM-15. Cumulative impacts resulting from Alternative 2, the Preferred Alternative, would be beneficial overall for elk mitigation at Dworshak, because of increased overall forest health in the area, although impacts may not be realized in the core elk management areas designated under DM-15.

3.3.9.2 Fisheries

The construction of Dworshak Dam also resulted in blocking anadromous steelhead and converting a river habitat to a reservoir. After Dworshak Reservoir was filled, kokanee and smallmouth bass were stocked and became self-sustaining in the reservoir. Kokanee in the reservoir has made it a favored sport species in the reservoir.

In the years immediately following the completion of Dworshak Dam nutrients were plentiful within the reservoir because of the decomposition of organic matter on the thousands of acres that were flooded. The result was a high biological productivity that produced a very successful fishery. This was a temporary situation and over time the reservoir nutrient levels have been on the decline. In 2007 the Corps began a nutrient supplementation program to add nitrogen on a regular basis to the reservoir to reduce harmful algae growth and increase plankton (food source). Results from this project show increases in beneficial algae and higher quality food for aquatic life.

Mitigation for steelhead losses is implemented through the continued operation of the Dworshak Fish Hatchery, constructed and maintained by the Corps and operated by the USFWS. The hatchery is the largest steelhead hatchery in the world and has been producing steelhead since April 1969. The USFWS has operated the hatchery under a Memorandum of Understanding with the Corps to meet the "mitigation goal" of maintaining the North Fork of the Clearwater River "B" run steelhead as well as producing resident fish for stocking Dworshak Reservoir. Dworshak hatchery production is co-managed by the Nez Perce Tribe.

There would be no cumulative impacts to the hatchery, or to production of fish required for mitigation at the hatchery from either Alternative 1 or 2. No other federal actions have been identified in the project area that could contribute to the cumulative impacts of the project on aquatic resources.

3.3.9.3 Public Use

In 2011, the Corps developed and implemented the Dworshak Public Use Plan. The PUP defined management strategies for acceptable public use and access for lands and waters of Dworshak Reservoir. The actions outlined in the plan replaced those presented in Design Memorandum No.10, *Public Use Plan for Development and Management of Dworshak Reservoir, North Fork Clearwater River, Idaho* (Corps, 2011b). The PUP updated the land classifications for Dworshak Reservoir, replacing land classifications that were out of date or out of compliance with current Corps regulations, and needing to address current site conditions. Updated land classifications provide for appropriate and proper use of the area’s natural resources.

Cumulative impacts from Alternative 1, NA/NC, would have minor adverse impacts for aesthetics, recreation, vegetation, and wildlife relative to the proposed MP. Based on Corps policy, Alternative 1 would leave management of the land and vegetation the same as presently found. Habitat maintenance activities, restricted by Corps policy,

would limit future habitat maintenance with this alternative, causing degradation of current site conditions, and increasing the potential for indirect and possible cumulative effects to aesthetics, vegetation, wildlife, and recreation.

Alternative 2, the new MP would advance management of forested project lands (Photo 3-1) along Dworshak Reservoir to meet various resource considerations, including ecosystem integrity, forest health, wildlife habitat and recreational opportunities. Alternative 2 is intended to enable efficient and improved land management over a long time period. The proposed MP would comply with new Corps policy, implementing policy and updated analysis would assist in sustaining the natural ecosystem process for many habitats. These actions would provide beneficial cumulative impacts, protecting regional populations of the wildlife species that use and/or require the habitat characteristics associated with Dworshak and adjacent lands. Vegetation maintenance for forest health would cause short term, minor impacts that will provide long-term improvements.

Photo 3-1. Granddad Bridge at Low Pool

Visitation to Dworshak during fiscal year 2014 was 126,483. Visitation would likely continue at similar rates under Alternative 1. Alternative 2 would provide a higher quality recreational experience, as overall forest health would be improved in the area.

Alternative 2 will improve user access to the area, providing increased opportunities to experience areas difficult to reach under current, NA/NC conditions. Cumulative effects resulting from Alternative 2 would be beneficial overall to users at Dworshak Project and adjacent areas.

3.3.9.4 Past and Future Actions

The Corps conducts stewardship projects to restore vegetative composition, form and structure of selected forested lands, consistent with historic, natural ecosystem processes. Most recently, work included the Little Bay Stewardship Project and the Elk Creek Meadows Stewardship Project. These projects were implemented to restore ponderosa pine ecosystems. Other smaller-scale timber projects, completed at Dworshak, include Bishop-Chutes Creek Timber Salvage Sale and the Viewpoint Recreation Area Timber Sale.

A plan for project vegetation management is being finalized which is designed to support projects similar to the past restoration work. This will include the Ahsahka Stewardship Project near the dam. Another future restoration project is the Big Eddy North habitat restoration, planned for implementing within the next five years. These projects have contributed to improved forest health and wildlife habitat at Dworshak. Vegetation maintenance through stewardship projects for forest health would not produce significant adverse cumulative impacts. Short term, minor adverse impacts associated with forest vegetation management projects would provide long-term beneficial impacts to improve forest health and wildlife habitat.

3.3.9.5 Other Federal and Non-Federal Actions

The USFS is currently engaged in several projects in the Clearwater National Forest; however, any negative environmental impacts associated with implementation of those projects are not expected to contribute cumulatively to the Master Plan implementation. See Table 3-3 for a partial list of USFS current actions.

Table 3-3. Clearwater National Forest, Schedule of Proposed Actions

Project Name	Project Purpose	Planning Status	Decision	Expected Implementation
Barnyard South Sheep EA	Watershed Management, Forest Products	Developing Proposal, Est Scoping Start: 12/2012	Expected: 09/2014	03/2015
French Larch EA	Forest Products, Watershed Management	In Progress	Expected: 09/2015	01/2016

Source: U.S. Forest Service web site, http://data.ecosystem-management.org/nepaweb/current-sopa.php?forest=110105#6

A portion of forested land within the Lower North-Fork Clearwater Basin is owned by Potlatch Corporation and the Idaho Department of Lands (IDL). Both of these entities manage forest lands primarily for timber production. It is possible that impacts resulting from actions being implemented by these entities could add to Corps impacts. Both Potlatch and IDL lands may result in improved forest heath or wildlife habitat for specific species.

The Potlatch Corporation owns a significant amount of land surrounding Dworshak Reservoir. Potlatch is a Real Estate Investment Trust marketing forest products to local lumber and paper manufacturers. Potlatch has recently sold some of their lands around Dworshak Reservoir for development of private home sites.

Public access for recreation is allowed all year on Potlatch lands, although this privilege may be restricted or closed at various times and places. There is no guarantee that Potlatch will continue to allow public access on their lands, and they may also sell more of their land around the reservoir in the future. The future of recreation on Potlatch lands depends on how users respect the natural resources and the regulations Potlatch enforces.

In the future, sales of Potlatch lands surrounding Dworshak for residential development could have various impacts on Corps lands, including increased visitation, additional demand for public access points, increased demand for additional recreational amenities, and increased stresses on natural resources in the area. Residential development may also increase demand for easements for access and location of utilities.

In the past decade, an increased amount of land around Dworshak Reservoir, previously owned and managed for large-scale timber or natural resources, has been sold to individuals for the development of private homes. This has resulted in an increase of both intentional and inadvertent encroachment onto federal property.

SECTION 4 – COMPLIANCE WITH ENVIRONMENTAL REVIEW REQUIREMENTS

The MP will not, when adopted, authorize any new site specific actions. Those will be identified in future 5-year OMPs, which will require tiered NEPA review. The following paragraphs address the principal environmental review and consultation requirements applicable to this project. Pertinent Federal statutes and executive orders (EO), are included.

4.1 Federal Statutes

- **National Environmental Policy Act (NEPA)**

  This EA has been prepared and is being circulated to agencies and the public for review and comment pursuant to requirements of NEPA. No impacts significantly affecting the quality of the human environment have been identified at this time. If no such impacts are identified during the public review process, compliance with NEPA would be achieved upon the signing of a FONSI. However, if such impacts are identified during the public review, an EIS would be required. Compliance with NEPA would then be achieved upon completion of an EIS and the signing of a Record of Decision.

- **Federal Water Pollution Control Act (Clean Water Act (CWA))** The CWA sets national goals and policies to eliminate the discharge of water pollutants into navigable waters, regulate the discharge of toxic pollutants, and prohibit the discharge of pollutants from point sources without permits.

  The adoption of the proposed MP would be in compliance with this act.

- **The Clean Air Act (CAA)**

  The CAA of 1970, as amended, established a comprehensive program for improving and maintaining air quality throughout the United States. Its goals are achieved through permitting of stationary sources, restricting the emission of toxic substances from stationary and mobile sources, and establishing National Ambient Air Quality Standards (NAAQS). Title IV of the CAA includes provisions for complying with noise pollution standards.

  The adoption of the proposed MP would be in compliance with this act.

- **The National Historic Preservation Act (NHPA)**

  Section 106 of the NHPA (16 USC 470) requires that federal agencies evaluate the effects of federal undertakings on historic properties and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertakings. The first step in the process is too identify cultural resources included in (or eligible for inclusion in) The National Register of Historic Places (NRHP) that are located or near the study area. The second step is to identify the possible effects of proposed actions. The lead agency must examine whether feasible alternatives exist that would avoid such effects. If an effect cannot reasonable be avoided, measures must be taken to minimize or mitigate potential adverse effects. Specific actions to be taken following approval of the proposed Master Plan will require project-specific determination of effects in accordance with Section 106 of the NHPA.

  The Corps has determined that adoption of the Master Plan has no potential to affect historic properties. In accordance with NHPA Section 106, and it's implementing regulations, 36 C.F.R. Part 800, the Corps has no further obligation to consult on adoption of the proposed Master Plan. However, as noted above, any project-specific actions implemented subsequent to adoption of the proposed Master Plan will require a determination of effect, and consultation with State Historic Preservation Officers, Tribal Historic Preservation Officers, and interested parties where applicable in accordance with Section 106 of the NHPA.

  The following cultural resource protection laws were also considered in the preparation of this EA:

  - The Antiquities Act of 1906 (16 USC 431)
  - Historic Sites Act of 1935 (16 USC 461)
  - Reservoir Salvage Act of 1960 (16 USC 469)
  - Archeological and Historic Preservation Act 1974 (6 USC 469a-1)

  The Corps coordinated with the Idaho State Historic Preservation Officer and the Nez Perce Tribal Historic Preservation Officer on scoping and review of the proposed MP and EA/Draft FONSI documents.

  The adoption of the proposed MP would be in compliance with this act.

- **The Endangered Species Act (ESA)**

  The ESA established a national program for the conservation of threatened and endangered fish, wildlife and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with the USFWS and NMFS, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. Section 7(c) of the ESA and the Federal regulations on endangered species coordination (50 CFR §402.12) require that Federal agencies prepare a Biological Assessment (BA) that analyzes the potential effects of major actions on listed species and critical habitat.

  In 2011, the Corps developed a biological assessment and consulted with NMFS and USFWS on Dworshak Project general land use management program activities. The BA, is called, "Dworshak Natural Resources Land Management Program Activities: Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat". U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington". (Corps 2011a) The consultation was amended in 2013 by the following. Dworshak Natural Resources Land Management Program Activities: Amendment to the Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat". August 15, 2013 (Corps 2013c). (See Appendix F, *ESA Coordination – Land Management Program Activities*)

  As the MP is implemented, any future proposed activities that fall outside of the scope of the referenced BA will be addressed in a supplemental BA and request for informal consultation from USFWS and NMFS or reinitiation of consultation.

  The adoption of the proposed MP would be in compliance with the ESA.

- **The Magnuson-Stevens Fishery Conservation and Management Act (MSA)**

  As amended, the MSA (Public Law 94-265), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for fisheries regulated under a federal fisheries management plan. Federal agencies must consult with National Marine Fisheries Service (NMFS) on all proposed actions authorized, funded, or carried out by the agency that may adversely affect EFH. Chinook salmon are the only species in the area affected by the MSA.

Based upon the project description, the project design, the minimal short-term potential impacts associated with the project above the dam, the unlikelihood of impacts below the dam, and the proposed conservation measures, (Best Management Practices), the Corps believes there will be no adverse effects to EFH.

The adoption of the proposed MP would have no effect on Chinook salmon or EFH. The proposed action would be in compliance with this act.

- **The Fish and Wildlife Coordination Act**

  The Fish and Wildlife Coordination Act (FWCA) of 1934 requires federal agencies involved in water resource development projects to consult with the USFWS and state agency administering wildlife resources concerning proposed actions or plans. The Act authorizes the USFWS to evaluate the impacts to fish and wildlife species from proposed Federal water resources development projects that could result in the control or modification of a natural stream or body of water that might have effects on the fish and wildlife resources that depends on the a body of water or it's associated habitat.

  The preferred alternative/proposed action of adopting and implementing the proposed Master Plan would not be subject to the act as it does not "result in the control or modification of a natural stream or body of water"

  The adoption of the proposed MP would be in compliance with the act.

- **The Migratory Bird Treaty Act (MBTA)**

  The MBTA (16U.S.C. S 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. The MBTA prohibits the harming, harassment, and take of protected species, except as permitted by the USFWS.

  A wide variety of species listed under the MBTA occur on Corps managed lands within the action area. There will be no take of migratory birds and this action will not conflict with the purpose of the MBTA. The adoption of the proposed MP would be in compliance with the MBTA.

- **The Bald and Golden Eagle Protection Act (BGEPA)**

  The BGEPA prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions, primarily for Native American Tribes. Take under the BGEPA includes both direct taking of individuals and take due to disturbance. Disturbance is further defined on 50 CFR 22.3. Bald eagles are known to nest throughout Corps managed lands in the Walla Walla District. While nest sites have not been documented in the District, locations of some nests are known. Throughout most of the western United States golden eagles are mostly year-long residents. No golden eagles are known to occur or nest in the project area.
  The adoption of the proposed MP would be in compliance with the BGEPA and would not result in disturbance of take of bald or golden eagles.

4.2 Executive Orders

- **Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 13, 1971**

  Executive Order 11593 outlines the responsibilities of federal agencies to consider effects to historic properties in consultation with the Advisory Council on Historic Preservation where a federal undertaking may adversely affect a property. Agencies are also to preserve, rehabilitate, and restore historic properties. Agencies are encouraged to avoid, or at least mitigate, an adverse effect on listed properties. The Executive Order furthers the purpose and policies associated with the National Environmental Policy Act of 1969; the National Historic Preservation Act of 1966; the Historic Sites Act of 1935 and the Antiquities Act of 1906, Adoption of the proposed MP would not conflict with requirements of this E.O.

- **Executive Order 11990, Protection of Wetlands, May 24, 1977**

  This Executive Order requires federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetland. Wetlands are regulated under Section(s) 401 and 404 of the Clean Water Act. Section 401, Water Quality Certification, ensures compliance with water quality standards. Section 404 regulates activities within the Waters of the U.S., which includes Dworshak Reservoir and its surrounding tributaries. The Walla Walla District is responsible for implementing and complying with these regulations. The effects to wetlands for all alternatives are essentially the same. However, the intent of the MP would provide additional protection as the priority is responsible stewardship and sustainability.

Wetlands would not be impacted by the proposed action. A detailed review of specific actions will be completed to ensure wetland values and functions will not be affected. The proposed action does not conflict with the requirements of the EO.

- **Executive Order 12898, Environmental Justice**

  This Executive Order requires federal agencies to consider and minimize potential impacts to subsistence, low income, or minority communities. The goal is to ensure that no person or group of people shoulder a disproportionate share of negative environmental impacts resulting from the execution of the country's domestic and foreign policy programs. The proposed MP is a conceptual planning document for strategic land management and development of project recreation, natural and cultural resources. It is intended for responsible stewardship and sustainability of resources. The MP does not direct specific actions that would cause a disproportionate share of negative environmental impacts to a person or group of people. If, in the future, specific resources are impacted by implementation of the MP, such as new road or facility construction or vegetation modification, a full review of those actions will be required by NEPA.

  Adoption of the proposed MP would not conflict with requirements of this E.O.

- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, November 6, 2000**

  Executive Order 13175 sets forth guidelines for all federal agencies to establish regular and meaningful consultation and collaboration with Indian tribal officials in the development of federal policies that have tribal implications; strengthen the United States government-to-government relationships with Indian tribes; and reduce the imposition of unfunded mandates on Indian tribes. The proposed MP will not, when adopted, authorize any new site specific actions. Those will be identified in future 5-year operational management plans, which will require tiered NEPA review and compliance specific to all applicable laws. The proposed action does not conflict with the requirements of the EO.

  The Corps offered government-to-government consultation to the Nez Perce Tribe in August 2014, and sent a letter requesting review and comments on the Draft proposed MP and EA/Draft FONSI in March 2015. (See Appendix E, Cultural Resource Coordination)

- **Northwest Electric Power Planning and Conservation Act (Northwest Power Act)**

The proposed action does not conflict with the requirements of the Act or the Columbia Basin Fish and Wildlife Program.

4.3 State and Local Regulations

On a case-by-case basis, state or local laws and ordinances may also be applicable to any potential project implementation, based on aspects of the individual project. A state water quality certification is an example of a potential instance where a state permit or authorization may be a requirement for project implementation. It is not possible to determine state and local requirements until specific ground disturbing actions are being identified. On a case by case basis these requirements will be addressed.

SECTION 5.0 – COORDINATION AND PUBLIC INVOVLEMENT

Agency and public involvement in the development of the MP has been an ongoing effort. During 2008, public scoping meetings were held during the development of the PUP and were deemed sufficient for the MP development. The determinations made in the PUP have not changed and are carried forward into the MP.

A thirty-day public scoping for the proposed MP and associated EA was initiated on 30 July 2014. The Corps sent scoping letters to 89 individuals, businesses, organizations, agencies, Idaho State and Federal Government congressionals, encouraging the submission of ideas and comments regarding management of natural, cultural and recreational resources that would be included in the proposed MP. Scoping notifications were published in the Clearwater Tribune and the Lewiston Tribune newspapers.

The following agencies received scoping letters regarding the MP and EA process.

Local Government
- City of Orofino
- Orofino Chamber of Commerce
- Orofino Police Department
- Clearwater County Commissioners
- Clearwater County Sheriff
- Clearwater County Department of Commerce and Labor

State Government
- Idaho Senate
- Idaho House of Representatives
- Dworshak State Parks
- Idaho Department of Fish and Game
- Idaho Department of Lands
- Idaho State Archaeologist and SHPO
- Idaho Department of Environmental Quality

Federal Government
- Dworshak National Fish Hatchery, US Fish and Wildlife Service
- U.S. Forest Service
- National Marine Fishery Service
- U.S. Army Corps of Engineers

The mailing list is located in Appendix D.

A public website was also developed, providing study information and an invitation to submit questions and comments via the website.

Thirty-three written comments were submitted by letter or email to the Walla Walla District office. Comments included issues related to access and use at specific recreation sites, maintenance and management of forest resources, operation of the reservoir, providing visitor access at all reservoir elevation, the Nutrient Supplementation fish program, noxious weed management, and infrastructure improvements. Comments are generally described below. Although comments were not responded to individually, the comments were taken into account during development of the proposed Draft MP.

- **Magnus Bay**. Various comments were received regarding the use of Magnus Bay Recreation area. The Magnus Bay site was identified in DM 10 for future recreational development. This site was initially used as a log dump during development of the Project, making it available for informal use in the following years. Recommendations included opening the site for recreational vehicle camping, off-road vehicle use, including roads to the shoreline, and boat launching.

- **Granddad Boat Ramp Camping**. When the boat ramp area at Granddad is full, users camp along the road between the launch and the bridge. This area has been closed off. The recommendation was Magnus Bay be opened to RV camping and boat launching.

- **Dent Acres Campground.** The Dent Acres Campground users ride ATVs in this area. This comment recommended future ATV trails be included for development around Dworshak Reservoir. The trails should accommodate 50-inch width ATV/UTV and be identified in the Master Plan. This comment also recommended improvements to the campground road, addition of better mini camps, and lengthening boat ramps at Bruce's Eddy, Canyon Creek and Dent.

- **General ORV/OHV/ATV Use.** This comment recommends more OHV opportunities around the shoreline and to mini-camps and a OHV trail from theind the dam to eh Mary's Bay area.

- **General Access.** Blocking off road access to the public at Dwoshak Project should not be allowed. The comment recommended all lands should be open for people to enjoy.

- **Little Meadow Creek.** There is a need to allow retired ATV riders to bring RV to this site. This recommended converting this site back to a RV accessible camp ground.

- **Idaho Department of Lands (IDL) – State Endowment Trust Lands.** The IDL has large amounts of Endowment ownership which is adjacent to Corps lands throughout the Dworshak Reservoir corridor. There are two issues of concern. These include; (1) access across Corps lands to State Endowment

Lands on existing roads; and (2) attaining permission to implement cable tie hold to trees on adjacent Corps' lands. Recommendations included a process to use the roads with minimal cost or to obtain a permanent easement, and develop a process in which a number of trees could be predetermined and compensated for by IDL.

- **Timber Maintenance.** This comment recommended the Corps cut down bug kill timber and clean up blow down timber.

- **Natural Resource Management.** There is a lack of timely and responsible management to aggressively combat noxious weed issues and Douglas fir beetles on Corps lands that impacts adjacent land owners. This recommendation addresses this issue in the proposed Master Plan.

- **Kokanee Fishing.** The past three years have seen improvement in the kokanee fishing, specifically in the size of the fish. This improvement may be the result of the Idaho Fish and Game experiment providing fertilization of the kokanee's food supply. The recommendation was to continue progress on this program.

- **Impacts of Reservoir Drawdown on Kokanee.** Kokanee numbers have been reduced due to the drawdown operation of the reservoir. The nutrient supplementation program does not work. Drawdown causes too much nitrogen in the water. Drawdown prevents disabled people from fishing. The recommendation included writing the Master Plan to replenish the kokanee so fishing can be a success.

- **General Reservoir Operation.** The comment questions the method of lowering the lake levels in even the wettest years. The contracts were designed to designate Acre Feet release by level below full pool. This comment recommended a full pool could be maintained longer, at least during the wet years, and also would allow additional flow in the later part of the year when temperature rises in the river system.

A public review of the Draft MP and EA/Draft FONSI is included in the approval process for the proposed MP. This includes a 30 day public review and comment process before the MP is finalized and the FONSI is signed, if appropriate. Again, notification letters would be sent to an updated mailing list when the Draft MP and EA/Draft FONSI are made available for review through the Walla Walla District Corps' website: *https:www.nww.usace.army.mil/Missions/Projects/DworshakMasterPlan.aspx*

Major issues raised in public, Tribal, and agency comments would be addressed in the Final MP and in the Signed FONSI, if appropriate. Notification to the public and organizations will again be provided when the final documents are available.

Should no other potentially significant impacts be identified during the comment period, the Corps anticipates that a FONSI would be signed and therefore conclude the NEPA analysis process.

SECTION 6.0 – TRIBAL COORDINATION

Treaties with regional Tribes document agreement reached between the United States Government and the tribes. In exchange for the tribes ceding much of their ancestral land, the government established reservation lands and guaranteed it would respect the treaty rights, including fishing and hunting rights. These treaties, as well as statues, regulations, and national policy statements originating from the executive branch of the federal government provide direction to federal agencies on how to formulate relations with Native American tribes and people. The following policies are those most often referred to by federal and tribal representatives:

1983 – Presidential Statement on American Indian Policy (19 Weekly Comp. Doc.98-102). President Reagan's statement dated January 24, 1983, provided direction on treatment of Native American tribes and their interests.

1984 – Department of Defense Directive No. 4710.1, June 21, 1984

1993 – Executive Order 12866, Regulatory Planning and Review. The order enhanced planning and coordination concerning new and existing regulations. It made the regulatory process more accessible and open to the public. Agencies were directed to seek views of tribal officials before imposing regulatory requirements that might affect them.

1994 – Executive Order 12898 on Environmental Justice.

1994 – White house Memorandum for the Heads of Executive Department and Agencies. This memorandum emphasized the importance of government-to-government relations with tribal governments and the need to consult with tribes prior to taking actions that may affect tribal interests, rights, or trust resources.

1994 – Government-to-Government Relations with Native American Tribal Governments, Memorandum of April 22, 1994.

1995 – Government-to-Government Relations. The United States Justice Department, Attorney General, issued and signed a policy statement on government-to-government relations on June 1, 1995. It includes references to tribes' sovereignty status and federal government's trust responsibility to tribal governments.

1998- Executive Order 13084, Consultation and Coordination with Indian Tribal Governments, May 14, 1998.

Policy Guidance Letter NO. 57, Indian Sovereignty and Government Relations with Indian Tribes. This letter implements Executive Order 13084.

1998 – DOD American Indian and Alaskan Native Policy, October 20, 1998.

1999 – Project Operations Native American Policy, July 12, 1999.

As noted in Executive Order 13084, the federal government continues to work with tribes on issues concerning tribal self-government, trust responsibilities, tribal treaty and other rights as one government to another government. The Order directs agencies to consider affected federally recognized tribes through the following policy principles:

- The United State has a unique relationship with tribal governments as set forth in the Constitution, treaties, executive orders, and court decisions.

- Tribes, as dependent nations, have inherent sovereign powers over their members and territories with rights to self-government. The United States works with tribes as one government to another government addressing issues concerning tribal self-government, trust resources and tribes treaty and other rights.

- Agencies will provide regular, meaningful, and collaborative opportunities to address the development of regulatory practices that may have significant or unique effects on tribal communities.

- Cooperation in developing regulations on issues relating to tribal self-government, trust resources , or treaty and other rights should use, where appropriate, consensus-building methods such as rule-making.

The Corps has determined that adoption of the Dworshak Master Plan has no potential to affect historic properties. In accordance with NHPA Section 106, and it's implementing regulations, 36 C.F.R. Part 800, the Corps has no further obligation to consult on adoption of the proposed Master Plan. However, as noted above, any project-specific actions implemented subsequent to adoption of the proposed Master Plan will require a determination of effect, and consultation with State Historic Preservation Officers, Tribal Historic Preservation Officers, and interested parties where applicable in accordance with Section 106 of the NHPA.

The Corps sent a letter offering government-to-government consultation to the Nez Perce Tribe in June 2014. A letter was also sent to the Nez Perce Tribe in March of 2015, requesting review and comments on the proposed Draft MP, EA and Draft FONSI.

Photo 6-1. Bald Eagle

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APPENDIX A
DRAFT MASTER PLAN

DRAFT MASTER PLAN GOES HERE

APPENDIX B
WILDLIFE SPECIES LIST

The following is a list of wildlife and domestic species of the Dworshak Dam and Reservoir Study Area, 2000-2001. (Bowers, D. and S. Nadeau, 2002. *Inventory of Fungi, Plants, and Wildlife in the Dworshak Reservoir Project Area, Idaho*. Idaho Department of Fish and Game Report. 59 pp.)

	Common Name	Scientific Name
Amphibians:	Long-toed salamander	*Ambystoma macrodactylum*
	Coeur d'Alene salamander	*Plethodon idahoensis*
	Idaho giant salamander	*Dicamptodon aterrimus*
	Tailed frog	*Ascaphus truei*
	Western toad	*Bufo borealis*
	Pacific chorus frog	*Pseudacris regilla*
	Columbia spotted frog	*Rana luteiventris*
	Bullfrog	*Rana catesbeiana*
Reptiles:	Northern alligator lizard	*Elgaria coerulea*
	Western skink	*Eumeces skiltonianus*
	Rubber boa	*Charina bottae*
	Gopher snake	*Pituophis catenifer*
	Western terrestrial garter snake	*Thamnophis elegans*
	Common garter snake	*Thamnophis sirtalis*
Birds:	Common loon	*Gavia immer*
	Horned grebe	*Podiceps auritus*
	Red-necked grebe	*Podiceps grisegena*
	Western grebe	*Aechomophorus occidentalis*
	Clark's grebe	*Aechmophorus clarkii*
	American white pelican	*Pelecanus erythrorhyncos*
	Double-crested cormorant	*Phalacrocorax auritus*
	Great blue heron	*Ardea herodias*
	Trumpeter swan	*Cygnus buccinator*
	Canada goose	*Branta canadensis*
	Snow goose	*Chen caerulescens*
	Wood duck	*Aix sponsa*
	Green-winged teal	*Anas crecca*
	Mallard	*Anas platyrhynchos*
	Northern pintail	*Anas acuta*
	Blue-winged teal	*Anas discors*
	Cinnamon teal	*Anas cyanoptera*
	Northern shoveler	*Anas clypeata*
	Gadwall	*Anas strepera*
	American wigeon	*Anas americana*
	Redhead	*Aythya americana*

Common Name	Scientific Name
Ring-necked duck	*Aythya collaris*
Harlequin duck	*Histrionicus histrionicus*
Common golden-eye	*Bucephala clangula*
Bufflehead	*Bucephala albeola*
Hooded merganser	*Lophodytes cucullatus*
Common merganser	*Mergus merganser*
Ruddy duck	*Oxyura jamaicensis*
Turkey vulture	*Cathartes aura*
Osprey	*Pandion haliaetus*
Bald eagle	*Haliaeetus leucocephalus*
Sharp-shinned hawk	*Accipiter striatus*
Cooper's hawk	*Accipiter cooperii*
Northern goshawk	*Accipiter gentilis*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
Golden eagle	*Aquila chrysaetos*
Merlin	*Falco columbarius*
American kestrel	*Falco sparverius*
Spruce grouse	*Dendragapus canadensis*
Blue grouse	*Dendragapus obscurus*
Ruffed grouse	*Bonasa umbellus*
Wild turkey	*Meleagris gallopavo*
California quail	*Callipepla californica*
American coot	*Fulica americana*
Semi-palmated plover	*Charadrius semipalmatus*
Killdeer	*Charadrius vociferus*
American avocet	*Recurvirostra americana*
Spotted sandpiper	*Actitus macularia*
Baird's sandpiper	*Calidris bairdii*
Semi-palmated sandpiper	*Calidris pusilla*
Solitary sandpiper	*Tringa solitaria*
Wilson's phalarope	*Phalaropus tricolor*
Long-billed dowitcher	*Limnodromus scolopaceus*
Franklin's gull	*Larus pipixcan*
Ring-billed gull	*Larus delawarensis*
California gull	*Larus californicus*
Caspian tern	*Sterna caspia*
Mourning dove	*Zenaida macroura*
Flammulated owl	*Otus flameolus*
Great-horned owl	*Bubo virginianus*
Northern pygmy owl	*Glaucidium gnoma*
Barred owl	*Strix varia*
Northern saw-whet owl	*Aegolius acadicus*
Common nighthawk	*Chordeiles minor*
Vaux's swift	*Chaetura vauxi*

Common Name	Scientific Name
White-throated swift	*Aeronautes saxatalis*
Calliope hummingbird	*Stellula calliope*
Rufous hummingbird	*Selasphorus rufus*
Belted kingfisher	*Ceryle alcyon*
Lewis's woodpecker	*Melanerpes lewis*
Williamson's sapsucker	*Sphyrapicus thyroideus*
Red-naped sapsucker	*Sphyrapicus nuchalis*
Downy woodpecker	*Picoides pubescens*
Hairy woodpecker	*Picoides villosus*
Northern flicker	*Colaptes auratus*
Pileated woodpecker	*Dryocopus pileatus*
Olive-sided flycatcher	*Contopus borealis*
Western wood-peewee	*Contopus sordidulus*
Willow flycatcher	*Empidonax traillii*
Hammond's flycatcher	*Empidonax hammondii*
Dusky flycatcher	*Empidonax oberholseri*
Least flycatcher	*Empidonax minimus*
Cordilleran flycatcher	*Empidonax occidentalis*
Eastern kingbird	*Tyrannus tyrannus*
Tree swallow	*Tachycineta bicolor*
Violet-green swallow	*Tachycineta thalassina*
Cliff swallow	*Hirundo pyrrhonta*
Barn swallow	*Hirundo rustica*
Gray jay	*Perisoreus canadensis*
Steller's jay	*Cyanocitta stelleri*
American crow	*Corvus brachyrhynchos*
Common raven	*Corvus corax*
Black-capped chickadee	*Poecile atricapillus*
Mountain chickadee	*Poecile gambeli*
Chestnut-backed chickadee	*Poecile rufescens*
Red-breasted nuthatch	*Sitta canadensis*
White-breasted nuthatch	*Sitta carolinensis*
Pygmy nuthatch	*Sitta pygmaea*
Brown creeper	*Certhia americana*
Rock wren	*Salpinctes obsoletus*
Canyon wren	*Catherpes mexicanus*
House wren	*Troglodytes aedon*
Winter wren	*Troglodytes troglodytes*
Marsh wren	*Cistothorus palustris*
American dipper	*Cinclus mexicanus*
Golden-crowned kinglet	*Regulus satrapa*
Ruby-crowned kinglet	*Regulus calendula*
Western bluebird	*Sialia mexicana*
Mountain bluebird	*Sialia currucoides*
Townsend's solitaire	*Myadestes townsendi*

	Common Name	Scientific Name
	Veery	*Catharus fuscescens*
	Swainson's thrush	*Catharus ustulatus*
	American robin	*Turdus migratorius*
	Varied thrush	*Ixoreus naevius*
	Gray catbird	*Dumetella carolinensis*
	European starling	*Sturnus vulgaris*
	Cedar waxwing	*Bombycilla cedrorum*
	Cassin's vireo	*Vireo cassinii*
	Warbling vireo	*Vireo gilvus*
	Red-eyed vireo	*Vireo olivaceus*
	Orange-crowned warbler	*Vermivora celata*
	Nashville warbler	*Vermivora ruficapilla*
	Yellow warbler	*Dendroica petechia*
	Yellow-rumped warbler	*Dendroica coronata*
	Townsend's warbler	*Dendroica townsendi*
	American redstart	*Setophaga ruticilla*
	Northern waterthrush	*Seiurus noveboracensis*
	MacGillivray's warbler	*Oporornis tolmiei*
	Common yellowthroat	*Geothlypis trichas*
	Yellow-breasted chat	*Icteria virens*
	Western tanager	*Piranga ludoviciana*
	Black-headed grosbeak	*Pheucticus melanocephalus*
	Lazuli bunting	*Passerina amoena*
	Spotted towhee	*Pipilo erythrophthalmus*
	Chipping sparrow	*Spizella passerina*
	Vesper sparrow	*Pooecetes gramineus*
	Savannah sparrow	*Passerculus sandwichensis*
	Fox sparrow	*Passerella iliaca*
	Song sparrow	*Melospiza melodia*
	Lincoln's sparrow	*Melospiza lincolnii*
	White-crowned sparrow	*Zonotrichia leucophrys*
	Dark-eyed junco	*Junco hyemalis*
	Red-winged blackbird	*Agelaius phoeniceus*
	Brown-headed cowbird	*Molothrus ater*
	Bullock's oriole	*Icterus bullockii*
	Cassin's finch	*Carpodacus cassinii*
	Red crossbill	*Loxia curvirostra*
	Pine siskin	*Carduelis pinus*
	American goldfinch	*Carduelis tristis*
	Evening grosbeak	*Coccothraustes vespertinus*
Mammals:	Vagrant shrew	*Sorex vagrans*
	Dusky shrew	*Sorex monticolus*
	Little brown bat	*Myotis lucifugus*
	Yuma myotis	*Myotis yumanensis*

	Common Name	Scientific Name
	Long-eared myotis	*Myotis evotis*
	California myotis	*Myotis californicus*
	Silver-haired bat	*Lasionycteris noctivagans*
	Big brown bat	*Eptesicus fuscus*
	Townsend's big eared bat	*Plecotus townsendii*
	Mountain cottontail	*Sylvilagus nuttallii*
	Snowshoe hare	*Lepus americanus*
	Yellow pine chipmunk	*Tamias amoenus*
	Red-tailed chipmunk	*Tamias ruficaudus*
	Yellow-bellied marmot	*Marmota flaviventris*
	Columbian ground squirrel	*Citellus columbianus*
	Red squirrel	*Tamiasciurus hudsonicus*
	Northern flying squirrel	*Glaucomys sabrinus*
	Northern pocket gopher	*Thomomys talpoides*
	Deermouse	*Peromyscus maniculatus*
	Bushy-tailed woodrat	*Neotoma cinerea*
	Boreal red-backed vole	*Clethrionomys gapperi*
	Montane vole	*Microtus montanus*
	Long-tailed vole	*Microtus longicaudus*
	Western jumping mouse	*Zapus princeps*
	Coyote	*Canis latrans*
	Gray wolf	*Canis lupus*
	Red fox	*Vulpes vulpes*
	Black bear	*Ursus americanus*
	Raccoon	*Procyon lotor*
	Pine marten	*Martes americana*
	Short-tailed weasel	*Mustela erminea*
	Striped skunk	*Mephitis mephitis*
	Northern river otter	*Lutra canadensis*
	Mountain lion	*Felis concolor*
	Bobcat	*Lynx rufus*
	Elk	*Cervus elaphus*
	Mule deer	*Odocoileus hemionus*
	White-tailed deer	*Odocoileus virginianus*
	Moose	*Alces alces*
Domestics:	Domestic chicken	*Gallus gallus*
	Domestic cat	*Felis catus*
	Domestic cattle	*Bovus taurus*
	Domestic dog	*Canis familiaris*

APPENDIX C
PREVIOUS NEPA COMPLIANCE DOCUMENTATION

Categorical Exclusion Documentation - Cat-X
Environmental Assessment - EA
Environmental Impact Statement - EIS

Document Title	Document Type	Month	Year
DWA Freeman Creek Well & Pipeline	Cat-X	Jan	2014
DWO Fish Hatchery Degrassing Towers	Cat-X	Jan	2013
DWO Fish Hatchery USFWS Chinook License	Cat-X	Jul	2013
DWA Grave Road Maintenance	Cat-X	Sep	2013
Ahsahka Stewardship Project	EA	Dec	2012
Reservoir Nutrient Supplementation Project	EA	Jan	2012
Programmatic Environmental Assessment of Forest Management Actions, Environmental Assessment	EA	Jan	2012
DWO Wetlands Enhancement	Cat-X	Feb	2012
DWA Freeman Creek Well Drilling	Cat-X	Apr	2012
DWO Little Bay Salvage Project Dworshak Dam and Reservoir	Cat-X	June	2012
DWO Dworshak Dam and Reservior Canyon Creek Road and Parking Development	Cat-X	June	2012
DWO Unit 3 Head Cover Repair	Cat-X	Aug	2012
DWO Clearwater County	Cat-X	Aug	2012
Dworshak Dam and Reservoir Public Use Plan and Land Classification Changes	EA	Feb	2011
DWO Main Unit Vacuum Breaker Replacement	Cat-X	Jul	2011
Canyon Creek Recreation Enhancement	Cat-X		2011
Dworshak Elevator Repairs - Powerhouse and South Tower	Cat-X	Mar	2010
Potlatch Tail-Holds	Cat-X	Aug	2010
Dworshak Fish Hatchery, Tribal Fisherman Access Improvements	Cat-X	Aug	2010
Freeman Creek Bridge	Cat-X	Dec	2010
Potlatch Tailhold Trees	Cat-X	Sep	2010
Dworshak National Fish Hatchery Domestic Water Line Repair	Cat-X	Jan	2009
Idaho Department of Lands Right-of-Way Easement	Cat-X	Mar	2009
Boat Dock Replacement, Freeman Creek Campground	Cat-X	May	2009

Dworshak Dam Skeleton Bay Drainage Pump Replacement	Cat-X	July	2009
Installation of a Wave Attenuation System, Big Eddy Marina	Cat-X	Aug	2009
ARRA Multiple Project Road Repair/Paving	Cat-X	Sep	2009
Big Eddy Wave Attenuator	Cat-X	Aug	2009
Idaho Dept of Lands ROW Easement Request at Dworshak	Cat-X	Mar	2009
Three Meadows Campground Clearwater Power Easement	Cat-X		2009
Dworshak National Fish Hatchery Nursery Building Roof Replacement and Modifications	Cat-X	May	2008
Freeman Creek Campground CXT Restroom	Cat-X	Mar	2008
Dworshak Elevator Repairs	Cat-X	Jun	2008
Dworshak Viewpoint Recreation Area Timber Sale	Cat-X	Feb	2008
Dworshak Draft Tube Scaffolding	Cat-X	Jun	2008
Dworshak Viewpoint Road Timber Sale	Cat-X	Feb	2008
Freeman Creek Campground Standpipes Replacement	Cat-X	Dec	2008
Freeman Creek Campground Swing Set	Cat-X	Dec	2008
Clearwater County License Renewal	Cat-X	Aug	2008
Freeman Creek Campground CXT Restroom	Cat-X	Mar	2008
Dworshak DSP1 4160V Feeder Replacement	Cat-X	Mar	2007
Dworshak Reservoir Nutrient Supplementation	Cat-X	May	2007
Canyon Creek Road Easement	Cat-X	Apr	2007
Ron Beeman Road Easement	Cat-X	Sep	2007
Beatrice Kunkler Road Easement Renewal	Cat-X	Sept	2007
BOR Permit No. DACW68-4-02-36 Extension Request	Cat-X	Jun	2007
Freeman Creek Campground Playground Equipment	Cat-X	Oct	2007
Freeman Creek Campground Playground Equipment	Cat-X	Oct	2007
Kunkler Road Easement Renewal	Cat-X	Sep	2007
Ron Beeman road Easement	Cat-X	Sep	2007
BOR Permit No. DACW68-4-02-36 Renewal	Cat-X	Jun	2007
Canyon Creek Road Association Easement Renewal	Cat-X	Apr	2007
Big Eddy Marina Anchor Repair	Cat-X		2007
Dworshak Critical Infrastructure Security Program	Cat-X	Mar	2006
Idaho Dept of Parks and Recreation, Request to Place House at Freeman Creek	Cat-X	Feb	2006

Idaho Dept of Parks and Recreation, Request to Replace Underground Powerline at Freeman Creek in Dworshak State Park	Cat-X	Feb	2006
Right-of-Way Easement to section of Corps land to provide access to privately-owned land	Cat-X	Apr	2006
Dworshak Dam & Reservoir, Landslide Stabilization and Road Repair	Cat-X	Aug	2006
Request for Extension of Clearwater Power Company's Easement	Cat-X	Jul	2006
Dworshak Fishing Access Platform	Cat-X	Mar	2006
Dworshak Dam and Reservoir, Elk Creek Meadows Stewartship Project	EA	Jul	2006
Dworshak Landslide Stabilization and Road Repair; Three Meadows Access Road	Cat-X	Sept	2006
Dworshak Mooring Buoys	Cat-X	Feb	2005
Dworshak Fishing Access	Cat-X	Oct	2005
Dworshak Mooring Buoys	Cat-X	Feb	2005
Idaho Department of Lands, Request for Easement, Grandad Bridge	Cat-X	Sep	2005
Bruce's Eddy, Install Temporary Large-Vessel Mooring Buoys	Cat-X	Feb	2005
Dworshak Fish Hatchery Water System Upgrade	Cat-X	Oct	2005
Wastewater Treatment Plant Upgrade Project, Burley, Idaho	EA	Jun	2004
IDPR Request for Development at Dworshak, Big Eddy Marina and Freeman Creek	Cat-X	Nov	2004
Indian Creek Ecosystem Restoration Project	EA	Sep	2004
Mill Creek, Ice Harbor, and Dworshak Fishing Platforms	Cat-X	Sep	2003
Hudson and Robinson Creek Prescribed Burns	Cat-X		2003
Grandad Boat Ramp Extension	Cat-X	Sep	2002
Dworshak Dam and Reservoir	EA	Apr	2002
Little Bay Stewardship Project	EA		2002
Dworshak Dam & Reservoir, EA	EA	Jul	1998
Dworshak Dam & Reservoir, EA	EA	Mar	1997
Dworshak Dam and Reservoir, EA	EA	Mar	1997
Dworshak Project - Timber Salvage Sales	EA	Aug	1996
Dworshak Monolith Grouting	Cat-X	May	1995
Dworshak Project - Installation of Water Line from Wellhead to Cistern	Cat-X	Apr	1995
Freeman Creek Campground and Boat Ramp Extension	EA	Jan	1995

Dent Acres Boat Ramp Extension	EA	Sep	1994
Indian Creek Timber Sale	EA	Dec	1994
Weitas Creek Timber Sale	EA	May	1994
Big Eddy Rock Outcropping Excavation	EA	Sep	1990
Dworshak Project - Transfer of Resources Stewardship Land Withdrawal	EA		1986
Timber Salvage and Bark Beetle Control	EA	Mar	1984
Water Budget Concept	EA	Jun	1983
Dworshak Fish Hatchery Expansion	EA	Jun	1981
Dworshak Project - Herbicide Use on Elk Habitat Development Areas	EA	Feb	1981
Dworshak Project - Permit to Develop Rock Pits	Cat-X	Feb	1980
Seaplane Use Dworshak Dam and Reservoir	EA	Oct	1980
Dworshak Project - License to Oscar Denney for Access Across Gov.Tract 424	EA	Mar	1979
Dworshak Project - Road Easements	Cat-X	Jul	1979
Falls Creek Cedar Salvage Sale	EA	Oct	1979
Three Meadows Development and Lease	EA	Jan	1979
Dworshak Withdrawal	EA		1978
Cold Spring Recreation Site, Development and Lease of	EA	Apr	1978
Dworshak Project - Development of Rocky Mountain Elk Habitat at Dworshak Dam and Reservoir	EA		1978
Dworshak Project - Road Easements Tract 130	EA	Aug	1978
Dworshak Withdrawal	EA		1978
Freeman Creek Site - Development and Lease of	EA	Jan	1978
Dent Lease to Idaho Dept. of Parks and Recreation	EA	Dec	1977
Dworshak Project - Lease Amendment to the Nez Perce Tribe	EA	Dec	1977
Dworshak Project - Log Transport Operations	EA		1977
Impact Assessment of Drawdown at Dworshak Project	EA	Sep	1975
Dworshak Dam and Reservoir	Draft EIS	Apr	1974
Dworshak Dam and Reservoir	Final EIS	Sep	1975

Document Title	Document Type	Month	Year

APPENDIX D

AGENCY AND PUBLIC INVOLVEMENT SCOPING PROCESS MAILING LIST

Honorable James E. Risch
US Senate

Honorable Mike Crapo
US Senate

Honorable Raul Labrador
US House of Representatives

Honorable Mike Simpson
US House of Representatives

Chairman Silas C. Whitman
Nez Perce Tribe

Patrick Baird
Nez Perce Tribe

David Johnson
Nez Perce Tribe

Loren Kroneman
Nez Perce Tribe

Aaron Miles
Nez Perce Tribe

Honorable John Rusche
Idaho House of Representatives, Dist 6

Honorable Shannon McMillan
Idaho House of Representatives, Dist 7

Honorable Paul Shepherd
Idaho House of Representatives, Dist 7

Honorable Joe Stegner
Idaho Senator, Dist 7

Honorable Jeff Nessett
Idaho House of Representatives

Honorable Ken Roberts
Idaho House of Representatives

Honorable Dan Johnson
Idaho Senate, Dist 6

Honorable Sheryl L. Nuxoll
Idaho Senate, Dist 7

Honorable Thyra Stevenson
Idaho House of Representatives, Dist 6

City of Orofino
Mayor Ryan Smathers

Clearwater Community Complex, Inc.
Dennis Harper

Clearwater County Commissioners
Don Ebert
John Allen
John Smith

Clearwater County Economic Development
Loren Whiten-Kaboth

Clearwater County Sheriff
Chris Goetz

Clearwater Hatchery
Jerry McGehee

Clearwater Tribune

Marcie Stanton

Clearwater-Potlatch Timber Protective Association
Len Young

Commerce and Labor
Monica Jones

Concerned Sportsmen of Idaho
Dick Hallisy

Dworshak State Park
Michelle East

Dworshak National Fish Hatchery
Mark Drobish

Dworshak Reservoir Association
Ed Lozar

Idaho Department of Fish and Game
- Dave Cadwallader
- Jerome Hansen
- Commissioner Fred Trevey

Idaho Department of Lands
Jay Sila

KLER
Jeff and Monica Jones

Lewis and Clark ATV Club
Sam Rosetti

Lewis and Clark ATV Club
Jim McIver

Orofino Chamber of Commerce
Kim S Browning

Orofino Police Department
Jeff Wilson

Pierce Weippe ATV Club
Jim and Deena Irby

Play ATV Club
Dave Galontuomini

The Guide Shop
Evelyn Kaide

US Forest Service
Kathy Rodriguez

Terry and Linda O'Donnell

Lane Weimer
Billie Drewery

Dave Bowser

Ric and Jeanne Hood
Phil Johnston

Dave Schoen

Eugene Crumb

Ron Hartig

Wendal Stark

John Erbst

Randy Stiener

Don Kerby

Ed Lindahl

Mike Hanna

Larry Barret

Jerry Lane

Reggear Tree Farms

Tri-Pro Forest Products

US Army Corps of Engineers
- Bob Tardif
- Paul Ocker
- Paul Pence
- Russ Davis
- Sam Martin
- Tanner Peacock-Clark

City of Orofino

Potlatch
Dan Jones

Dr. Kenneth Read
Idaho State Archaeologist

Empire Lumber
Greg Danley

IDEQ
John Cardwell

USFWS
Mark Robertson

NMFS
Nikki Leonard

IDFG
Ray Hennekey

USFS
Rick Brazell

State Historic Preservation Office
- Suzi Pengilly
- Travis Pitkin

Idaho Department of Lands
- Jay Sila
- Mark Lesko

APPENDIX E
CULTURAL RESOURCE COORDINATION

Corps of Engineers Letter Offering Government to Government Consultation

Corps of Engineers Letter for Draft MP and EA/Draft FONSI Review

Corps of Engineers Letter Offering Government to Government Consultation

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
201 NORTH THIRD AVENUE
WALLA WALLA, WA 99362-1876

REPLY TO
ATTENTION OF

28 JUN 2014

Planning, Programs, and Project Management Division

Mr. Silas C. Whitman
Chairman, Tribal Executive Committee
Nez Perce Tribe
P.O. Box 305
Lapwai, Idaho 83540-3050

Dear Chairman Whitman:

The U.S. Army Corps of Engineers (Corps), Walla Walla District, is preparing to update the Dworshak Master Plan, last updated in 1970. The purpose of the update is to address resource management and public use at Dworshak Reservoir. An Environmental Assessment will be prepared to support the Master Plan.

The Master Plan will build on work accomplished during development of the 2011 Dworshak Public Use Plan. The planning team will rely heavily on previous efforts of working and interest groups, as well as public input and collaboration used to develop the Public Use Plan. The result will be a comprehensive, conceptual-level planning document to guide future use and development at Dworshak Reservoir. Finalization of the Master Plan will bring the project into compliance with current Corps policy, and facilitate future actions to support balanced management of resources at Dworshak.

The 2011 Public Use Plan updated land use classifications which will allow the Corps to respond to changed conditions at Dworshak and accommodate a more diverse set of activities. The Master Plan will refine resource objectives and provide the additional analysis required of a Master Plan.

We are offering government to government consultation to ensure tribal perspectives are identified and incorporated into the decision making process related to this project. Please contact Ms. Alice Roberts, Chief, Tribal and Cultural Section, at 509-527-7274 if you have questions or would like to request consultation.

Sincerely,

Timothy R. Vail
Lieutenant Colonel, Corps of Engineers
District Commander

Printed on Recycled Paper

Mailing List

TO:	CC:
Silas C. Whitman Chairman, Tribal Executive Committee Nez Perce Tribe PO Box 305 Lapwai, ID 83540-3851	Aaron Miles, Sr. Natural Resources Manager PO Box 365 Lapwai, ID 83540-3851 Nakia Williamson Cultural Program Manager Nez Perce Tribe Cultural Resource Program PO Box 365 Lapwai, ID 83540-3851 Patrick Baird THPO/Tribal Archaeologist Nez Perce Tribe Cultural Resource Program PO Box 365 Lapwai, ID 83540-3851

Corps of Engineers Letter for Review of Draft MP and Draft FONSI/EA

March 6, 2015 DRAFT

Planning, Programs, and Project
Management Division

Silas C. Whitman
Chairman, Tribal Executive Committee
Nez Perce Tribe
PO Box 305
Lapwai, ID 83540-3851

Dear Chairman Whitman:

The U.S. Army Corps of Engineers, Walla Walla District (Corps) has prepared an update to the Dworshak Master Plan (Master Plan). The original Master Plan was written in 1970. This updated document is intended as a comprehensive, conceptual-level planning document to guide future use and development at Dworshak Reservoir.

The Master Plan built on work accomplished during development of the 2011 Dworshak Public Use Plan (Public Use Plan). The 2011 Public Use Plan updated land use classifications which allowed management to respond to changing conditions at Dworshak and helped accommodate a more diverse set of activities. The Public Use Plan was accompanied by a Finding of No Significant Impact (FONSI) and Environmental Assessment (EA). The update has refined resource objectives and provides the additional analysis required by the Master Planning process. Finalization of the Master Plan with a current FONSI and environmental assessment will bring the project into compliance with current Corps policy, and facilitate future actions to support balanced management of resources at Dworshak.

Implementation of the Dworshak Master Plan and EA is an undertaking as described in Section 106 of the NHPA and its implementing regulations, 36 Code of Federal Regulations Part 800. However, because the EA stipulates that any actions determined to be viable under the plan would require a stand-alone review, the implementation of the EA has no potential to affect historic properties.

The Corps previously initiated consultation for the Dworshak Master Plan and EA during the scoping process in June/July 2014. The Corps would appreciate hearing any questions or comments that you may have about the Master Plan. A copy of this letter with the draft Master Plan and Draft FONSI and EA has been sent to Tribal Technical Staff, including Mr. Aaron Miles, Mr. Nakia Williamson, and Mr. Patrick Baird, and Mr. Ethan Morton at the Idaho State Historic Preservation Office. If you have any questions or comments regarding the master plan, please contact Mr. Ben Swaner at ben.swaner.usace.army.mil or (509) 527-7261. If you have questions regarding the NEPA process, please contact Mr. Pete Poolman at peter.f.poolman@usace.army.mil, or (509) 527-7261.

Sincerely,

Alice K.S. Roberts

Chief, Planning Branch

Mailing List

TO:	CC:
Silas C. Whitman Chairman, Tribal Executive Committee Nez Perce Tribe PO Box 305 Lapwai, ID 83540-3851	Aaron Miles, Sr. Natural Resources Manager PO Box 365 Lapwai, ID 83540-3851 Nakia Williamson Cultural Program Manager Nez Perce Tribe Cultural Resource Program PO Box 365 Lapwai, ID 83540-3851 Patrick Baird THPO/Tribal Archaeologist Nez Perce Tribe Cultural Resource Program PO Box 365 Lapwai, ID 83540-3851
Ethan Morton Idaho State Historic Preservation Office 210 Main St. Boise, ID 83502	

APPENDIX F
ESA COORDINATION

Dworshak Natural Resources Land Management Program Activities: Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat".

The following documents are included in the Appendix.

"Dworshak Natural Resources Land Management Program Activities: Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat". U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington". November 15, 2011 (112 pages)

"Dworshak Natural Resources Land Management Program Activities: Amendment to the Biological Assessment for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat". U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington". August 15, 2013 (18 pages)

DWORSHAK NATURAL RESOURCES LAND MANAGEMENT PROGRAM ACTIVITIES

DWORSHAK RESERVOIR

PM-EC-2010-0065

Biological Assessment

for

Threatened and Endangered Species,
Critical Habitat, and Essential Fish Habitat

Under the Jurisdiction of:

National Marine Fisheries Service
and
U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

Date
15 November 2011

If additional information regarding this document is required, please contact Jason Achziger, Fishery Biologist in the Environmental Compliance Section of the U.S. Army Corps of Engineers, Walla Walla District, at (509) 527-7262, or by email at jason.k.achziger@usace.army.mil. Other correspondence can be mailed to:

Jason Achziger
Fishery Biologist
Environmental Compliance Section
U.S. Army Corps of Engineers
Walla Walla District
201 North Third Ave.
Walla Walla, WA 99362

_____

Jason Achziger
Fishery Biologist/Preparer
U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

_____

Michael Francis
Chief, Environmental Compliance Section
U.S. Army Corps of Engineers
Walla Walla District

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Glossary

ac/yr	Acres per Year
Activity	Land Management Activity (Access, Boundary, Fire, Forest, Road, Wildlife Habitat, and Recreation Management)
af	Acre-feet
AU	Assessment Unit
BMP	Best Management Practice
BO	Biological Opinion
CBTPA	Clearwater-Potlatch Timber Protection Association
CFR	Code of Federal Regulations
CHU	Critical Habitat Unit
CHSU	Critical Habitat Subunit
Corps	U.S. Army Corps of Engineers
CR	Clearwater River
CRB	Clearwater River Basin
DBH	Diameter at Breast Height
DM-15	Design Memorandum No. 15, *Plan for Development of Rocky Mountain Elk Habitat*
DPS	Distinct Population Segment
Dworshak	Corps-managed Lands at Dworshak Dam and Reservoir
EFH	Essential Fish Habitat
ESA	Endangered Species Act of 1973, as amended
ER	Engineering Regulation
ESU	Evolutionarily Significant Unit
FCA	Forest Cover Act of
ft	Feet
HUC	Hydrologic Unit Code
IDFG	Idaho Department of Fish and Game
IMM	Impact Minimization Measure
in	Inch(es)
IPIF	Idaho Partners in Flight
LC	Lower Clearwater
LNF	Lower North Fork
MPG	Major Population Group
mi	Miles
mi^2	Square Miles
MMBF	Million Board Feet of Timber
MSA	Magnuson-Stevens Fishery Conservation and Management Act
msl	Mean Sea Level
NFCR	North Fork Clearwater River
NMFS	National Marine Fishery Service
NRM	Natural Resource Management
OHWM	Ordinary High Water Mark
PCE	Primary Constituent Element
PFMC	Pacific Fishery Management Council

Program	Dworshak Natural Resources Land Management Program
PROU	Provisional Resource Use Objective
RFPA	Reciprocal Fire Protection Agreement
RHCA	Riparian Habitat Conservation Area
RM	River Mile
SR	Snake River
SRB	Snake River Basin
UCR	Upper Columbia River
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

1. Introduction

The U.S. Army Corps of Engineers (Corps) proposes to programmatically manage forest and wildlife resources within Corps-managed lands at Dworshak Dam and Reservoir (Dworshak), Clearwater County, Idaho, as part of the Dworshak Natural Resources Land Management Program (Program). The treatments will include a variety of activities that will occur on an annual basis between 2011 and 2021. Program management activities will be limited in quantity (e.g. miles, acres, etc.) each year to minimize potential adverse effects.

The proposed action is proposed as programmatic management because it is distinguished by well-defined activity types with potential adverse effects that are minor, repetitive, and predictable. Individual consultation of these actions at the project scale would produce the same overall result and not provide any additional conservation benefit.

2. Background / History

Dworshak was authorized in 1962. The 717 feet (ft) tall Dworshak Dam is a hydroelectric, concrete gravity dam in Clearwater County, Idaho, United States at river mile (RM) 1.9 on the North Fork Clearwater River (NFCR). The dam is located 4 miles (6 km) northwest of the city of Orofino, and 47 miles (76 km) east of Lewiston. Construction began in June 1966; the main structure was completed in 1972, with the generators coming online in 1973. The drainage area is 2,440 square miles (mi^2), and the maximum operating pool is at 1,600 feet mean sea level (msl). The National Marine Fisheries Service (NMFS) biological opinion (BO) for operation and maintenance of the Federal Columbia River Power Supply System (FCRPS) (NMFS 2008) requires the summer drawdown of Dworshak's reservoir to cool water in the Snake River for anadromous fish, which results in fluctuations in pool elevation. These fluctuations leave 80 to 155 ft of exposed banks in the reservoir below the ordinary high water mark (OHWM) (1,600 msl).

The gross storage capacity for the reservoir is 3,468,000 acre-feet (af), and the reservoir length (at 1, 600 msl) is 53.6 miles (mi). Dworshak has 175 mi of shoreline, and 17,090 surface acres at 1,600 msl (9,050 at 1,445 msl).

The sums of Corps lands that are part of the Dworshak operating project include approximately 46,000 acres. This includes flow easements in the Clearwater National Forest of approximately 2,150 acres, approximately 21 acres at the Dworshak Fish Hatchery in Ahsahka, and lands inundated by the reservoir. Dworshak Reservoir is surrounded by 29,318 acres of land that the Corps owns and manages, and most of which are the subject of this consultation.

Today Dworshak has five congressionally authorized purposes; Navigation, Flood Control, Hydropower, Fish and Wildlife and Recreation. Further, various laws and regulations guide how natural resources are to be managed on Corps Projects.

In the Forest Cover Act (FCA), Congress declares that lands owned in fee title by the Chief of Engineers are to be managed in such a way as to promote future resources of readily available timber. Sustained yield programs and accepted conservation practices are mentioned in the FCA

as a ways to meet this declaration. In response to the FCA, Engineering Regulation (ER) 1130-2-540 Chapter 2 states "Forest and woodland management will be applied to develop, maintain, protect and/or improve vegetation conditions for timber, fish, wildlife, soils, recreation, water quality and other beneficial uses.

Further, the new Public Use Plan for Dworshak includes Forest Management as one of several resource use objectives. It states,

> "Manage forestland along Dworshak Reservoir to meet various resource objectives, including ecosystem integrity, forest health, wildlife habitat, and recreational opportunities. Forest management actions include, but are not limited to, the following: use of large and small-scale timber sales, pre-commercial thinning, brush slashing, prescribed burning, road construction, re-construction, and demolition, planting of native plant species where necessary to meet specific management objectives."

It is the intent of the Corps to utilize the management activities listed above to meet objectives in the Dworshak Public Use Plan (USACE 2011). The forest management activities will involve what have been considered in the past large and small scale timber sales at Dworshak. These will include sales of several acres to several hundred acres of selectively-harvested timber.

2.1. Background

2.1.1. Ecosystem Integrity

In conjunction with biologists from the U. S. Forest Service (USFS) Clearwater National Forest and in concert with the Interior Columbia Basin Ecosystem Management Project (ICBEMP) recommendations (ICBEMP 1997), the Corps has concluded that current stand conditions for most stands are unnatural, unhealthy, and occurring as a result of fire suppression. The Corps has contracted with Clearwater-Potlatch Timber Protection Association (CPTPA) to suppress fires on Corps administered lands at Dworshak since 1965. Prior to 1965, CPTPA actively suppressed fires on this landscape starting in about 1905 as part of their protection area.

The ecosystem processes that historically shaped the vegetative composition, form, and structure of the regional flora consisted of deposition of ash, glaciations, flooding, landslides, wind events, and wildfire. Of these, only the effects of landslides, wind events, and wildfire have been measurably altered by human activity. Landslides have increased on forested land due primarily to road construction. The effects of wind events have also increase due to logging's affect on natural windbreaks. The effects of these processes on the vegetative composition, form, and structure of the forest stands surrounding Dworshak are considered negligible in comparison to the effects from fire suppression. Within Dworshak and the surrounding area, wildfire and its effects have been suppressed for over 100 years. Most habitat types occurring on Dworshak were historically affected by wildfire (Table 1). The past and present management action of fire suppression has drastically altered the vegetative composition, form and structure of most forest stands surrounding Dworshak and presumably all stands within the stewardship project. This is plausible based on historic fire regimes and further evidenced by the current forest conditions.

Table 1 Historic Fire Characteristics of Dworshak Habitat Types

				AVERAGE FIRE INTERVAL [2]			
HABITAT TYPES	ACRES	FIRE GROUP[1]	Biophysical Setting	All Fires	Surface	Mixed	Replacement
Ponderosa Pine/Idaho Fescue	1462	1	80531	6	8	35	125
Ponderosa Pine/Snowberry	208	1	80531				
Douglas Fir/Snowberry	13	1	1010451	21	35	60	300
Douglas Fir/Mallow Ninebark	3245	2	1010451				
Grand Fir/Mallow Ninebark	6296	2	1010451				
Grand Fir/Twinflower	81	7	1010451				
Grand Fir/Bride's Bonnett	590	7	1010453	69		100	220
Grand Fir/Wild Ginger	604	7	1010453				
Western Redcedar/Bride's Bonnett	10384	8	1010471	80		133	200
Western Redcedar/Wild Ginger	2374	8	1010471				
Western Redcedar/Oak Fern	49	8	1010471				
Western Hemlock/Bride's Bonnett	1009	8	1010471				
Western Hemlock/Wild Ginger	62	8	1010471				
Western Redcedar/Maidenhair Fern	935	9	1010471				

[1] Derived from Smith and Fischer 1997.

[2] Derived from LANDFIRE: Vegetation Dynamic Models. http://www.landfire.gov/national_veg_models_op1.php (8/12/2010)

The potential for altered vegetative characteristics as a result of fire suppression increases inversely with the average fire interval. Thus the more frequent the historic fire interval the more potential variation from natural vegetative conditions from active fire suppression. .

Many stands (Fire Groups 1 & 2) are estimated to have missed 5 – 15 fire cycles over the past 100 years. The expected measurable effects from fire suppression include; increased fuel loads, an increase in tree density and canopy closure, a shift from early to late seral tree species and an increase in the height of understory species. Most of these effects have been documented within Fire Group 1 & 2 stands. Examples of past projects designed to meet the ecosystem integrity objective include the Elk Creek Meadows Project (1219 acres) and the Little Bay Project (1288 acres selectively harvested over a 3 year period).

The Dworshak property is surrounded mostly by privately owned land. There are numerous small private landowners; however, of these, the largest landowner is Potlatch Corporation. Potlatch is a large, privately owned timber company whose primarily land management activity is commercial timber production. Dworshak also shares a common property boundary with public land managed by the State of Idaho and other federal agencies. In relation to our adjacent landowners, Corps managed land sits lower in elevation (down slope); this creates a higher potential for wildfires originating on Corps land for spread onto adjacent ownerships since fire tends to burn up slope. Thus due to the juxtaposition of the Corps lands and the missions of adjacent landowners, we do not have the option for wildland fire use as a management tool.

Based on the above discussions the Corps plans to continue to manage forest stands for ecosystem integrity which can include large or small scale timber sales, road construction and/or reconstruction, gate and barricade installation and maintenance, sign installation, prescribed fire both broadcast and pile burning, and vegetation slashing.

2.1.2. Forest Health

Forest trees compete for limited water, sunlight, and nutrients. As stands mature (succession) without disturbance they become overstocked resulting in increased competition for a limited

amount of resources. As this occurs trees become stressed and are more susceptible to disease and insect infestation. Currently many forest stands surrounding Dworshak are overstocked and are exhibiting an elevated amount of dead and dying trees resulting from disease (root rot, heart rot and other pathogens have all been observed onsite) and beetle infestation. These conditions are the cause of the safety and aesthetic concerns within recreation areas and tree health and fire danger within the multiple resource management areas.

Forest health issues are generally addressed by thinning forest stands to reduce competition for limited resources. This increases the vigor and health of individual trees and reduces their susceptibility to insect and disease outbreaks. One such project was conducted on Corps managed land surrounding Dworshak Reservoir, The Bishop-Chutes Timber Sale. The NRM Team at Dworshak plans to continue to utilize forest thinning to address forest health issues. This could include employing the following natural resource management actions; large or small scale timber sales, road construction and/or reconstruction, gate and barricade installation and maintenance, sign installation, prescribed fire both broadcast and pile burning, and vegetation slashing.

2.1.3. Wildlife Habitat

A host of native wildlife species occur on Corps managed lands surrounding Dworshak Reservoir. Conserving, protecting, and enhancing habitat for native species is a primary goal for forest management. Habitat for Rocky Mountain Elk, a regional focal species, was identified as critical for the North Fork Basin, and the loss of habitat through the creation of Dworshak Reservoir was mitigated by the Corps, Idaho Department of Fish and Game and the US Fish and Wildlife Service in the late seventies. The resulting mitigation document "Design Memorandum No. 15, *Plan for Development of Rocky Mountain Elk Habitat* (DM-15) (USACE 1977) set the direction for future elk habitat measures on Dworshak Reservoir.

The primary purpose of DM-15 was to present a plan for the development and maintenance of winter range for Rocky Mountain Elk at Dworshak Dam and Reservoir. This report established the legal mitigation lands and requirements on Dworshak Reservoir. DM-15 addressed the development of elk habitat on project lands along the upper reservoir (above Grandad Bridge). A total of 5,119 acres at the junction of the Little North Fork and North Fork of the Clearwater River were acquired for elk habitat mitigation. An additional 4,680 acres on Smith Ridge were also intended for inclusion in the Dworshak Elk Habitat Development Program, but the Corps was unable to acquire the Smith Ridge lands from the State of Idaho. The actual mitigation lands acreage comes out to approximately 6,900 acres.

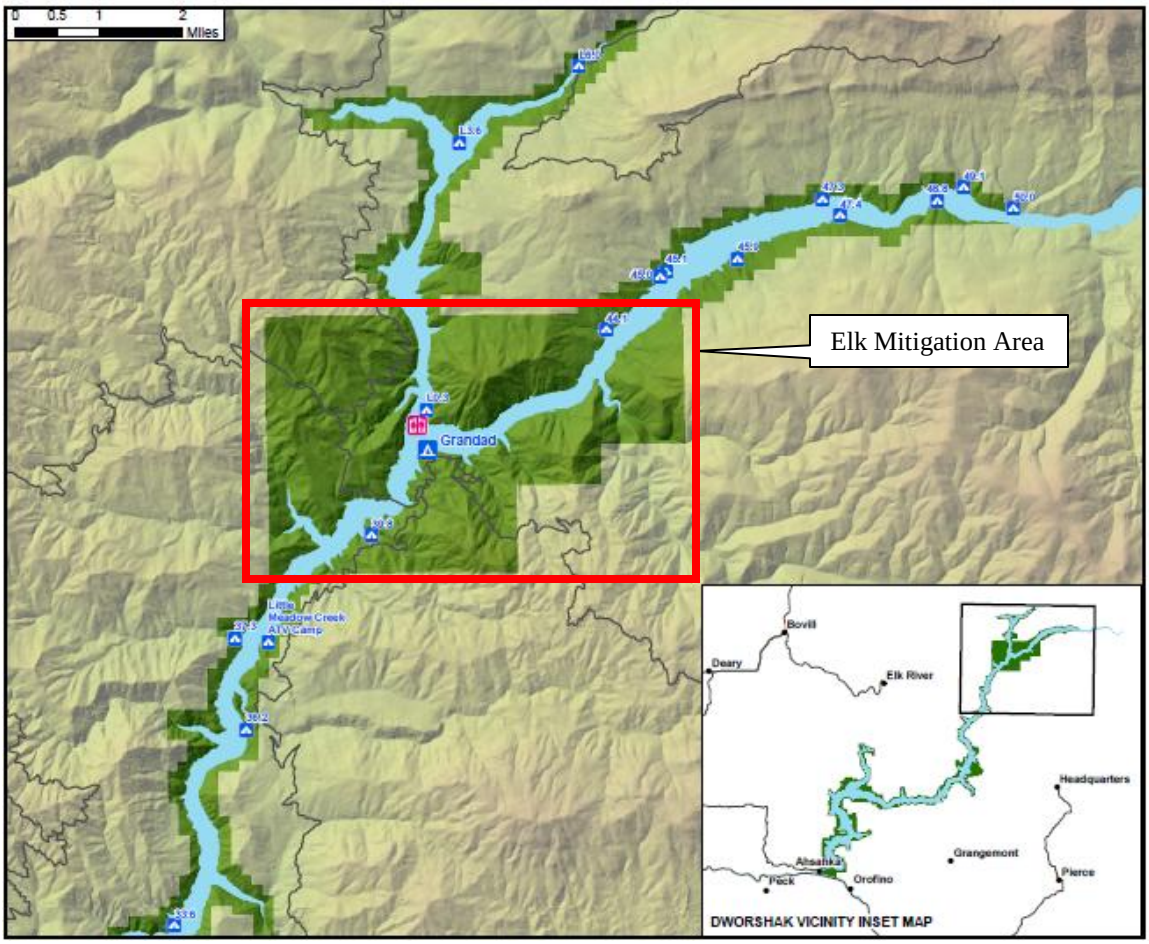
In the 1970s and 1980s, the Corps conducted extensive treatments to enhance elk habitat within the previously defined elk mitigation area (Figure 1). Thousands of acres were clear-cut and burned to optimize elk habitat and increase winter forage production. Although the treatments were highly successful, they were not enough to meet the objective of producing 915,000 pounds of browse annually. As a result, Bonneville Power Administration (BPA) acquired 60,000 acres on Craig Mountain (near Lewiston, Idaho, now Craig Mountain Wildlife Management Area) as mitigation for Dworshak Reservoir. These lands were deeded to the State of Idaho to be managed in perpetuity by the Idaho Department of Fish and Game (IDFG). In addition, millions

of dollars in trust funds were given to IDFG and the Nez Perce Indian Tribe for mitigation. A letter from the Director of IDFG in 1992 documented IDFG's consensus that 100% of the Corps' mitigation obligations were met through the purchase of these lands and the establishment of the trust funds.

Dworshak Project has harvested approximately 100MMBF over the past 30 years. The majority of the harvesting has taken place in the Grandad Elk Mitigation Area in the late 1970's through the 1980's and was accomplished in order to increase forage for wintering elk. The Natural Resource Management (NRM) Team at Dworshak continues to manage the mitigation area primarily for elk habitat.

Along with timber management, other activities have been implemented to meet objectives in DM-15. Planting and protecting redstem ceanothus (*Ceanothus sanguineus*) and other forage plants, minimizing unauthorized motor vehicle access, vegetation slashing and prescribed burning are other examples of management actions designed to meet objectives presented in DM-15. The Corps is still obligated to annually maintain the "hard core" Wildlife Mitigation Area for its designated purposes. The work of improving elk habitat within the mitigation area and throughout the reservoir continues today. Both IDFG and the Corps are committed to maintaining the mitigation area for the purposes for which it was purchased and managed. Future management actions to improve habitat for elk and other species include large or small scale timber sales, road construction and/or reconstruction, gate and barricade installation and maintenance, sign installation, prescribed fire both broadcast and pile burning, and vegetation slashing.

Figure 1 Dworshak elk mitigation area.



2.1.4. Recreational Opportunities

Forest management actions are often required to facilitate the construction and maintenance of recreational facilities. Timber sales were a significant portion of the original establishment of all recreational facilities constructed originally. Few new facilities have been construction since the original development. In the recent past forest management actions for recreation has focused on maintenance for safety and aesthetics. In 2005 the Viewpoint Timber Sale was executed to enhance recreational facilities at the Viewpoint and more projects are being planned (e.g. Canyon Creek Timber Sale). The maintenance of existing recreational facilities will continue and could include small scale timber sales, road construction and/or reconstruction, gate and barricade installation and maintenance, sign installation, prescribed fire both broadcast and pile burning, and vegetation slashing. ESA consultation for new recreation facilities will be addressed in subsequent documents.

2.2. Project History

In the past, Dworshak's Program has been conducted under individual plans, and has been managed, in general, at the project scale. This approach has resulted in several consultations that have involved similar activities, with similar effects, and added workload, both to the Services

and the Corps. The Corps intends to minimize consultation-related workload for the Corps and the Services, while producing the same overall result through a programmatic approach to management, and programmatic consultation.

2.3. Documentation of Relevant Correspondence

The design of this Program has been accomplished through great effort and coordination between the Dworshak Natural Resource Team, and the Corps' Environmental Compliance Section. Numerous emails, telephone calls, and exchange of information have facilitated the development of this Program.

2.4. Supplemental Information

Supplemental information may be found in the Dworshak Reservoir Public Use Plan, available at: http://www.nww.usace.army.mil/planning/er/dworshak/pub-use-plan.pdf

2.5. Federal Action History

The construction of Dworshak Dam and Reservoir was authorized for flood control and other purposes under Section 201 of the Flood Control Act of 1962, Public Law (PL) 87-874, approved 23 October 1962. The Federal Water Project Recreation Act of 1965 (PL 89-72, 89th Congress, 1st Session, dated 9 July 1965), as amended, established recreation potential at Dworshak Dam and Reservoir as a full project purpose.

- Endangered Species Act Section 7(a) (2) Consultation Biological Opinion And Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation on Remand for Operation of the Federal Columbia River Power System, 11 Bureau of Reclamation Projects in the Columbia Basin and ESA Section 10(a) (I) (A) Permit for Juvenile Fish Transportation Program (Revised and reissued pursuant to court order, *NWF v. NMFS*, Civ. No. CV 01-640-RE. (D. Oregon)) May 5, 2008. The FCRPS BO requires the Corps to draw down the reservoir level in early July each year to facilitate fish outmigration. This policy has been in place, and has continued each year since 1992, with only minor adjustments in timing.

The Corps has conducted projects similar to the proposed action around Dworshak on Corps owned, and some adjacent property. These projects are:

- Grandad Boat Ramp Extension Project, Clearwater County, Idaho-Biological Assessment USFWS File #352.3215.02 1-4-02-1-722 HUC #17060308 is complete.

- Little Bay Stewardship Project (Little Bay Stewardship Project adjacent to Dworshak, Orofino, Clearwater County, Idaho, Biological Assessment USFWS File # 351.3040 0ALS #1-4-01-1-787 and File # 351.3040 OALS #1-4-02-1-415) is complete.

- Elk Creek Stewardship Project (Elk Creek Meadows Stewardship Project, Clearwater County, Idaho – Concurrence, USFWS File #351.3040 OALS #1-4-05-1-754, dated 2

September 2005) has not yet been fully implemented. Vegetation has been cut and timber thinning has occurred on the Elk Creek project selected units. Burning has not taken place to date on selected burn units due to constraints involved with burning and the narrow burn window within each burn season.

- Ahsahka Stewardship Project (Ahsahka Stewardship Project-Clearwater County, Idaho-Concurrence USFWS File #352.0000 14420-2011-1-0019 dated 16 November 2010)(Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Ahsahka Stewardship Project, Clearwater River, Clearwater County, Idaho, HUCs 1706030601, 1706030606, and 1706030612 (one project), dated 16 December 2010, NMFS No. 2010/05314) has had section 7 consultation completed, and is awaiting implementation.

- Canyon Creek Recreational Facilities Enhancement Project –Clearwater County, Idaho-Concurrence USFWS File #352.0000 14420-2011-I-0039 received 10 January 2011. This project has not yet been implemented.

3. Project Description

3.1. Authority

Many of the activities subject to this consultation are authorized by the February 2011 Dworshak Reservoir Public Use Plan (USACE 2011).

Authority to manage Dworshak natural resources and to conduct timber harvest in support of a variety of project purposes is supported by the Dworshak Final Environmental Impact Statement (USACE 1975a);

> "In general, a well-managed forest is healthy and disease resistant. In order to maintain thrift in a forest, stand density must be controlled by thinning in younger stands. This will accomplish three objectives; release for thrifty growth; provide ground cover with forage value for wildlife; open the stand for visual and walking pleasure for the recreationist."
>
> "The North Fork Clearwater supports a considerable number of big game animals. The ability of the reservoir shorelands to support these animals during the winter months can be improved by manipulating the forest and brush canopy."
>
> "In order to develop the boat-in recreation sites, the road access recreation sites classed as future development, remote minicamp sites, foot access trails, and allow for disease control, wildlife habitat, and removal of unsafe trees, an estimated 7,000,000 board feet of saw logs annually will be produced in excess of requirements for reservoir operations."

Authority also comes from the Forest Cover Act (P.L.86-717).

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is hereby declared to be the policy of the United States to provide that reservoir areas of projects for flood control, navigation, hydroelectric power development, and other related purposes owned in fee and under the jurisdiction of the Secretary of the Army and Chief of Engineers shall be developed and maintained so as to encourage, promote, and assure fully adequate and dependable future resources of readily available timber, through sustained yield programs, reforestation and accepted conservation practices, and to increase the value of such areas for conservation, recreation, and other beneficial uses: Provided, That such development and management shall be accomplished to the extent practicable and compatible with other uses of the project.'

Agency guidance for implementing land management activities on the project includes Engineering Regulation 1130-2-540, dated 15 Nov 1996, *Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects.*

"- Forest and Woodland Management. The Forest Cover Act provides a statutory mandate for multiple use forest management, or other vegetative cover management, on project lands and waters. Forest and woodland management will be applied to develop, maintain, protect, and/or improve vegetation conditions for timber, fish, wildlife, soils, recreation, water quality, and other beneficial uses."

"- Fish and Wildlife Management. Section 2 of the Forest Cover Act provides authority for the Corps to manage project lands and waters for any or all conservation purposes, including fish and wildlife conservation. The Corps will conduct fish and wildlife management activities which seek to maintain populations of targeted wildlife species through the manipulation and management of habitat. The Corps will coordinate and conduct its program in conjunction with other Federal, state, and local agencies having fish and wildlife management responsibilities using a variety of techniques including the placement of artificial structures and other practices."

"Wetlands Management. The Forest Cover Act provides for the development of other vegetative cover, such as wetlands, so as to yield maximum benefit and otherwise improve such areas". "Existing wetlands will be protected, conserved, and maintained. The development and maintenance of wetlands should integrate the needs of fish and wildlife and support national programs and efforts associated with the Endangered Species Act."

"Enhancement. PL 89-72 provides for the consideration of fish and wildlife enhancement opportunities at Corps water resources development projects. Enhancement measures/activities are those measures/activities taken above a stewardship level (i.e. level required to sustain fish and wildlife resources for the life of the project), and those measures/activities which produce an increase or concentration of animal numbers for the purpose of recreational benefits."

There are 18 provisional resource use objectives established for Dworshak (USACE 1996a). Several of the objectives focus on the forest resources of Dworshak. Objective number 11 explicitly states the need to "maintain a healthy forest ecosystem." The rationale to support this objective comes from the Forest Cover Act (Public Law 86-717) that provides for the protection of forest cover for reservoir areas that fall under the jurisdiction of the Chief of Engineers. It states that reservoir areas will be developed and maintained to assure future resources of available timber and to increase the value of such areas for conservation, recreation, wildlife, and other beneficial uses. To the extent practicable, such development and management would be accomplished in a manner compatible with other project uses. In order to carry out this national policy, the Corps will provide for the sustainable development of forest resources, as well as the establishment and maintenance of other conservation measures on reservoir areas so as to yield the maximum benefit and otherwise improve such areas.

The Corps has the authority to plan and execute fire pre-suppression and suppression activities based on Provisional Resource Use Objective (PRUO) 12 established by the CORPS and approved by the Chief of Operations.

Design Memorandum No. 15, *Plan for Development of Rocky Mountain Elk Habitat* (DM-15) (USACE 1977) presented a plan for the development and maintenance of winter range for Rocky Mountain Elk at Dworshak Dam and Reservoir. This report established the legal mitigation lands and requirements on Dworshak Reservoir. The Corps is still obligated to annually maintain the “hard core” Wildlife Mitigation Area for its designated purposes.

Recreation is one of five congressionally authorized purposes for Dworshak. The Federal Water Project Recreation Act of 1965 (PL 89-72, 89th Congress, 1st Session, dated 9 July 1965), as amended, established recreation potential at Dworshak Dam and Reservoir as a full project purpose. This purpose is primarily to enhance and/or maintain recreation amenities. Further, there are 18 provisional resource use objectives established for Dworshak (USACE 1996a). Several of the objectives focus on the recreational facilities and opportunities. Others discuss forest resources and aesthetics. Objective number 2 explicitly states the need to "provide and enhance camping and day use opportunities and facilities."

3.2. Project Area and Action Area

3.2.1. Footprint

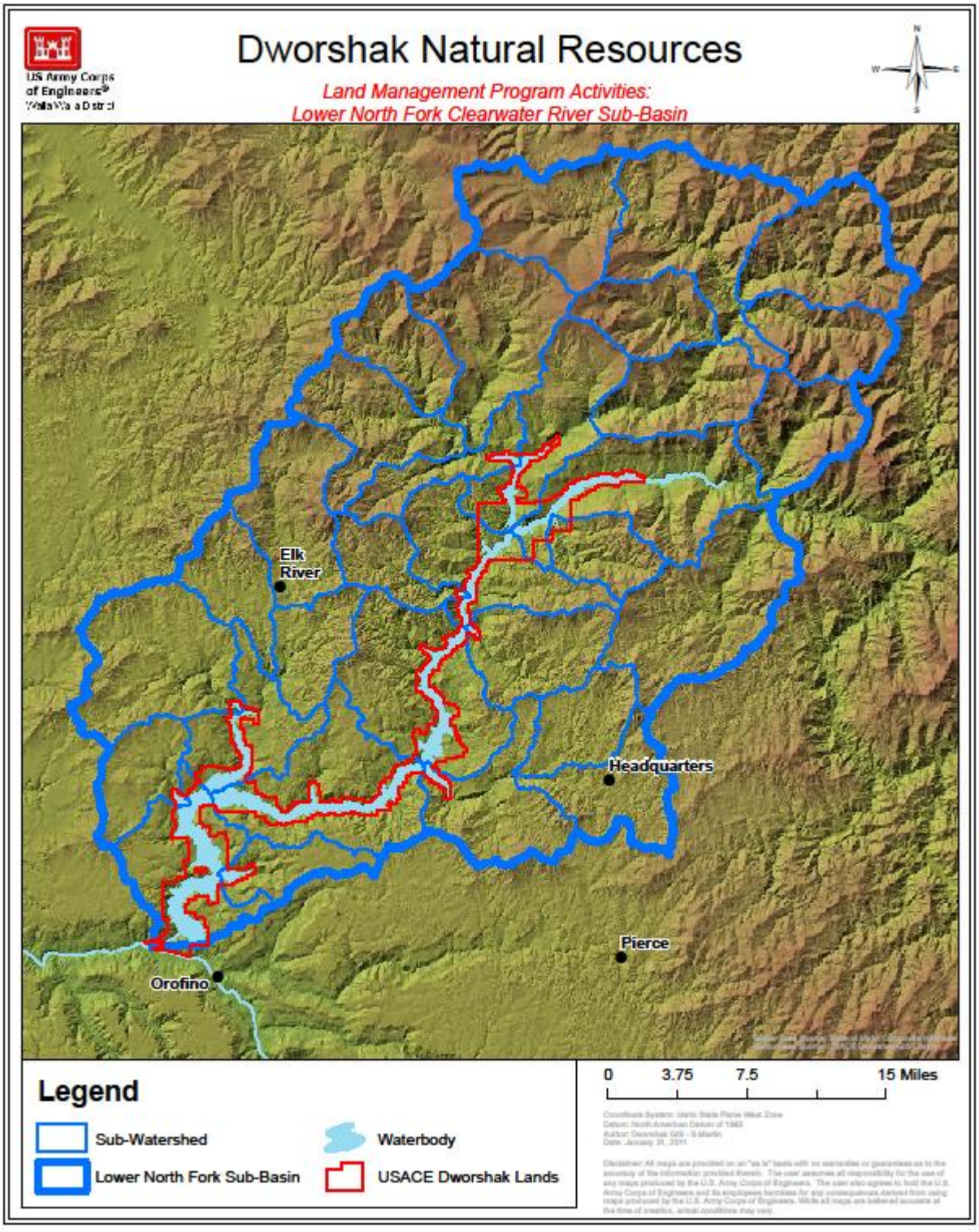
The footprint for the proposed action includes all Corps managed lands in the vicinity of Dworshak Dam and Reservoir in Clearwater County Idaho, except for those lands that drain directly into the North Fork Clearwater and Clearwater rivers downstream of Dworshak Dam. The footprint is, therefore, confined to the areas that drain directly into Dworshak Reservoir.

Those lands that drain directly into the North Fork Clearwater and Clearwater rivers were consulted on for the Ahsahka Stewardship Project. Beyond that consultation, the Corps does not envision any of the proposed work in this document being conducted in that area in the foreseeable future.

3.2.2. HUC, Township, Range, Section

The proposed action is in the Lower North Fork Clearwater subbasin (HUC 17060308) (Figure 2). The proposed project is located along the NFCR, in and around Dworshak upstream of Dworshak Dam.

Figure 2 HUC 17060308 and Dworshak project lands.



3.2.3. Quantification of Area Potentially Affected

The maximum area potentially affected on an annual basis is limited by quantities proposed, but may occur in any location in the 29,318 acres of land of Dworshak managed by the Natural Resource Team that drains into the reservoir.

Areas in and around Dworshak that drain into the North Fork Clearwater or Clearwater rivers, and not into the reservoir, are not included as part of the proposed action. Areas that were consulted on in the Ahsahka Stewardship Project are also not included at this time.

3.2.4. Action Area

The action area includes all Corps managed lands at Dworshak that drain directly into Dworshak Reservoir. The action area specific to bull trout is confined to Dworshak Reservoir (defined by 1,600 msl), and some free-flowing areas of reservoir tributaries above 1,600 msl, which includes: approximately 2,200 ft of free-flow Little NF Clearwater River (containing bull trout), a 1,500 ft section of free-flowing portion of Breakfast Creek, 600 ft of Reeds Creek, and 800 ft of Silver Creek. There is no free flowing portion of the NF Clearwater River on Corps lands. All free flowing portions are outside the action area. Floodwood Creek (containing bull trout) is outside of (and approximately 2/3 mi. upstream of) the Corps boundaries, and is outside of the action area (S. Martin, personal communication, November 4, 2011).

3.3. Project Purpose and Objectives

The primary purposes for this action are to enhance ecosystem integrity, forest health, wildlife habitat, and recreational opportunities. Safety and aesthetics are the primary focus for treatments within recreation areas, including high density recreation areas and primitive campsites (i.e. minicamps). In order to meet the purposes of the Dworshak Natural Resources Land Management Program (Program), the Program has been divided into the following management categories, or "activities."

- Access and Trails Management
- Boundary Management
- Fire Management
- Forest Management
- Road Management
- Wildlife habitat management
- Recreation

Each activity has specific goals and objectives that are designed to meet the purposes of the Program. The goals and objectives are outlined in the following.

3.3.1. Access and Trails Management

Goals:

- To reduce negative impacts to fish and wildlife habitat and non-motorized recreational users from unauthorized motorized access by actively managing access on Project lands. This active management will include public education, Title 36 enforcement and constructing, installing and maintaining access control structures designed to reduce and/or eliminate unauthorized access.
- To maintain and improve the existing trail system for non-motorized recreational trail users.
- To seek new opportunities for alternative access and recreational trail activities including but not limited to motorized, equestrian, and biking opportunities where the resource ecology and the public support.

Objectives:

- Actively manage access along the project boundaries to reduce negative impacts to fish and wildlife habitat and non-motorized recreational users from unauthorized motorized access.
- Public education and enforcement through the use of Title 36, Code of Federal Regulations, Part 327.
- To enhance user safety and recreational experience, perform maintenance activities including but not limited to clearing and brushing of the trail corridor, maintenance of the tread surface, installation and maintenance of bridge structures, surface water control structures, retaining structures, switchbacks and signage.
- Construct, install, and maintain access control structures to prevent unauthorized motorized access.
- Seek new opportunities for improved access for approved alternative methods, (motorized, horse, hike, bike, etc), where the resource and the public support.
- Work to improve existing access and prevent degradation of the resource.
- Respond to customer demands with analysis of access requests.

3.3.2. Boundary Management

Goals:

- To prevent unintentional trespass and negative impacts associated with timber trespass and other unauthorized use of government property by visually identifying property ownership through the surveying, marking and posting of the project boundary, sharing data with adjacent land owners, public education, and enforcement.
- Continue efforts to monument project boundary and cooperate with adjacent landowners to create opportunities for the sharing of data and costs for common boundary surveys.

Objectives:

- Prevent unintentional trespass and negative impacts associated with timber trespass and other unauthorized use of government property by visually identifying property ownership.

- Continue efforts to monument the Project boundary and cooperate with adjacent landowners.
    - Develop cooperative boundary plans with landowners adjacent to Corps land.
    - Share survey data, where applicable.

3.3.3. Fire Management

Goals:

- To maintain a fire protection system for lands managed by the Corps at Dworshak.
- To provide wildland fire prevention, detection, pre-suppression, and suppression capability resulting in no closures of the public access to Dworshak Reservoir.
- To limit all wildland fires to no more than two (2) acres in size in NFDRS fuel model "C"[1] and no more than one (1) acre in size in NFDRS fuel model "G"[2] (USFS 1999).
- To maintain trained fire suppression personnel in an available and ready status.
- To maintain fire suppression equipment to initiate first attack capability as well as provide limited extended attack capability.
- To maintain accurate continuous fire weather data. And to prevent all wildfires initiating on Corps property from crossing onto adjacent properties.
- To safely use a controlled fire to emulate the effects of a natural wildfire within a given habitat type in order to accomplish a set of desired outcomes as prescribed for the benefit of wildlife, forest health, fire fuels reduction and/or ecosystem integrity.

Objectives:

- Minimize the negative effects of wildfires, including impacts to the recreating public and to federal property, by maintaining a fire protection system capable of providing wildland fire prevention, detection, pre-suppression, and suppression.
- Use prescribed burning as a tool to help meet the ecological, wildlife, and forest health objectives of the project.
- Maintain several trained fire suppression personnel in an available and ready status.

3.3.4. Forest Management

Goals:

- Manage forestland along Dworshak Reservoir to meet various resource objectives including ecosystem integrity, forest health, wildlife habitat, and recreational opportunities. All forest management actions shall be designed such that ecosystem

[1] Open pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuel but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Situations covered by Fuel Model C are open, longleaf, slash, ponderosa, Jeffrey, and sugar pine stands. Some pinyon-juniper stands may qualify.

[2] Fuel Model G is used for dense conifer stands where there is a heavy accumulation of litter and downed woody material. Such stands are typically overmature and may also be suffering insect, disease, wind, or ice damage -- natural events that create a very heavy buildup of dead material on the forest floor. The duff and litter are deep and much of the woody material is more than 3 inches in diameter. The undergrowth is variable, but shrubs are usually restricted to openings. Types meant to be represented by Fuel Model G are hemlock-Sitka spruce, Coast Douglas-fir, and windthrown or bug-killed stands of lodgepole pine and spruce.

management principles are applied, aesthetics are preserved, and environmental degradation is minimized.

Objectives:
Provisional Resource Use Objectives (PRUO's) for Dworshak reservoir were established in 1990 to provide interim direction for the management of natural resources prior to the update of the Project Master Plan. The following PRUO's directly relate to forest management and were used as guidance during the development of this plan, particularly the goals and objectives.

- PRUO 1-Preserve the integrity, stability, and aesthetic beauty of the ecological community through comprehensive management, responsible care of public lands, waters, and resources, and (full and equal consideration of all alternatives and members of the community)
- PRUO 3-Provide an aesthetic, safe boating environment and enhance boating activities on the lake
- PRUO 4-Optimize fishing and hunting opportunities on project lands and waters
- PRUO 7 -Provide mitigation for fish and wildlife habitat losses caused by construction of the project
- PRUO 11-Manage project forest resources on a sustained development basis in light of other RUOs
- PRUO 12-Provide well planned and executed fire prevention, pre-suppression, and suppression programs

- Manage forestland along Dworshak Reservoir to meet various resource objectives, including ecosystem integrity, forest health, wildlife habitat and recreational opportunities. Forest management actions will include, but are not limited to, the following:
    - Use of large and small-scale timber sales
    - Pre-commercial thinning
    - Brush slashing
    - Prescribed burning
    - Road construction and re-construction
    - Planting of native plant species where it is necessary to meet specific management objectives

3.3.5. Road Management

Goals:
- Establish and execute a road system and maintenance schedule that that meets project transportation needs and prevents resource damage.

Objectives:
- Manage the road system within Project boundaries to meet transportation needs and prevent resource damage through inventory, assessment, construction, and maintenance of all roads.

- Classify all existing roads based on existing and desired future use, and maintain accordingly.
- Review property boundaries and potential points of new access, and post property ownership and/or rules accordingly. Numerous old logging and homestead roads exist throughout the Project. Many of these old roads are essentially closed, and not authorized for motorized use. Some old roads are discovered and used by the public when timber harvest activities occur near the Project.
- Consider and evaluate opportunities for future use and development.

3.3.6. Wildlife Habitat Management

Goals:

- Maintain the elk mitigation area for its intended purposes in DM 15.
- Conserve, protect, and/or enhance habitat for Rocky Mountain elk throughout Corps managed land surrounding Dworshak Reservoir at a watershed scale.
- Conduct forest management in such a way as to preserve, protect and/or enhance habitats for native wildlife species.

Objectives:

- Conserve, protect, restore, and/or enhance habitat and habitat components important to the survival and proliferation of threatened, endangered, special status, and other regionally important species on Project lands.
- Continually assess Dworshak's "Priority Habitats" based on the habitat needs of these and other native species present at Dworshak (ponderosa pine ecosystems; old growth forest communities; western white pine communities; isolated palustrine wetlands; and critical elk habitat).
- Combine information from the assessment of priority habitats with management objectives to initiate suitable forest management actions.
- Use objectives as guidelines when forest management actions are planned for other purposes.

3.3.7. Recreation Management

Goals:

- Manage forests with lands designated as recreation to enhance aesthetic value and reduce safety hazards.

Objectives:

- Remove trees within designated recreation areas that pose a notable threat to the recreation public.
- Conduct timber harvest and vegetation slashing to improve current and future conditions for public safety and aethetics.

3.4. Project Activities

Program management activities can be further broken down into Program management activity "elements." Program activities and their associated activity elements are listed in Table 2, along with maximum annual quantities (e.g. miles, acres, etc.) for each activity element.

Table 2 Dworshak programmatic activity elements.

Dworshak Programmatic Activity Elements	Maximum Quantity per Year
Access and Trails Management	
Gate and/or Barricade Installations	5 per year
Gate and/or Barricade Modifications	5 per year
Gate and/or Barricade Refurbishing	10 per year
Sign Installation/Maintenance	20 per year
Fence Repair and Maintenance	5 miles per year
Fence Removal	5 miles per year
Trail Corridor Brushing and Tread Maintenance	50 miles per year
Bridge Installation/Maintenance	5 per year
Surface Water Control Structure Installation/Maintenance	50 per year
Boundary Management	
Boundary Monument Installation	5 miles per year
Fire Management	
Broadcast Burning	1,000 acres a year
Pile Burning	100 piles per year
Slashing and/or Pruning	200 acres per year
Fire Lines	25 mini camps (approx. 1.25 mi), designated burn units
Forest Management	
Selective Harvest	750 acres a year
Road Management	
New Construction	5 miles per year
Road Reconstruction	15 miles per year
Road Maintenance	50 miles per year
Road Obliteration	2 miles per year
Road Demolition	1/4 mile per year
Culverts	50 per year
Wildlife Habitat Management	
Wetland Enhancement	2 per year
Planting	1,500 plants per year
Recreation Management	
Recreation Foot Trails	10 miles per year

Management activities at Dworshak are very interrelated. Activity elements have been identified for each management activity based on what activity an element falls into the majority of the time. However, any of the activity elements may occur as part of other management activities from time to time. For example, road management activities will occur as part of routine road management, but will also occur as part of fire management, forest management, and may even occur as part of recreation.

For illustration purposes, and to help demonstrate the interrelated nature of activity elements, an "X" has been placed in a box in Table 3 for each activity element (shown in the left column) that

may occur as part of a given management activity (Access, Boundary, Fire, Forest, Road, Wildlife Habitat, Recreation Management).

Table 3 Land management activities versus activity elements.

Management Activity							
Activity Element	**Access**	**Boundary**	**Fire**	**Forest**	**Road**	**Wildlife**	**Recreation**
Gates	X			X		X	X
Signs	X			X		X	X
Fences	X						
Trails	X						X
Monumentation		X					
Broadcast Burning			X	X		X	X
Pile Burning			X	X		X	X
Slashing and/or Pruning			X	X		X	X
Fire Lines			X	X		X	X
Selective Harvest			X	X		X	X
Snag Removal			X	X	X		X
Road Construction			X	X	X	X	X
Road Reconstruction			X	X	X	X	X
Road Maintenance	X	X	X	X	X	X	X
Road Obliteration	X		X	X	X	X	
Road Demolition	X		X	X	X	X	X
Culverts			X	X	X	X	X
Planting			X	X	X	X	X
Wetland Enhancement						X	

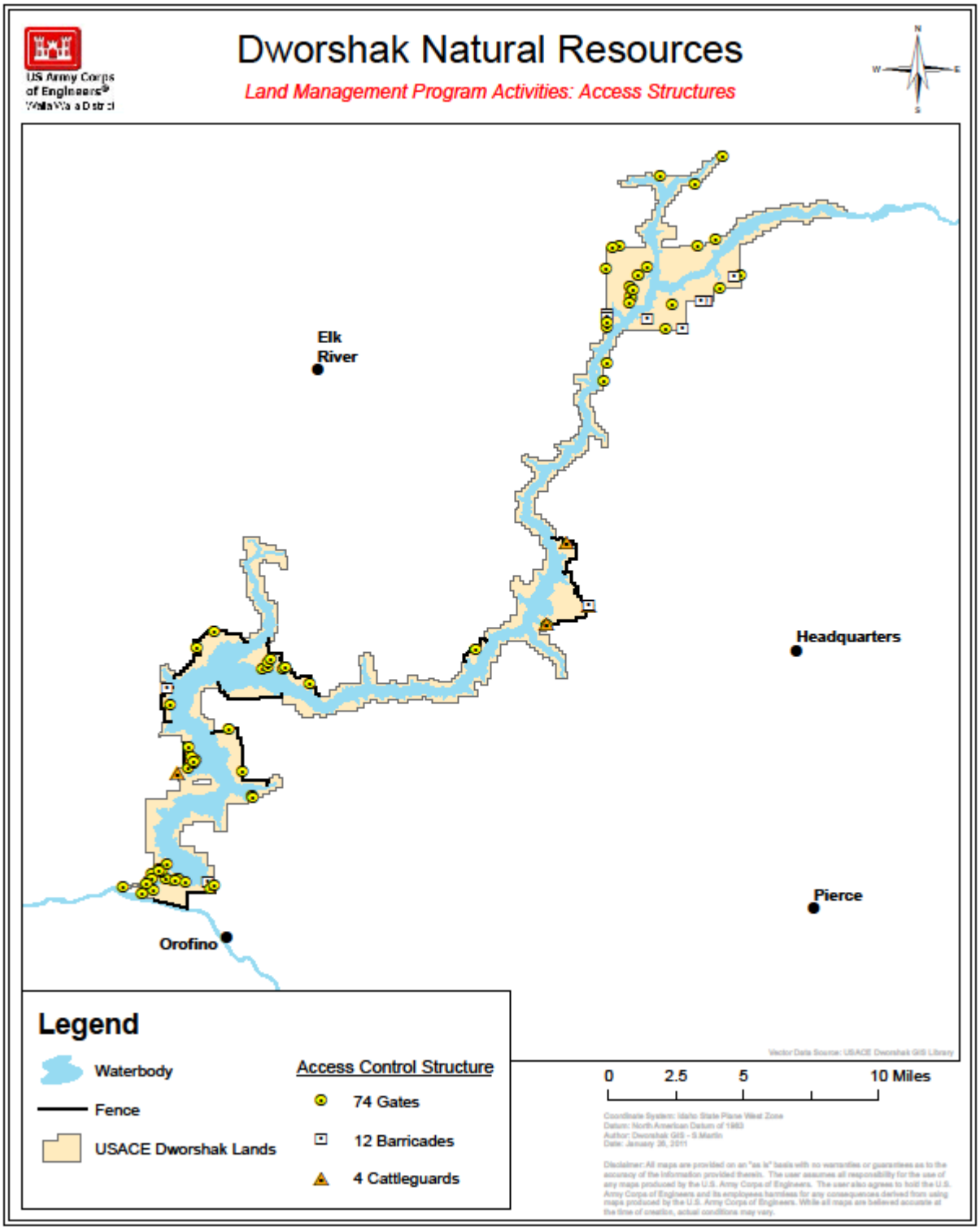
The following is a description of each project activity, and its associated element(s).

3.4.1. Access Management

Access to Dworshak managed lands is controlled by signage, gates, barricades, other physical barriers, fences, and boundary management (Figure 3). Access Management activities may occur throughout Corps-managed lands at Dworshak.

Access management is also important for ensuring access for fire management. This would include building and installing access control structures (gates and barricades) as well as posting the area fire danger ratings and the associated restrictions.

Figure 3 Access structures.



3.4.1.1. Gates

Gates are located at various locations on the boundary of the Corps' property, as well as within project lands. The primary purpose of the gates is to keep vehicles out of lands not open to vehicle use, but they also provide security in places.

3.4.1.1.1. Gate/Barricade Installation

The Corps proposes to install up to 5 gates per year. This will occur in previously disturbed areas using either equipment or hand tools. Gates will be placed into a hole dug with hand tools or machinery. Dirt will be tamped in place around the gate, and the hole will likely be filled with concrete to set the gate in position.

3.4.1.1.2. Gate/Barricade Modification

The Corps proposes to modify 5 gates per year. This will include routine repairs that would not warrant replacing the entire gate (i.e. welding on a wing).

3.4.1.1.3. Gate/Barricade Refurbishing

The Corps proposes to refurbish up to 10 gates or barricades per year. This will include routine activities that do not include modifying or replacing the gate (e.g. sanding, painting, and hanging signs).

3.4.1.2. Sign Installation/Maintenance

The Corps proposes to install or maintain up to 20 signs per year. This includes digging a post hole with hand tools up to 42 inches (in) deep, and placing the post. Post placement will be accomplished through tamping dirt, and may include filling the hole with concrete to prevent the post from falling, or being removed.

3.4.1.3. Fences

Dworshak contains approximately 34.4 miles of fencing. The project boundary incorporates 30.9 miles of this fencing, while the other 3.6 miles of fencing are located inside the project to provide security, guidance, and barriers. Due to the rough terrain, fencing the entire project would not be cost effective.

Inventory of existing and abandoned fences is ongoing, and numbers and locations of existing fences, both in use, and abandoned, will be updated as the inventory progresses.

3.4.1.3.1. Fence Repair/Maintenance

The Corps proposes to repair or maintain up to 5 miles of fence per year. This will include replacing metal t-posts or wooden posts. Because of the types of fencing used at Dworshak, and the type of terrain, fencing is installed primarily with hand tools.

3.4.1.3.2. Fence Removal

The Corps proposes to remove up to 5 miles of old fence per year. This will be done in steep terrain with hand tools, and is incidental to normal fence repair/maintenance.

3.4.1.4. Trails

Access to Dworshak Reservoir includes a complex system of roads and trails that serve both project operations and the public. There are also hiking trails in different areas around the lake where the topography allows. Most hiking trails provide access to the reservoir; however, drawdowns create exposed banks that are difficult to negotiate in most areas. There are networks of old logging and homestead roads throughout the reservoir lands, most originating beyond Dworshak boundaries and overgrown with vegetation. Some may be of value for future transportation routes or trails. As such, in 2005, the Corps evaluated the possibility of introducing ATV trails on Dworshak lands, and included the development of the development of motorized trails in the Public Use Plan for Dworshak (USACE 2011).

Fishing and hunting take place year round at Dworshak. Any vehicle capable of travel over snow is allowed on designated trails as they cross through Dworshak project boundaries. Currently there are no Corps designated snowmobile trails within project boundaries other than those that are a part of designated trail systems that cross project lands. Snowshoeing and cross country skiing are permitted on all Dworshak lands.

The tables in the following discussions are taken directly from the Public Use Plan (USACE 2011), and their numbering does not coincide with the rest of this document.

Recreation trails are emerging as important outdoor recreation facilities at Dworshak Reservoir (Table 2-11 from the Public Use Plan). Walking, jogging, and bicycling are all popular activities along the reservoir. Prior to the development of the Public Use Plan (USACE 2011), the trails on the project were only authorized for nonmotorized use.

Table 2-11. Dworshak Trail Inventory

Trail Type	Length	Difficulty
Hiking		
Merry's Bay Trail	1.5 miles one way	easy to moderate
Big Eddy Trail	10 miles one way	easy to moderate
Canyon Creek Trail	1.5 miles one way	easy to moderate
Cold Springs Trail	5.5 miles one way	easy to moderate
Dent Trail	1.8 miles one way	easy to moderate
Placid View Trail*	.5 miles loop	easy
Ocean Spray Trail*	2 miles loop	easy to moderate
*Part of Dworshak State Park outgranted to the Idaho Parks and Recreation.		
Horse -None designated, but currently allowed on all hiking trails		
Bike -None designated, but currently allowed on all hiking trails		
OHV -None designated --Little Meadow Creek ATV trail is a current pilot project that is being used to test impacts of ATV on the environment.		

At Dworshak, there has been a demand to use old logging road and trails for ATV use. In many places, ATV users have used these roads and created unauthorized trails (Figure 4). These trails now show signs of erosion, and there are other negative effects on the natural resources of the area (Photos 4). Although gates have been installed and trails closed, ATV users can easily find other routes to access the trails they have been using.

Figure 4 Unauthorized motorized trails at Dworshak.

The new Public Use Plan (USACE 2011) will restrict motorized access to designated trails, and all areas will be considered closed to motorized traffic unless posted as open.

Motorized access on approved trails will be allowed in, and restricted to, designated areas deemed appropriate and necessary by the Corps. All motorized access is subject to seasonal or

permanent closure based on road conditions, the presence of important species that would be impacted by the presence of motorized vehicles, or other reasons deemed appropriate by the Corps.

Any unauthorized trails will be considered an encroachment or trespass, and will be closed until such time as the trail may be evaluated for its potential to become a designated trail. Any trail designated on Dworshak lands will not be reserved for exclusive use, and must be open to general public access.

Proposed motorized trails will be evaluated for environmental compliance, implementation feasibility, and public acceptability prior to approval and construction. If deemed feasible trails will then be constructed to be a class 3 or 4 type trail as classified by the United States Forest Service. The following tables give guidance for general trail construction and motorized trail construction. For more detailed information on the US Forest Service trail planning, construction, and maintenance guidelines see FSH 2309.18

Table 6-2. General Trail Guidance

Trail Attributes	Trail Class 3 Developed/Improved Trail	Trail Class 4 Highly Developed Trail
General Criteria **Physical Characteristics to be Applied to All National Forest System Trails**		
Tread & Traffic Flow	• Tread obvious and continuous • Width accommodates unhindered one-lane travel (occasional allowances constructed for passing) • Typically native materials	• Tread wide and reltively smooth with few irregularities • Width may consistently accommodate two-lane travel • Native or imported materials • May be hardened
Obstacles	• Obstacles infrequent • Vegetation cleared outside of trailway	• Few or no obstacles exist • Grades typically <12% • Vegetation cleared outside of trailway
Constructed Features & Trail Elements	• Trail structures (walls, steps, drainage, raised trail) may be common and substantial • Trail bridges as needed for resource protection and appropriate access • Generally native materials used in Wilderness	• Structures frequent and substantial • Substantial trail bridges are appropriate at water crossings • Trailside amenities may be present
Signs	• Regulation, resource protection, user reassurance • Directional signs at junctions, or when confusion is likely • Destination signs typically present • Informational and interpretive signs may be present outside of Wilderness	• Wide variety of signs likely present • Informational signs likely (outside of Wilderness) • Interpretive signs possible (outside of Wilderness) • Trail Universal Access information likely displayed at trailhead

Table 6-3. General Motorized Trail Guidance

Trail Attributes	Trail Class 3 Developed/Improved Trail	Trail Class 4 Highly Developed Trail
	Additional Criteria for Motorized Trails Apply in addition to Trail Class General Criteria	
Motorized Trails **Motorcycle/ ATV** **(etc.)**	• Trail wide and suitable for one lane and occasional two-lane passage for managed use types. • Occasional moderate tread protrusions and short awkward sections, which require speed and maneuvering adjustments. • Tread infrequently graded. Obstacles cleared if they substantially hinder the managed use and difficulty level. • Tread surface generally native materials, with occasional on-site fill or imported materials, if more stable surface is desired. • Crossings may be wet fords; likely with hardening and armoring or simple bridges for resource protection and to ensure appropriate access. • Trails have frequent markers and are readily followed. • Signing size and type appropriate for managed speeds and potential nighttime use (signs likely reflectorized).	• Trail wide and suitable for the managed use type, and may consistently accommodate two-way passage. • Tread surface generally smooth with only small protrusions, which moderately affect speed and ease of travel. (Some roughness may be desired and incorporated to control/limit speed.) • Tread graded as needed. • Tread surface may include imported aggregate or intermittent paved sections if more stable surface is desired. • Crossings are typically either hardened or armored or a substantial bridge. • Recommended speeds or speed limits may be posted. • Trails have frequent markers and are easily followed. • Signing size and type appropriate for managed speeds and potential nighttime use (signs reflectorized).

Trails will be considered in locations where land use classifications permit, and they provide safe access to mini-camps or other recreation features around the reservoir. In addition, some desired trails may be part of a larger regional trail system. The designated trails will primarily follow old logging or homestead roads, although some shared roads may be considered. Potential ATV trails will only be permitted in areas classified as Recreation, Multiple Resource Management, Low Density Recreation; Multiple Resource Management, Wildlife Management; and Multiple Resource Management, Vegetation Management as updated in the land classifications presented in Section 5 of this report. Trails will not be allowed in areas classified as Environmentally Sensitive or Mitigation, unless on main public access roads already in use in those areas. Future ATV trails must not have significant impacts to other known sensitive habitat areas or other areas of significant ecological importance. Future trail planning efforts and accompanying Corps environmental compliance procedures will evaluate the effects of each proposed ATV trail. General trail construction guidelines are included in the following paragraphs. Specific trail criteria may be prescribed by the Corps for each trail, depending on location.

The purpose of ATV trails will be primarily to access mini-camp locations or other recreation features. No large loop trails are envisioned on Corps property due to topography constraints,

noise, and impacts to wildlife and environmentally sensitive areas. Recreational ATV use will only be allowed on designated trails, and no cross-country travel will be permitted. No ATV use will be permitted on exposed banks below the full-pool water mark, although some areas may be considered for designation as an area acceptable for ATV transport from boat to shore at all water levels. Not all mini-camps will be accessible by trail, even when topography and environmental factors allow. In some locations, mini-camps will be preserved for boat access only, or as possible equestrian or walk-in mini-camps.

All ATV trails will be opened on a seasonal basis, as determined by Corps staff. The trails will be monitored and evaluated annually, and may be closed at any time based on trail conditions, use, or other environmental requirements.

Areas that have been identified by Corps staff and the public as appropriate for designated ATV access include Elk Creek Meadows, Little Bay, Swamp Creek, Mini- Camp 26.0 (near Magnus Bay), Evans Creek, and Boehls Fire Camp. These areas were determined to be appropriate locations; however, additional study will be necessary before any of these areas may become a designated ATV route. Other areas may also be appropriate for designation, but are not identified at this time. Section 1.8.1 contains a description of the evaluation process for potential sites prior to development and designation.

Table 6-4. Trail Specifications for ATVs

Designed Use ALL-TERRAIN VEHICLE		Trail Class 3	Trail Class 4
Design Tread Width	Single Lane	60"	60" – 72"
	Double Lane	96" – 108"	96" – 120"
	Structures (Minimum Width)	60"	60"
Design Surface	Type	• Native with some onsite borrow or imported material where needed for stabilization, occasional grading • Intermittently rough • Sections of soft or unstable tread on grades < 5% may be present	• Native with imported materials for tread stabilization common, routine grading • Minor roughness • Sections of soft tread not common
	Protrusions	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous
	Obstacles (Maximum Height)	6" May be common, left for increased challenge	3" Uncommon
Design Grade	Target Grade	5% – 15%	3% – 10%
	Short Pitch Maximum	25%	15%
	Maximum Pitch Density	15% – 30% of trail	10% – 20% of trail
Design Cross Slope	Target Cross Slope	3% – 8%	3% – 5%
	Maximum Cross Slope	10%	8%
Design Clearing	Height	8' – 8'	8' – 10'
	Width (On steep side hills, increase clearing on uphill side by 6" – 12")	60" – 72"	72" - 96"
	Shoulder Clearance	6" – 12"	12" – 18"
Design Turn	Radius	8' – 10'	8' – 12'

Dirt bikes will be allowed on all designated ATV trails. A dirt bike is defined as a two-wheel, single-rider motorcycle. Dirt bikes must remain on the trail and no cross-country travel will be permitted. Specific trails for dirt bikes only will be evaluated under similar requirements as ATV trails, when public input and desire warrants such studies.

Full-size vehicles are currently permitted only on designated roads within Corps project boundaries. Future access points for full-size vehicles will be evaluated on a case by case basis.

The design guidelines and environmental conditions will be evaluated in a similar manner to that of an ATV trail (Table 6-4), with the understanding that impacts from a full-size vehicle will be more significant than an ATV due to size and weight.

Areas identified by Corps staff and the public to be appropriate areas for full-size vehicle access include Little Meadow Creek ATV Camp, Camp 26.0 at Magnus Bay, Evans Creek, Elkberry Creek, and Boehls Fire Camp. Additional study will be necessary before any of these areas could become a designated route for full-size vehicles. Other areas may also be appropriate for designation, but have not been identified at this time.

Table 6-5. Trail Specifications for Motorized Vehicles Greater than 50 Inches

Designed Use FOUR-WHEEL DRIVE VEHICLE > 50"		Trail Class 3	Trail Class 4
Design Tread Width	Single Lane	72" – 96"	96" – 120"
	Double Lane	16'	16'
	Structures (Minimum Width)	96"	96"
Design Surface	Type	• Native, with some onsite borrow or imported material where needed for stabilization, occasional grading • Intermittently rough • Sections of soft or unstable tread on grades < 5% may be present	• Native, with imported materials for tread stabilization common, routine grading • Minor roughness • Sections of soft tread not common
	Protrusions	≤ 8" May be common and continuous	≤ 4" May be common and continuous
	Obstacles (Maximum Height)	24" Common, left for increased challenge	12" Uncommon
Design Grade	Target Grade	5% – 18%	5% – 12%
	Short Pitch Maximum	20%	15%
	Maximum Pitch Density	10% – 20% of trail	5% – 10% of trail
Design Cross Slope	Target Cross Slope	5% – 12%	5% – 8%
	Maximum Cross Slope	12%	8%
Design Clearing	Height	6' – 8'	8' – 10'
	Width (On steep side hills, increase clearing on uphill side by 6" – 12")	72" – 96"	96" - 144"
	Shoulder Clearance	6" – 12"	12" – 18"
Design Turn	Radius	15' – 20'	20' – 30'

Given the nature of the terrain around Dworshak, and the myriad of trail types on Dworshak, the necessity may arise to use explosives to remove rocks and other hard surfaces that cannot be altered by conventional methods.

Once a trail is identified for blasting the work would include the following:

- Exact locations of each hole will be marked on the ground based on potential to improve the wetland habitat or obliterate the road surface.
- Holes will be dug into the soil using either a rock bar or a post-hole digger.
- Explosives will be placed in the holes; charges may be tied together, and set off.
- Explosives will be discharged in such a manner as to adhere to the best management practices mentioned below for fish protection.
- Guards and warning signs will be posted during the entire blasting procedure.

See Appendix B for BMPs.

All trails will be maintained on at least an annual basis and probably on a bi-annual schedule with maintenance performed in the spring and in the early fall and for any weather event such as high winds that could cause extreme amounts of downfall on any given trail system.

The Corps proposes to create/maintain up to 25 miles of recreation trails per year

3.4.1.5. Bridge Installation/Maintenance

Bridges, for the purposes of the Dworshak Natural Resource Activities, are recreation trail bridges. These bridges are typically found on foot trails around the reservoir and are generally made of logs, or wood materials, and span intermittent (seasonal) streams that are non-fish bearing. An example of the types of bridges found on recreation trails at Dworshak can be seen in Figure 5. Pre-treated wood (i.e. pressure treated) will be used in bridge construction. However, only those woods treated in the BMP manner will be used for construction. Also, to minimize impacts to aquatic environments, installations will occur during work windows of low to no-flow stream periods to minimize the potential for leaching into streams.

Figure 5 Typical bridge on recreation trails at Dworshak.

Most of the work done on these bridges in with hand tools, as the terrain precludes the use of machinery. Materials may be dropped in by helicopter or carried in.

The Corps proposes to install/maintain up to 5 bridges per year.

3.4.1.6. Surface Water Control Structure Installation/Maintenance

These structures are for the purposes of reducing wash-outs and erosion of trails. They may include the installation of culverts similar to those used for roads, but smaller, and on intermittent stream crossings along recreation trails.

The Corps proposes to install/maintain up to 50 water control structures per year.

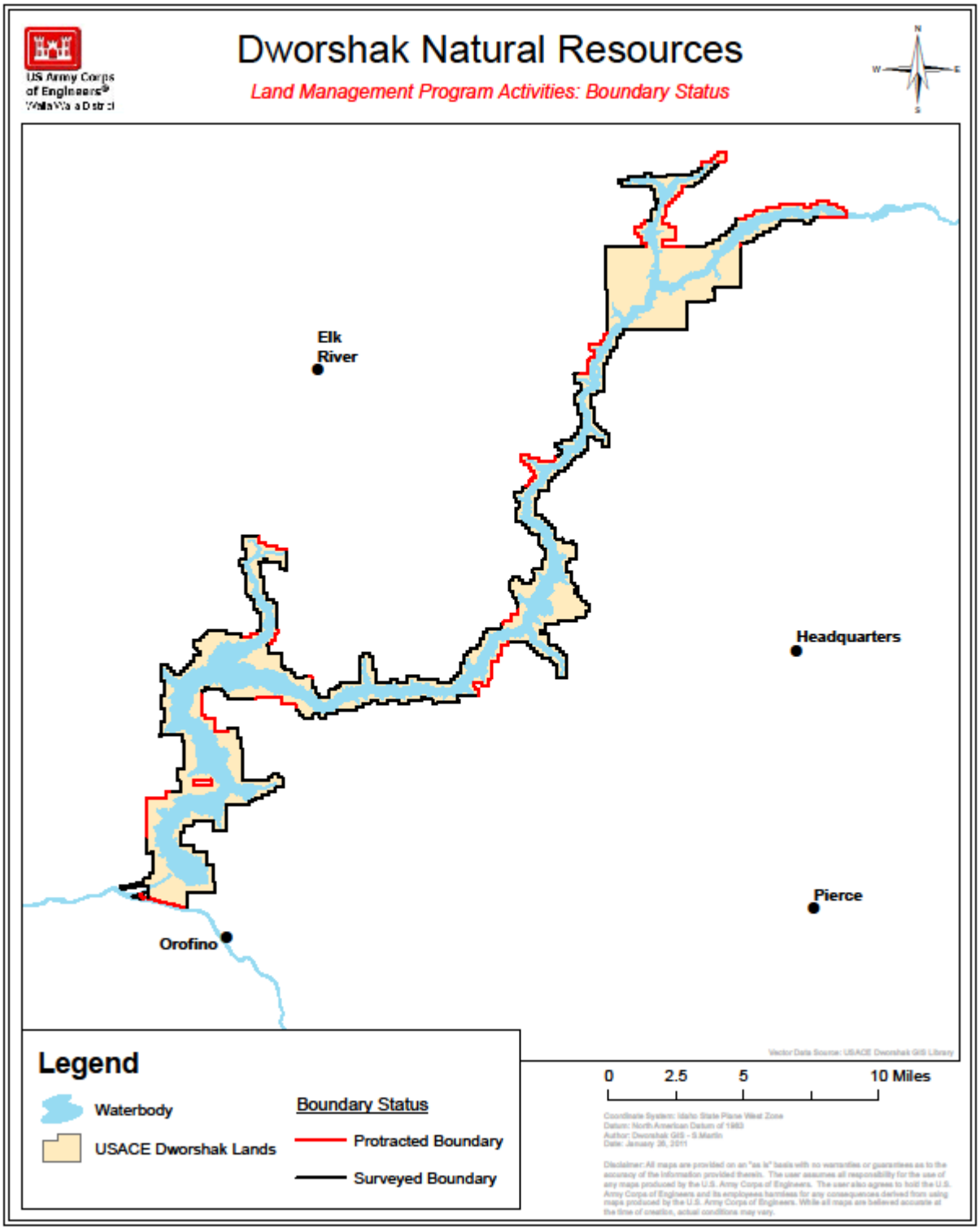
3.4.2. Boundary Management

The monumentation on the Dworshak boundary serves both the project and the public by identifying Dworshak lands. Approximately 74 percent of project lands are monumented (Figure 6). However, despite the monumentation, encroachment problems exist, primarily due to livestock and timber trespass. In addition, the frequency of encroachment issues is on the rise, due to an increase in private ownership of lands adjacent to the reservoir. Timber has been cut in

order to create views of the lake; and ATV riders from adjacent lands cut fences, break and/or cut gate locks, and create trails on Corps lands.

Inventorying of existing boundary monumentation is ongoing, and numbers and locations of existing monuments will be updated as the inventory progresses.

Figure 6 Boundary status.



3.4.2.1. Boundary Monumentation

The purpose for surveying, marking, and posting the Corps boundary is to prevent unintentional trespass and other unauthorized uses of government property by visually identifying property ownership. Lack of identified markings allows the public to go onto cut trees, and until there is a legally recognized boundary in adherence with federal and state cadastral laws and regulations, the Corps will have a hard time defending any enforcement actions.

Dworshak has 184 miles of boundary. Of that, approximately 140 miles has been surveyed, marked, and posted. That leaves 44 miles of boundary. On average, approximately 1 to 2 miles of that boundary is surveyed per year, with a maximum of 4 miles per year surveyed.

The following paragraph describes the common activities associated when a boundary survey occurs:

> Utilizing GPS, the land surveyor establishes control points to establish a known location. When the locations of the control points have been determined to a suitable level of accuracy, the surveyor then executes a traverse. Usually, this is accomplished by using the path of least resistance between two points. For example, the surveyor will use existing roads that parallel the boundary setting up a tripod with a total station to measure the distance between set-ups. The surveyor then continues to measure these distances until reaching the other control point. The surveyor gets from point A to B by foot and sometimes, if they're lucky, by using ATV's on established roads and trails. No ground disturbance would occur from this activity. It is possible that a line would be brushed out between set-ups. After calculating the position of the true boundary line, the surveyor then brushes out the true line, sets the monumentation in accordance with the BLM's Manual of Surveying Instructions, and then drives aluminum posts in the ground within a visible interval or at a maximum of 200 feet between boundary posts. All work is accomplished with the use of hand tools. No motorized equipment is used in this process. The monumentation is usually set in a hole approximately two feet deep by eight inches in diameter. These holes are dug with the use of hand tools such as shovels, bars, and clamshell shovels.

The Corps proposes to monument up to 5 miles of the Dworshak boundary per year.

3.4.3. Fire Management

The Corps can be held financially responsible for fires that escape project lands and burn onto an adjacent landowner's property. For this reason, in 1986, the Corps entered into a Reciprocal Fire Protection Agreement (RFPA) with the State of Idaho, Department of Lands to provide wildland fire protection and suppression for project lands. Recently this agreement has been replaced with a contract. The State meets all requirements of the RFPA through the use of the Clearwater-Potlatch Timber Protection Association (CPTPA).

Snags will be protected as wildlife habitat to the greatest extent practicable, unless a snag presents a safety hazard to operation personnel, in which case it will be removed.

There will be up to several years of planning associated with any given prescribed burn, but the potential exists for any area of Dworshak lands to be within a burn unit.

3.4.3.1. Prescribed Burning

Prescribed burning is an efficient and effective way to enhance ungulate forage, to reduce fuel loads and to create seedbeds for the natural regeneration of conifers or planting. It's been used very successfully around the reservoir to meet each of the above objectives for wildlife habitat improvements and to meet ecological restoration objectives. Wildfire is a natural ecological process and prescribed burning, if executed appropriately, can effectively emulate that process.

The Corps plans to continue using prescribed fire to meet a variety of forest management objectives. Our prescribed burning program currently utilizes the knowledge and expertise of CPTPA to accomplish our large prescribed burns. Small burns may be conducted by Dworshak staff. This will continue to be our direction unless the situation warrants a change. .

Today the Corps has the responsibility to continue to manage the elk mitigation area for its intended purposes. This requires periodic treatments to ensure that suitable winter forage is available. One such treatment necessary for the development of suitable winter range is prescribed fire. Many of the preferred browse species, especially redstem ceanothus, require heat scarification of the seed coats to bring about germination. The Corps must use prescribed fire in order to adequately meet its mitigation requirements.

Prescribed fire will also be used in ecological restoration projects. Burns will be implemented where appropriate to reach a desired future condition through emulating the natural effects of wildfire. In order to meet ecological objectives in dry forest types, prescribed fire will typically follow logging. Timber sale units or portions of units, which contain habitat types that historically received frequent under-burns and have the appropriate conditions, will be proposed for prescribed burning. Post harvest conditions such as the juxtaposition and amount of ground fuel will determine the potential to conduct an effectual prescribed burn (Kilgore and Curtis, 1987).

Although it is more expensive, trees will be topped and limbed in place to allow for more fuels on the ground to bring about an effective prescribed burn. Prior to human fire control methods, historic fires in the area likely took place in the heat of August. Prescribed burning in August to emulate natural fires would be dangerous, as temperatures and relative humidity would make controlling the burn extremely difficult. Therefore, by leaving more ground fuels a safe and effective the burn can occur in the fall. This way the fire behavior will be similar to natural fire conditions, but will be easier to control due to lower ambient temperatures, higher relative humidity, and higher fuel moistures.

Prescribed burning will occur after vegetation has been thinned and selected trees harvested. Selected units will be lit by drip torch and, in some cases, by helicopter. Burns will likely occur no earlier than September and no later than November 15. If conditions do not warrant a safe burn (e.g., conditions are not within temperature, fuel moisture, and relative humidity levels that

allow for a safe and controllable burn), the burning will be delayed until the burn season of the following year. A unique approved burn plan will be created for each prescribed burn. They will be created cooperatively by the Corps and/or the CPTPA.

Burning will most likely occur between September 1 and November 15, but specific environmental conditions in which a safe and effective prescribed burn can occur may vary based on fuels, slope, weather, aspect and other factors, which may push the burn dates outside of the identified dates one way or another.

Prescribed burning includes controlled broadcast burning and pile burning.

3.4.3.1.1. Broadcast Burning

Broadcast burning is the act of applying fire in a prescriptive manner over a broad area, typically over several acres. Broadcast burning at Dworshak is, at no time, uncontrolled. Broadcast burning, as part of prescribed treatments, is used at Dworshak for a variety of reasons including; reduce fuel loading, improve wildlife habitat and to restore ecological forest condition. The Corps generally conducts broadcast burning in the fall, but occasionally executes these burns in the spring. It involves ignition, control, and patrol. Ignition can be accomplished with a variety of tools (i.e. drip torch, propane torch, helitorch). Control really involves keeping the fire within prescription regarding intensity and location. However, in the unlikely event that a fire burns out of prescription, it is considered a wildfire, and is treated as such. Thus the best way to describe control is readiness. It includes having people and equipment available, some examples are; firefighting crews with hand tools (e.g. pulaski, shovels, McLeod), dozers, water truck, fire engines, and hose-lays with pumps. The fire is then monitored or "patrolled" for up to several days following the burn to ensure that it does not spread outside of the designated burn area.

Assessment of the environmental conditions (fuel moisture, relative humidity, ambient air temp, wind speed, and direction) of the site will be conducted prior to each burn. This is typically done multiple times prior to ignition, usually every week or so as conditions start looking favorable. The conditions will then be assess 24 hours before ignition and again right before ignition.

The Corps proposes to broadcast burn up to 1,000 acres per year in designated burn units.

3.4.3.1.2. Slashing and/or Pruning

Additional optional work includes brush slashing and pile burning. All brush slashing will be done by hand.

> Slash resulting from the harvest operation will be lopped and scattered to facilitate use of prescribed fire. Maximum average slash depth after lopping and scattering is not expected to exceed 18 inches. Scattering of slash will be done to create a uniform fuel bed to successfully carry the fire and to reduce potential for crown fires. Native seral conifer species require mineral soil scarification to germinate (Steele and Geier-Hayes 1995, Schubert 1974). In some areas, where excessive fuels are generated by the lop and scatter prescription or in units where the historic fire regime did not consist of frequent under-burns,

slash may be dozer-piled and burned to reduce fuel loads. Scarification produced by dozer piling should prepare a seed bed for future browse regeneration and native seral conifers. Upon completion of the timber sale, all debris and slash at the landings will be machine piled and burned. The landing site will then be seeded with a native grass seed mix and fertilized.

The Corps proposes to perform slashing and/or pruning of up to 200 acres per year.

3.4.3.2. Pile Burning

In many places, slash will be gathered into piles, where it will be burned. Slash piling will typically be accomplished by heavy machinery, but may, at times, be done by hand, depending on the topography.

Pile burning includes the ignition, control and patrol of burning piled woody debris. Piles of woody debris are most often created to consume/remove logging slash (tree tops and limbs). They are always ignited in the late fall or winter when wildfire risk is very low. Ignition is typically accomplished with either drip torches or propane torches.

Like broadcast burning, pile burning reduces fuel loading in a more controlled fashion, but doesn't promote as much forage seed germination as the burn covers less area. Piles will be ignited during cool moist weather, late fall and winter, to reduce the potential for fire to spread.

The Corps proposes to burn up to 100 slash piles per year.

3.4.3.3. Fire Lines

The Corps proposes to annually restore a total combined length of approximately 1.25 miles of fire lines (firebreaks) around up to 25 designated camp sites (minicamps).

Fire lines will also be created around designated burn units to the minimum extent necessary as needed for burning. Fire lines will be cleaned out around designated camp sites in order to prevent the unintentional spread of camp fires outside of designated camp sites in the event that a fire gets out of control of campers.

Additional fire prevention work around mini camps involves: cleaning and removing organic materials from around fire grills, tent pads, and picnic tables.

This will include "brushing out" the fire lines around a maximum of 25 mini camps as designated by the Corps each year. This will include cutting down all over hanging brush and trees less than 6 inches DBH for a horizontal distance of five (5) feet on both sides of the center of the fire line and to a vertical distance of ten (10) feet above the ground level. Trees greater than 8 inches DBH within the "Brush out" zone shall be pruned to a height of eight (8) feet the entire circumference of the tree. Slash that is created shall be scattered to a safe distance outside the fire lines. Slash will not be scattered over or on any access trail leading to or from the camp site.

Locations of the camps to receive fire line brushing will be designated by the NRM Team prior to the commencement of the general mini-camp maintenance work each year.

Fire lines around designated burn units will be constructed using bull dozers and hand tools to prevent the spread of fire to outlying areas. These breaks will be re-seeded to native grasses following management activities.

The fire lines around designated burn units will be created prior to burning the unit as part of the burning process, and to prevent the unintentional spreading of fire outside of the designated burn unit. Once fire management activities cease in a given burn unit, the fire lines will be reseeded with native seed. Fire line Rehabilitation work around designated burn units may be done by CPTPA as well. This work may include pulling fire line materials back into the area it was cleared from for line construction, grass seeding the area within the fire perimeter, construction of erosion control measures, etc.

3.4.4. Forest Management

The Corps utilizes timber harvests and other active forest management tools to meet resource use objectives. Timber harvesting for ecological restoration and forest health will primarily involve thinning overstocked forest stands, and is not for the purposes of clearing, nor will it clear the landscape of trees. However, small clear-cuts (less than 5 acres) may be used in areas of extensive insect or disease infestations to promote forest health. Selected harvesting will be used to allow for promotion of a healthier and more natural ecosystem that should eventually reflect historic conditions around the reservoir. Trees selected for removal will be primarily smaller trees, allowing for better health and continued growth of well established individual trees. Attention will be given to the optimal distance between trees, allowing for better root expansion and development, as well as moisture uptake ability by the root systems.

The objective within select recreational areas will be to remove all trees posing a risk to recreationalists (hazard trees) and thin the smaller diameter trees to improve aesthetics and reduce fuel loading. For select multiple resource management areas, the overstory will be thinned selecting for the removal of trees showing evidence of disease and/or beetle damage and are less resistant to wildfire. Trees posing a safety risk to loggers will also be selected for removal. Following harvest, the slash may be piled and burned, broadcast burned, or not treated.

Areas for treatment will be selected by the project Forester in consultation with the Dworshak Wildlife Biologist. A new GIS vegetation layer for Dworshak is currently in production. Under a Memorandum of Understanding, the Bureau of Land Management completed a comprehensive forest inventory of Dworshak. They completed their inventory (777 plots) and submitted a final report in 2009. The data will now be used as ground truth data for a remote sensing based classification using the latest satellite imagery to create a detailed forest inventory. With the GIS forest vegetation layer, Dworshak staff will be able to more easily identify areas with overstocked forest stands exhibiting elevated amounts of disease and insect infestations. Prior to the development of the final GIS layer, the current data will be used to the same end, but will be more time consuming.

Areas selected for treatment will undergo a more detailed forest inventory (timber cruise) to evaluate the potential for a small or large scale timber sale. It is anticipated that most areas selected for treatment will include the selective harvest of timber and a timber sale. Timber harvest without a timber sale, such as pre-commercial tinning, may be used as an option. Timber harvests may include several harvest and yarding methods including "in-woods" processing, tractor yarding, cable yarding, and/or helicopter yarding. Treating slash may include hand or machine piling or scattering and pile or broadcast burning.

Forest stands throughout Dworshak in need of ecological restoration, forest health treatment and/or recreation facilities maintenance or enhancement will be identified by the project Wildlife Biologist and Forester in consultation with the Dworshak recreation staff if appropriate.

Snags will be protected as wildlife habitat to the greatest extent practicable, unless a snag presents a safety hazard to operation personnel, in which case it will be removed.

3.4.4.1. Selective Harvest

Trees for retention within harvest units will be identified through marking and all other merchantable trees within the harvest units will be available for harvest using a tractor, line skidder or, in some cases, a helicopter. Helicopter logging will be used only when necessary due to the added production expense. Harvest on steep slopes exceeding 40 percent will use helicopters and line skidding machines to yard logs to landings where they will be prepared for truck transport to mills. Helicopter yarding greatly reduces ground disturbance on steep slopes and reduces the need for roads and log landings in the immediate area.

The Corps proposes to selectively harvest up to 750 acres per year (ac/yr), which includes pre-commercial thinning. Pre-commercial thinning is basically forest thinning, cutting down trees, without taking the logs to market. Pre-commercial thinning is typically conducted on young overstocks stands in which cutting down the smaller subordinate trees will improve the forest health and particularly increased the vigor of the remaining larger trees. The Corps may put out a timber sale contract for over 1,500 acres at one time, but the harvest will occur over several years.

3.4.5. Road Management

The road management program primarily focuses on the maintenance of existing roads and associated drainage structures. However, road management activities will also be implemented as part of Access, Boundary, Fire, Forest, Wildlife Habitat, and Recreation Management. Work associated with the Program will require the use of existing primitive, gravel, and paved surface roads. Existing roads and historic road beds will be utilized during the proposed projects to the maximum extent possible. However, there will likely be the need for some additional access in areas that have no current or historic roads.

All projects will seek to provide access and haul roads first using any existing maintained roads, second maintaining and/or reconstructing existing roads and lastly constructing new roads. Nearly all roads either reconstructed or newly constructed will be temporary. Most will be grass

seeded and have erosion bard installed once temporary use has seized. Others will be obliterated or decommissioned.

To accommodate timber harvests, roads will generally be used to gain access, to transport logs to the mill, and for landing areas. For selected treatment areas all existing roads will be evaluated and mapped using GPS. Where slopes exceed 40percent helicopter yarding will be used to transport logs to selected landings.

Roadwork will require the use of heavy equipment (e.g. dozers, tractors, excavators, and road graders).

Dworshak has approximately 16.2 miles of paved roads, 27.3 miles of gravel roads, and 95.7 miles of dirt roads. These figures are for all the Dworshak roads and includes roads in out-grants and roads not maintained by the NRM Team. Inventorying of existing roads is ongoing, and numbers and locations of existing roads, both in use, and abandoned, will be updated as the inventory progresses. Road Management maps are located in Appendix A.

3.4.5.1. New Construction

The construction of new roads will require the felling of timber at least 20 feet on either side of the road centerline. Clearing and grubbing will remove all trees, logs, brush, stumps, roots, slash, and other woody debris and materials embedded in the ground. The road width (running surface) for both new and reconstructed roads will be 14 feet. The cut slope is cut down and leveled out to form the subgrade width with a proper fill slope ration (common is 1 ½:1). All native and gravel surfaced sale area roads will be one lane with pullouts appropriately sized for log trucks. Pit run rock will be applied to the native surface in areas that are steep or poorly drained and at all live water crossings.

New construction includes work associated with associated ditches, other surface drainage and culvert installation for the proper functionality of the roads.

Roads to be constructed or maintained for natural resource management activities, such as harvest operations, may require blasting of rocks and other hard surfaces that cannot be altered by conventional methods. The potential for this work is extremely low as generally rocky outcroppings and the like are nearly always avoided during road layout. However, the possibility that a particular rocky outcropping cannot be avoided and must be blasted exists, but is remote.

Once a road is identified for blasting the work would include the following:

- Exact locations of each hole will be marked on the ground based on potential to improve the wetland habitat or obliterate the road surface.
- Holes will be dug into the soil using either a rock bar or a post-hole digger.
- Explosives will be placed in the holes; charges may be tied together, and set off.
- Explosives will be discharged in such a manner as to adhere to the best management practices mentioned in Appendix B for fish protection.
- Guards and warning signs will be posted during the entire blasting procedure.

See Appendix B for BMPs.

The Corps proposes up to 5 miles of new road construction per year. Annual averages may be as little as 1 mile, but may be as much as 5 miles in a year associated with a timber sale.

3.4.5.2. Road Reconstruction

Road reconstruction will consist of reconditioning and preparing the roadbed and shoulders, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning, repairing, and upgrading the drainage structures of existing roads. It also includes work for associated ditches, other surface drainage, and culvert installation. Subsequent to project completion, all roads and skid trails will be barred and grass seeded to reduce the potential for erosion. Roadbed surfaces in RHCAs will be graveled to limit suspended sediment. Sediment capture devices will be installed between work areas and streams to prevent escapement of sediment into the streams.

The Corps proposes up to 15 miles of road reconstruction per year.

3.4.5.3. Road Maintenance

Road maintenance work includes adding gravel, blading, brushing, and ditch and culvert clean-out. It also includes maintenance of the road's associated ditches and other surface drainage, and may include placing new layer of crushed gravel.

The Corps proposes to maintain up to 50 miles of roads per year.

3.4.5.4. Road Obliteration

Road obliteration is the process of re-contouring a road surface to match the surrounding landscape thus rendering the road inconspicuous for the purpose of removing any and all existing culverts, constructing drainage dips (water bars) into the road surface, and seeding all disturbed and exposed soil with a native grass seed mix once completed. The roadbed will then be allowed to re-vegetate naturally over time. The fill material will then be dug up and placed back onto the road surface along with any additional material needed to restore the natural contour of the adjacent slope. This may also include placing brush, slash, and logs on the finished surface to reduce future erosion. All disturbed and exposed soil will then be seeded with a native grass seed mix once completed. The resulting area will then be allowed to re-vegetate naturally over time. This work is generally done with heavy equipment such as; a rubber tired backhoe, an excavator, dozer, etc."Roads and or trails or portions of each to be obliterated will be evaluated and selected by the Natural Resource Specialist charged with access management in consultation with Dworshak's Wildlife Biologist.

Roads will be obliterated typically for one of two purposes. The first and probably most often reason is to return the road surface back to a natural state for a host of reasons (provide natural habitat, prevent future maintenance needs, minimize risk of erosion etc.). The second is to

prevent unauthorized motor vehicle access. The biggest reason is to get it off of the Corps' inventory if it's not planned for use, so that the road does not need to be maintained.

Roads will be obliterated using a variety of sources including; Corps NRM staff, a contractor, or the construction division. It could be any road, but would typically be roads that that were recently created and aren't planned for use again for a long time, or may be very old roads that haven't been used for a long time.

Road obliteration will likely involve the use of heavy machinery (typically an excavator) and/or explosives. Explosives would largely only be used on the demolition (described below) of small sections of road to prevent unauthorized motor vehicle access and where vehicle access is limited.

It also includes removal of all drainage structures, (surface and culverts), recontouring slope, possible planting of trees and brush species, and reseeding of the disturbed area with native seed.

Once a road is identified for blasting the work would include the following:

- Exact locations of each hole will be marked on the ground based on potential to improve the wetland habitat or obliterate the road surface.
- Holes will be dug into the soil using either a rock bar or a post-hole digger.
- Explosives will be placed in the holes; charges may be tied together, and set off.
- Explosives will be discharged in such a manner as to adhere to the best management practices mentioned in Appendix B for fish protection.
- Guards and warning signs will be posted during the entire blasting procedure.

See Appendix B for BMPs.

The Corps proposes up to 2 miles of road obliteration per year

3.4.5.5. Road Demolition

Road demolition is the act of using heavy equipment or explosives to place a large hole in the road surface or to completely destroy a small section of the road to prevent vehicle passage. Road demolition will include the use of explosives for the purposes of removal of all drainage structures, (surface and culverts), re-contouring slope, and possible planting of trees and brush species. This will prevent unauthorized motor vehicle access and where vehicle access is prohibited. Demolition has also been defined as "decommissioning" of roads in previous plans and specifications at Dworshak. "Decommission" is the process of returning to an old existing road only for the purpose of removing any and all existing culverts, constructing drainage dips (water bars) into the road surface, and seeding all disturbed and exposed soil with a native grass seed mix once completed. The roadbed will then be allowed to re-vegetate naturally over time. The idea is that the individual road is either not anticipated to be used in the foreseeable future, or is deemed to be unserviceable due to failures that may have occurred in the past. The road may be reclassified as a trial at this point. This work is generally done with heavy equipment such as; a rubber tired backhoe, an excavator, etc.

There is a large volume of unauthorized motor vehicle use on Corps land surrounding Dworshak Reservoir resulting in negative impacts to soils, vegetation, wildlife, water quality and aesthetics as well as having the potential to affect resident fish and aquatic ecology, recreation, cultural resources and ESA-listed species. The Dworshak access management program utilizes one or a combination of education, signage, and physical barriers (when necessary) to prevent unauthorized access. Many of these are gates and barricades, which require annual inspection and maintenance. Obliterating all or portions of roads and trails could be used to prevent unauthorized access at a lower maintenance cost. Road obliteration may be the only physical barrier option in areas where access is limited. In these cases explosives will be used to obliterate a portion of these roads.

The Corps proposes up to 1/4 mile of road demolition per year

3.4.5.6. Culverts

Any culverts that may be installed in the vicinity of Dworshak Reservoir will be above the OHWM of the reservoir, typically in ephemeral streams. No ESA-listed fish bearing streams will have culverts installed in them. Dworshak's Wildlife Biologist reviewed the tributaries identified in StreamNet (2010), and they are all much bigger streams than would be crossed for access. .

Culvert work will include repair of existing culverts, replacement of existing culverts, or installation of new culverts.

There are currently approximately 500 culverts on Corps-managed lands at Dworshak. Inventorying of the culverts is ongoing, and numbers and locations of existing culverts, both in use, and abandoned, will be updated as the inventory progresses.

Pipe culverts and pipe-arch culverts will be bedded on a selected granular or fine readily compactable soil material having a depth of not less that 10 % of the diameter or height of the drainage structure concerned. The types and sizes of culvert will be site specific and will be wide enough to accommodate a 100-year flood. Culverts will be laid in the stream bed and clean fill will be placed over them. Fill width will be limited to the minimum necessary to complete the crossing, and the fill will not reduce existing stream widths. Manipulation of the stream banks will be limited to the culvert sites. Materials needed for construction will be obtained from and stored outside of the riparian habitat conservation areas (RHCAs).

Culvert work includes cleaning inlets, outlets, and rebuilding catch basins as needed.

The Corps proposes installation of up to 50 culverts per year

3.4.6. Wildlife Habitat Management

3.4.6.1. Wetland Enhancement

The primary purpose for wetland enhancement is to improve Dworshak wetlands for breeding amphibians, resulting in increased reproductive success. Idaho Partners in Flight (IPIF) has designated non-riverine wetlands as a high priority habitat, and established an objective of obtaining a net increase in the number of wetland acres in Idaho (IPIF 2000). Dworshak has a large number of small isolated wetlands that warrant protection and/or enhancement.

Currently, many existing wetlands around Dworshak are silting in and provide minimum adequate reproductive habitat for the species present; Pacific Chorus Frog (*Pseudacris regilla*s) and Columbia Spotted Frog (*Rana luteiventris*). The objective is to preserve the existing shallow water habitat present at the site while converting a portion of the silted in area to a combination of deep and shallow water habitat. Creating some deeper water habitat would allow the wetland to hold standing water longer into the spring and summer and greatly improve the conditions for amphibian reproduction.

Additionally, a new and more deadly strain of a fungus known as the Chytrid fungus is currently causing massive die-offs of amphibians throughout the world. If the fungus enters a wetland many times all amphibians parish. Scientists are encouraging all land managers to conserve, protect and enhance any isolated wetlands as they have less probability of encountering the virus and could act as a source population if declines continue. Currently many wetlands on Corps land are silting-in and provide minimum adequate reproductive habitat for the species present; pacific chorus frog (*Pseudacris regillas*), Columbia spotted frog (*Rana luteiventris*) and western toad (*Bufo borealis*). Further, researchers indicate that the length of the hydro-period is directly correlated with amphibian reproductive success. The longer surface water remains within any given wetland the greater the reproductive success and the species richness ad abundance. Ideal wetland habitats for amphibian reproduction include topographic relief from extremely shallow areas with minor ridges (micro-topography) to deeper wetland habitats that include some upland characteristics (macro-topography). The objective is to preserve the existing shallow water habitat present at these sites if present while converting a portion of the silted-in area to a combination of deep and shallow water habitat.

Wetlands will be evaluated and selected for enhancement by the Project Wildlife Biologist. The depth and extent of excavation will vary with existing size and condition of the wetlands and the surrounding landscape. A combination micro-topography (60% shallow water habitat) and macro-topography (40 percent deep water habitat) will be targeted for each wetland. A target depth of 3 ft will be the objective for deep water habitat and 6 to 12 inches for shallow water habitat.

Wetland enhancement work will includes deepening existing small isolated wetlands with heavy machinery or explosives. The majority of wetlands will be treated using machinery (i.e. backhoe) and hand tools. Access to some of the sites is limited to foot travel, which precludes the use of machinery to accomplish the objectives. Therefore, in these areas, the use of

explosives is planned for the enhancement effort. Roads could be built to facilitate the use of machinery, but the environmental impacts from the road building and machinery use would be substantially greater than the impacts from the use of explosives.

Once a wetland is identified for blasting the work would include the following:

- Exact locations of each hole will be marked on the ground based on potential to improve the wetland habitat or obliterate the road surface.
- Holes will be dug into the soil using either a rock bar or a post-hole digger.
- Explosives will be placed in the holes; charges may be tied together, and set off.
- Explosives will be discharged in such a manner as to adhere to the best management practices mentioned below for fish protection.
- Guards and warning signs will be posted during the entire blasting procedure.

See Appendix B for BMPs.

The Corps proposes to deepen up to 2 wetlands per year.

3.4.6.2. Planting

Planting of redstem ceanothus (*Ceanothus sanguineus*) and other forage plants within Dworshak Dam and Reservoir's elk mitigation area is proposed to meet the elk habitat maintenance requirements of Design Memorandum No. 15. Specific forage species, specific areas to be planted within the mitigation area, and exact timing of plantings will be specified by the Dworshak Wildlife Biologist. Other areas with the potential for planting may occur outside of the mitigation area, and will also be identified by the Dworshak Wildlife Biologist, if any are proposed in the future.

Planting a will involve digging a hole will by hand for each plant, approximately one foot deep and one foot in diameter. A Bobcat with an auger is available for use if site-specific conditions permit their use.

Planting may occur anywhere on Corps-managed lands at Dworshak, but the bulk will be the Grandad Mitigation Area.

The Corps proposes to plant up to 1,500 plants per year.

3.4.7. Recreation Management

Recreation Management activities associated with the Dworshak Natural Resources Land Management Program are typically captured in Access, Forest, Road, Wildlife Management. However, there are also recreation trails around Dworshak Reservoir that are the responsibility of the Natural Resource Team, and are part of the Program. These trails fall solely within Recreation Management.

3.5. Project Timeline

The proposed action will occur annually between 2011 and 2021, with quantities of each activity limited to those described above for a given year.

3.6. Proposed Conservation Measures

The Corps proposes the following conservation measures as part of the proposed action.

3.6.1. Impact Minimization Measures

The following impact minimization measures will be implemented by the Corps:

1) PACFISH/INFISH will be used as a guide in creating and maintaining RHCA buffers around all water sources. All tributaries to the reservoir within the project boundary are intermittent streams, with the exception of those portions of the Little NF Clearwater River (containing bull trout), Breakfast Creek, Reeds Creek, and Silver Creek that are within the action area. All of the intermittent streams in the action area are not ESA-listed fish bearing streams. PACFISH/INFISH guidelines suggest a RHCA encompassing 50 ft either side of these streams. The Corps' plan is to meet the PACFISH/INFISH guideline as a minimum on all intermittent streams unless the topography is such that inside of 50 ft the slope breaks and surface water would no longer drain into the stream in question. The land type within the project boundary is classified as "breaklands" by the USFS. Due to the type of landscape associated with breaklands, there are frequent changes in relief among these drainages creating narrow drainages less than 100 ft in width. For example, if a given stream drainage is only 40 ft wide (20 ft either side) protecting vegetation (prohibiting harvest) for 50 ft either side of the stream does nothing but limit our opportunity for wildlife habitat or ecological restoration work. Using the same understanding, the Corps will likely protect well over 50 ft if the slope breaks over 50 ft (e.g. 75 ft). In terms of the conditions within the RHCAs described by INFISH we plan to adhere to all once the RHCAs are established.
2) Fuel and lubricants will be stored outside RHCAs in the staging area.
3) Refueling within RHCAs will be avoided.
4) Equipment will be staged outside RHCAs when not in use.
5) Equipment will be inspected for leaks and cleaned in the staging area prior to RHCA entry. Any detected leaks will be repaired before the vehicle enters an RHCA.
6) A spill prevention and control plan will be developed and discussed to equipment operating personnel prior to instream work.
7) A hazardous materials spill kit will be required on site during work on any blasting project.
8) Ephemeral stream channels will not be used as forwarder/skid trails, landing sites, or road locations. Equipment will cross ephemeral channels at designated crossings to minimize soil disturbance. Vegetative debris will be placed in the designated crossings to reduce soil displacement and compaction.

9) Contamination of waterbodies by drip torch fuel will be avoided. Refueling and storage of drip torch fuel will occur outside of RHCAs. Crossing any waterbody with a drip torch containing fuel will be prohibited.
10) All burning will be executed in accordance with developed burn plans[3].
11) Fires will not be ignited within RHCAs.
12) Fires will only be allowed to back-down within RHCAs. The Corps will also require:
    a. Handlines on overly steep slopes and select when possible ridge tops for dozer lines,
    b. that firelines do not run along streams in RHCAs, but may, at times, have to run into RHCA's,
    c. waterbars on all firelines (firelines will need to tie into wet draws to prevent escaped fire).
13) Once initial prescribed burns are executed and fuel loads are reduced, the stewardship project area will be monitored to evaluate the need for subsequent prescribed burns.
14) All snags will be left unless they present a hazard to logging activities. Leaving the dominant and codominant trees will also provide for snag replacement trees.
15) Minimizing development of new roads.
16) Using best management practices to control erosion damage, particularly on roads.
17) All roads will have erosion bars installed where needed upon project completion.
18) Re-vegetation of road surfaces with native grass seed mix upon project completion where needed.
19) Erosion and sediment control measures include:
    a. Prohibiting harvest from RHCAs.
    b. Measures in place to monitor for and reduce the potential for the establishment of invasive plants in disturbed areas associated with broadcast and pile burning include the Corps requires contractors to ensure that their equipment is clean. The Corps also conducts annual inventories of noxious weeds and target recently burned areas as priority for inventories. Currently the Corps treats all known noxious weeds populations.
    c. Seeding all roads and landings.
    d. Using berms, water bars, cross-draining, diversions, sediment traps, out sloping, and/or silt fences.
    e. Scattering slash material.
    f. Closing work sites during heavy rains and snowfall.
20) Access restriction barriers will be installed to prevent unauthorized motorized access.
21) In the unlikely event that a redd is observed, it will be avoided. However, there is no spawning in the action area in the reservoir. .
22) A no disturbance zone, with a radius of 150 feet, will be maintained around all known and active raptor nests from March 1 through August 31. If tree removal is needed

[3] The only suppression activities that the Corps would execute would be initial attack which would involve smothering a spot fire with flappers or dirt (shoveling), creating a small handline or applying water via a bladder bag or an ATV mounted spray rig. Extended attack would be accomplished by the Clearwater/Potlatch Timber Protection Association (CPTPA)(http://www.cptpa.com/). They have jurisdiction to fight fires on any land within their fire district and depending on the fire they could use any variety of fire suppression methods. If CPTPA is required to execute substantial fire suppression activities as a result of an "out of control" prescribed burn they will take any measure necessary to suppress the fire.

within this no disturbance zone, the removal will be conducted between October 1 and November 1. In addition neither the nest tree(s), nor any other trees within 50 feet of the nest tree, may be removed. A Corps wildlife biologist will survey the sale area prior to harvest activity to determine if there are active raptor nests within the units.

23) Eagles:
    a. Avoid clear-cutting or removal of overstory trees within 330 feet (100 meters) of both active and alternate nests at any time.
    b. Avoid timber harvesting operations, including road construction and chain saw and yarding operations, during the nesting season within 660 feet (200 meters) of the nest. The distance may be decreased to 330 feet around alternate nests within a particular territory, including nests that were attended during the current nesting season but not used to raise young, after eggs laid in another nest within the territory have hatched.
    c. Selective thinning and other silviculture management practices designed to conserve or enhance habitat, including prescribed burning close to the nest tree, should be undertaken outside the nesting season.
    d. If burning during the nesting season is necessary, do the following:
        i. Conduct burns only when adult eagles and young are absent from the nest tree (i.e., at the beginning of, or end of, the nesting season, either before the particular nest is active or after the young have fledged from that nest).
        ii. Take precautions such as raking leaves and woody debris from around the nest tree to prevent crown fire or fire climbing the nest tree.
        iii. Avoid construction of log transfer facilities and in-water log storage areas within 330 feet (100 meters) of active and alternate nests nest
    e. To avoid disturbing nesting bald eagles and their young, do not fly aircraft within 1000 feet (305 meters) of the nest, except where eagles have demonstrated tolerance for such activity
24) Activity will be limited within 1 mile of any identified active gray wolf dens from April 1-June 15.
25) Blasting: see Appendix B for:
    a. Protection of fish
    b. Protection of migratory birds.

3.6.2. Best Management Practices

Typical types of best management practices would depend on site-specific conditions, but would generally include the following.

1) Preferred order of retention species will be based on existing stand composition.
2) Retain all trees within 50 feet on each side of draws showing scoured flow channel or having flowing water.
3) Retain all trees within 50 feet of seeps, springs, and bogs.
4) Retain all trees within 50 feet of raptor nests.
5) Retain all trees within 100 feet of the ordinary high water mark of the reservoir.
6) Retain all trees within 100 feet of each minicamp.

7) Retain all snags and culls (unless they present a safety hazard).
8) Select and remove trees with faded needles to enhance forest health.
9) Select and remove trees to improve forest health if evidence of insect or disease attacks is observed in centralized locations affecting numerous trees. This should further provide a more natural mosaic.
10) In helicopter-yarded stands, generally the minimum diameter at breast height (DBH) tree marked will be 9 inches. Top diameter specifications will be 6 inches.
11) Do not retain any trees with an 80 % or greater crown ratio; mainly grand fir, Douglas fir, or open ground ponderosa pine in planed burn units. These trees will likely burn if left in place.
12) Ensure diversion of surface runoff around road construction.
13) Place berms to prevent runoff to local creeks around road construction.
14) Use erosion bars and sediment traps for road construction.
15) Care will be taken to minimize the visual intrusiveness of the operation on the reservoir user.
16) Road obliteration work will be conducted during dry conditions when the potential for erosion is minimal.
17) All disturbed surfaced roads and trails shall be grass seeded with native grass species upon completion.
18) Ensure diversion of surface runoff around road obliteration work.
19) Place sediment traps and/or silt fences to prevent runoff to local creeks around road obliteration work.
20) Any instream work will be done under dry conditions either through dewatering or done when intermittent streams are dry.
21) Blasting: see Appendix B for:
    a. Protection of fish
    b. Protection of migratory birds.

3.7. Mitigation

Mitigation should not be required under the Clean Water Act, as there will be no in-water work, or fill in the waters of the United States. 1

Mitigation for the proposed action related to issuance of permits under the Clean Water Act may be required as part of the permitting process.

3.8. Interdependent and Interrelated Actions

Recreation is an interrelated and interdependent action. Recreation may increase in treated areas. The increase in recreation is not expected to cause any measurable increase in environmental impacts over current recreation use of Dworshak.

3.9. Ongoing and Previous Projects in the Action Area

There are several similar fire, forest, and road management projects that have, and are occurring in the project area, as previously discussed. The following list also includes several recreation-related projects, the nature of which would be covered under a Recreation Program:

- 2011-Canyon Creek Recreation Enhancement
- 2011-Ahsahka Stewardship
- 2009-Three Meadows Campground Clearwater Power Easement
- 2009-Freeman Creek Campground Dock Replacement
- 2009-Freeman Creek Boat Dock Replacement
- 2008-Freeman Creek Swing Set Installation
- 2008-Freeman Creek Standpipes
- 2008-Freeman Creek Campground CXT Restroom
- 2008-Dworshak Large Boat Mooring Buoys
- 2007-Three Meadows Access Road Repair
- 2007-Freeman Creek Playground Equipment
- 2007-Canyon Creek Road Easement Extension
- 2007-Big Eddy Marina Anchor repair
- 2006-Dworshak Nutrient Supplementation
- 2005-Install Large-Vessel (Houseboat) Mooring Buoys, Bruce's Eddy
- 2003-Hudson and Robinson Creek Prescribed Burns
- 2002-Granddad Boat Ramp Extension
- 1998-Bishop-Chute Creeks Timber Salvage Sale
- 1995-Freeman Creek Boat Ramp Extension
- 1994-Weitas Creek Timber Sale
- 1994-Indian Creek Timber Sale
- 1994-Dent Acres Campground Boat Ramp Extension

3.10. Monitoring

Implementation and effectiveness monitoring would be implemented on a schedule determined by the Wildlife Biologist at Dworshak. Implementation monitoring would occur during each project by personnel conducting the activity and by Dworshak's Wildlife Biologist. Adjustments to IMMs would occur as required based on the professional judgment of Dworshak's Wildlife Biologist.

Not all activities that are part of the proposed action would require effectiveness monitoring. For example, monitoring the effectiveness of gate and/or barricade refurbishing would not be valuable. However, monitoring the effectiveness of a prescribed burn to determine if the burn objectives were met would be extremely valuable. Those activities that would have effectiveness monitoring activities associated with them would include:

- Fire Management
- Wildlife Habitat Management

Monitoring will also provide valuable information on how effective the IMMs are in reducing impacts to species and habitats. Monitoring would indicate whether or not adjustments in IMMs would be needed to provide effective impact minimization. For example, buffer zones around raptor nests could easily be evaluated during the avian surveys routinely conducted by Dworshak's Wildlife Biologist.

An example of the Corps monitoring plans can be found in Appendix C.

3.11. Project Tracking

Project tracking in the form of a spreadsheet, sent to USFWS annually in conjunction with any monitoring reports, would allow for tracking of which projects are implemented each year and the location of those projects.

4. Status of Species and Critical Habitat

4.1. Species Lists from NMFS and USFWS

On 13 June 2011, the Corps reviewed the current list of threatened, endangered, and candidate species that pertain to the area affected by this action under jurisdiction of the National Marine Fisheries Service (NMFS) (http://www.nwr.noaa.gov/ESA-Salmon-Listings/upload/snapshot-7-09.pdf), as well as the list for species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) for Clearwater County, Idaho (http://www.fws.gov/idaho/species/IdahoSpeciesList.pdf).

4.2. Identification of Listed Species and Critical Habitat

Table 4 Federal Register notices for final rules that list threatened and endangered species, designate critical habitats, or apply protective regulations to listed species considered in this consultation. Listing status: 'T' means listed as threatened under the ESA; 'E' means listed as endangered; "P" means proposed for listing or designation.

Species	Listing Status	Critical Habitat	Protective Regulations
Chinook salmon (*Oncorhynchus tshawytscha*)			
Snake River fall-run	T 6/28/05; 70 FR 37160	12/28/93; 58 FR 68543	6/28/05; 70 FR 37160
steelhead (*O. mykiss*)			
Snake River Basin	T 1/05/06; 71 FR 834	9/02/05; 70 FR 52630	6/28/05; 70 FR 37160
bull trout (*Salvelinus confluentus*)			
Columbia River DPS	T 6/10/98; 63 FR 31647 31674	9/02/05; 70 FR 56211 56311: 10/18/10; 75 FR 63898	
Canada lynx (*Lynx canadensis*)			
Contiguous U.S. DPS	T 3/24/00; 63 FR 16051 16086	2/25/09; 74 FR 8615 8702	
North American Wolverine (*Gulo gulo luscus*)			
Candidate	C 12/14/2010: 75 FR 78030 78061		

SR fall Chinook salmon and SRB steelhead do not occur upstream of Dworshak Dam. Anadromous fish have not been able to pass Dworshak dam since its completion in 1972. No

species under the jurisdiction of NMFS occur upstream of Dworshak Dam, within the action area, or within Dworshak Reservoir. There will be no effect on species or designated critical habitat under the jurisdiction of NMFS.

4.3. Identification of Designated Critical Habitat

Critical habitat has been designated for bull trout in the reservoir. There is no designated critical habitat for SR fall Chinook salmon or SRB steelhead within the reservoir, or the action area.

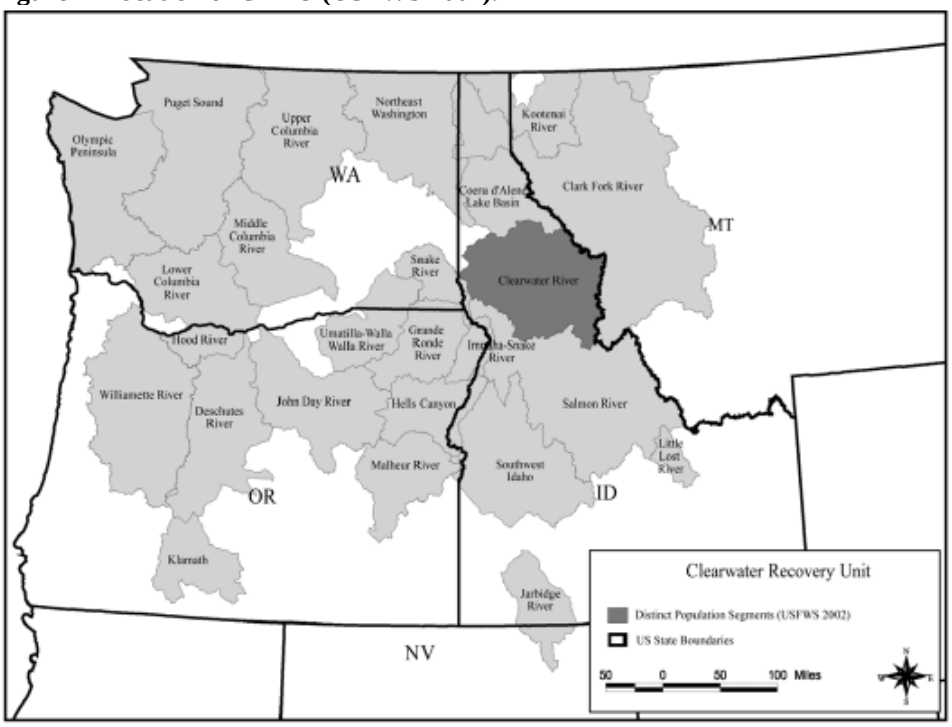
4.4. Status of Species

4.4.1. Bull Trout

4.4.1.1. Listing History

The USFWS issued a final rule listing the Columbia River population of bull trout as a threatened species on June 10, 1998 (63 FR 31647). Bull trout are currently listed throughout their range in the coterminous United States as a threatened species. Bull trout critical habitat was designated in 2005, and a new proposed final rule was issued in early 2010 for critical habitat throughout Idaho. In the Columbia River Basin, bull trout historically were found in about 60 % of the basin. They now occur in less than half of their historic range. Populations remain in portions of Oregon, Washington, Idaho, Montana, and Nevada. In the Klamath River Basin, bull trout occur in 21 % of their historic range. The Clearwater River Recovery Unit (CRRU) 21 (Figure 7) forms part of the range of the Columbia River Distinct Population Segment. The CRRU includes the entire CRB upstream from the confluence with the SR. Bull trout are distributed throughout most of the large rivers and associated tributary systems within the CRRU, and they exhibit adfluvial, fluvial and resident life history patterns (CSS 2001). The CRRU consists of 7 core areas, with a total of 45 local populations and 27 potential local populations distributed among the core areas (USFWS 2002).

Figure 7 Location of CRRU (USFWS 2002).



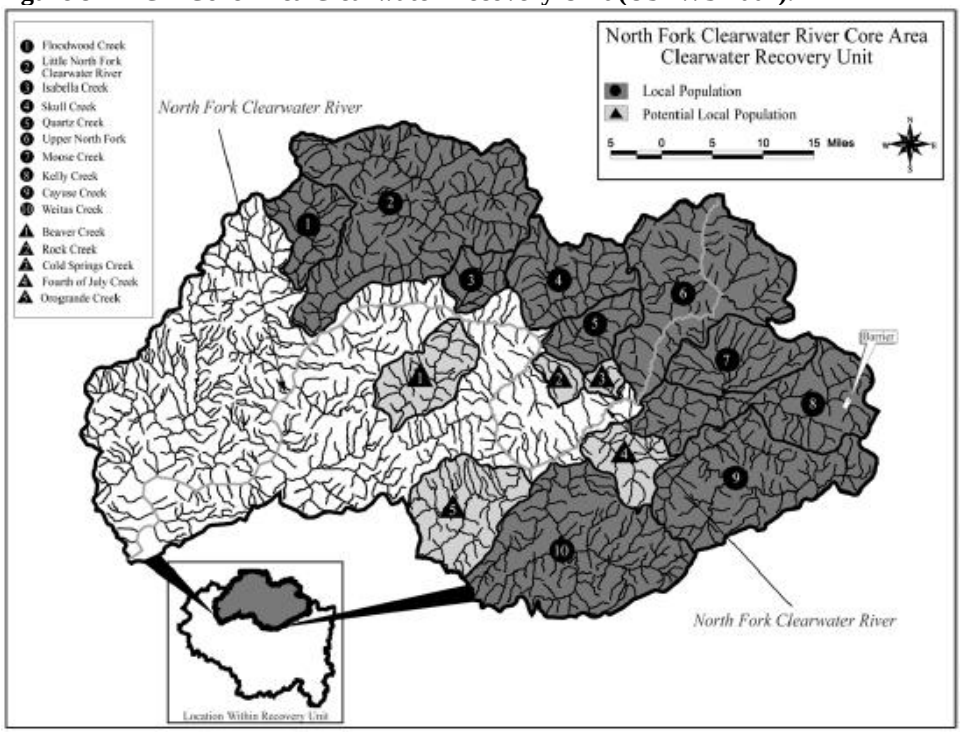
The CRRU is one of 22 recovery units designated for bull trout in the Columbia River basin (Figure 7). The CRRU includes the entire CRB upstream from the confluence with the SR. Except for some high elevation lakes and streams with natural barriers, bull trout were historically likely able to move among most areas within the recovery unit. However, Dworshak Dam now isolates bull trout in the NFCR from fish in the remainder of the basin. The CRB is included in a single recovery unit because it likely functioned as a unit historically (USFWS 2002).

The CRRU has been divided into seven core areas for purposes of recovery planning. These core areas include the NFCR, Fish Lake (an isolated basin in the NFCR watershed), Lochsa River, Fish Lake (an isolated basin in the Lochsa River watershed), Selway River, South Fork CR, and the Lower and Middle Fork CR (USFWS 2002).

The NFCR core area (Figure 8) is located in Clearwater, Idaho, and Shoshone Counties. It includes the NFCR River and all its tributaries upstream of Dworshak Dam. The core area is approximately 632,360 hectares (1,562,561 acres). Elevations range from 441 meters (1,445 feet) near the reservoir to 2,440 meters (8,000 feet) at the headwaters. Major tributaries within the core area include; Elk Creek, Little NFCR, Beaver Creek, Quartz Creek, Skull Creek, Orogrande Creek, Weitas Creek, and Kelly Creek (USFWS 2002).

The NFCR flows 46 kilometers (29 miles) from its headwaters to Dworshak with an average annual discharge of 100 cubic meters per second (3,520 cubic feet per second) from Dworshak Dam. Long-term discharge and temperature data have been recorded by the U.S. Geological Survey at Canyon Creek, just upstream of Dworshak.

Figure 8 NFCR Core Area Clearwater Recovery Unit (USFWS 2002).



The NFCR has been identified by the State of Idaho as a Special Resource Water. This State designation recognizes the NFCR as having at least one, if not all, of the following characteristics: (1) the water is of outstanding high quality, exceeding cold water biota standards; (2) the water is of unique ecological significance; (3) the water possesses outstanding recreational or aesthetic qualities; and (4) intensive protection of the quality of the water is in the paramount interest of the people of Idaho (USFWS 2002).

4.4.1.2. Life History/Biological Requirements

Individual bull trout may exhibit resident or migratory life history strategies. Resident bull trout carry out their entire life cycle in the stream in which they spawn and rear. Migratory bull trout spawn in tributary streams, but eventually travel to larger streams (or lakes) where they mature. Habitat components that appear to influence bull trout distribution and abundance include water temperature, cover, channel form and stability, valley form, spawning and rearing substrates and migratory corridors (with resting habitat). All life history stages of bull trout are associated with complex forms of cover, including large woody debris, undercut banks, boulders, and deep pools.

Bull trout normally reach maturity in four to seven years and may live as long as twelve years. They generally spawn from August to November during periods of decreasing water temperatures. Migratory bull trout may travel over one hundred miles to their spawning grounds. Egg incubation is normally 100 to 145 days and fry remain in the substrate for several months.

Bull trout are opportunistic feeders. Their diet requirements vary depending on their size and life history strategy. Resident and juvenile bull trout prey on insects, zooplankton, and small fish. Adult migratory bull trout mainly eat other fish.

4.4.1.3. Distribution

Bull trout are distributed throughout most of the large rivers and associated tributary systems within the CRRU. Bull trout exhibit adfluvial, fluvial, and resident life history patterns within the CRRU. Fluvial and resident bull trout populations have been commonly documented throughout the current range of bull trout in the CRRU. There are two naturally adfluvial bull trout populations within the CRRU; one is associated with Fish Lake in the upper NFCR drainage, and the other is associated with Fish Lake in the Lochsa River drainage (USFWS 2002).

Wydoski and Whitney (2003) indicate that all four life history types of bull trout (anadromous, adfluvial, fluvial, and resident) require water temperatures below 15°C (59° F). In Idaho, bull trout were found at elevations from 2000 to 3800 feet in elevation with gradients ranging from 1.9 to 8.3 % (Wydoski and Whitney 2003).

StreamNet (2010) shows the distribution of bull trout throughout the Lower North Fork subbasin (Figure 9). The information indicated that bull trout use 27% (242.0 miles) of the total stream miles (901.76 miles) in the HUC (Table 5). Distribution in the reservoir appears to be limited to streams higher in the reservoir above the action area (StreamNet 2010). Bull trout are known to use the reservoir for overwintering at times that correspond with the drawdown season, which results in lower water levels throughout the reservoir.

Figure 9 Bull Trout Distribution in Lower North Fork Clearwater (HUC 17060308) (StreamNet 2010)

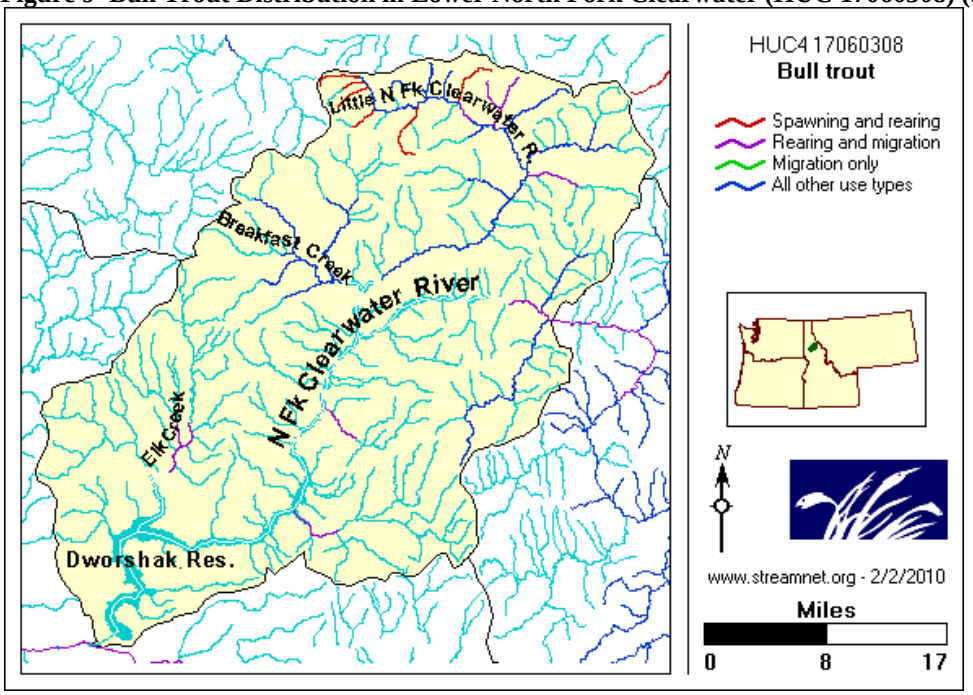


Table 5 Lower North Fork Subbasin Bull Trout Life History Usage (StreamNet 2010).

Species	Run	Use Type	Miles of Stream Used (mi)	% of Stream Miles Used
Bull trout	N/A	Spawning and rearing	20.35	2%
		Rearing and migration	34.22	4%
		Year-round use	113.04	13%
		Nodal (adult residence)	65.21	7%
		Unknown	9.22	1%
Total: Total Stream Miles in the defined area: 901.76			242.0	27%

4.4.1.4. Factors for Decline

4.4.1.4.1. Historical Pressures on the Species

Bull trout are estimated to have occupied about 60 percent of the Columbia Basin and presently occur in only about 45 percent of their historic range. The decline of bull trout is primarily due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management practices and the introduction of non-native species. Declining salmon and steelhead populations could also negatively impact bull trout populations by reducing the number of juvenile salmon and steelhead that bull trout might prey on.

4.4.1.4.2. Current Pressures on the Species

Bull trout habitat is sensitive to stream channel changes. Altered flow regimes, sedimentation rates, bank erosion, and reduced channel complexity all reduce the quality of bull trout habitat.

4.4.1.4.3. Limiting Factors for Recovery

Barriers between isolated populations are a limiting factor for most of the bull trout subpopulations in the Columbia Basin.

4.4.1.5. Local Empirical Information

Dworshak Dam is a barrier to upstream fish passage. The reservoir has an isolated sub-population of migratory bull trout. Migratory bull trout formerly linked resident bull trout to the overall gene pool for this species. Migration barriers have isolated these populations, potentially causing a loss of genetic diversity. In some cases, reservoirs such as Libby, Hungry Horse, and Dworshak provide habitat that is used by adfluvial populations of bull trout (USFWS 2000).

Available historical data does not suggest bull trout spawning/early rearing habitat was inundated when Dworshak or the Lower SR dams were completed; all evidence suggests that the impounded areas were historically used as adult/subadult foraging and over-wintering areas. This use continues today for these age groups (USFWS 1998).

4.4.1.5.1. Current Local Population Information

Spatial and temporal distribution, migration patterns, spawning sites, and basic life history information of bull trout in Dworshak are currently being investigated by IDFG. IDFG's investigation began in the spring of 2000 and, as of 2002, 163 adult bull trout had been captured, radio-tagged, and monitored. Preliminary findings indicated extensive use of the reservoir by bull trout for over-wintering. Bull trout enter the reservoir after spawning in the larger tributaries. They may remain in the tributaries for extended periods of time after spawning or migrate to the reservoir immediately depending on the abundance of prey in the specific tributary. For example, bull trout spawning in the Little NFCR have been documented to begin their downstream migration immediately following spawning and reach the reservoir in early September. Whereas spawning adults in the mainstem reach the reservoir in late October presumably due to a large spawning population of kokanee in the mainstem. Bull trout will spend the entire winter in the reservoir and begin their upstream migration in late May to early June. The highest concentrations of wintering bull trout have been documented as occurring between Cranberry Creek and Elkberry Creek (D. Schiff, personal communication, 2003).

4.4.1.5.2. Ongoing Monitoring

The Idaho Department of Fish and Game (IDFG) continues to monitor bull trout in Dworshak.

4.4.2. Canada Lynx

4.4.2.1. Listing History

The Canada lynx was listed as a threatened species in 2000. In 2003, in response to a court-order to reconsider the listing, USFWS clarified their final listing decision. Recent observations of lynx are primarily from the Cascade Range and the Blue Mountains. Canada lynx likely have never been as abundant in the lower 48 States as they were in northern Canada and Alaska because there is less lynx and snowshoe hare habitat at the southern part of the range.

4.4.2.2. Life History/Biological Requirements

Canada lynx are medium-sized cats, generally measuring 75-90 centimeters long (30-35 inches) and weighing 8-10.5 kilograms (18-23 pounds). Canada lynx are smaller than the European lynx with a shorter tail and longer hind legs. They have large feet adapted to walking on snow, long legs, tufts on the ears, and black-tipped tails. They are highly adapted for hunting snowshoe hare, the primary prey, in the snows of the boreal forest.

Lynx in the contiguous United States are at the southern margins of a widely-distributed range across Canada and Alaska. The center of the North American range is in north-central Canada. Lynx occur in mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare (Ruggiero et al. 2000). These forests are generally described as boreal forests. In North America, the distribution of lynx is nearly coincident with that of snowshoe hares. Lynx survivorship, productivity, and population dynamics are closely related to snowshoe hare density in all parts of its range. A minimum density of snowshoe hares (greater than 0.5 hare per hectare

(1.2 hares per acre)) distributed across a large landscape is necessary to support survival of lynx kittens and recruitment into and maintenance of a lynx population.

In the United States, lynx inhabit conifer and conifer-hardwood habitats that support their primary prey, snowshoe hares. Both timber harvest and natural disturbance processes, including fire, insect infestations, catastrophic wind events, and disease outbreaks, can provide foraging habitat for lynx when resulting understory stem densities and structure provide the forage and cover needs of snowshoe hare). These characteristics include a dense, multi-layered understory that maximizes cover and browse at both ground level and at varying snow depths throughout the winter (crown cover within the lower 4.5 meters (15 feet) in order to provide cover and food for snowshoe hares to 2 meters (6 feet) high at maximum snow depths). Despite the variety of habitats and settings, good snowshoe hare habitat has a common denominator – dense, horizontal vegetative cover 1-3 meters (3-10 feet) above the ground or snow level.

The southernmost extent of the boreal forest that supports lynx occurs in the contiguous United States in the Northeast, western Great Lakes, northern and southern Rockies, and northern Cascades. Here the boreal forest transitions into other vegetation communities and becomes more patchily distributed. As a result, the southern boreal forests generally support lower snowshoe hare densities, hare populations do not appear to be as highly cyclic as snowshoe hares further north, and lynx densities are lower compared to the northern boreal forest.

Individual lynx maintain large home ranges (reported as generally ranging from 31 to 216 kilometers^2 (km^2), or 12-83 mi^2. Thus, a lynx population can only persist in a large boreal forested landscape that contains appropriate forest types, snow depths, and high snowshoe hare densities. In the Northeast, lynx were most likely to occur in areas that support deep snow (greater than 268 centimeters [106 inches] annual snowfall) associated with regenerating boreal forests in landscapes 100 km^2 (40 mi^2) or greater in area. The Corps assumes areas with smaller patches of boreal forest are unlikely to provide a sufficient amount of habitat suitable to support a lynx population.

Lynx are highly mobile and have a propensity to disperse long distances, particularly when prey becomes scarce. Lynx also make long distance exploratory movements outside their home ranges. Areas or habitats used by lynx during dispersal or exploratory movements are poorly understood at this time. Dispersing lynx may colonize suitable but unoccupied habitats, augment existing resident populations, or disperse to unsuitable or marginal habitats where they cannot survive. Numerous lynx mortality records exist from anomalous habitats or habitats where no records support evidence (either current or historical) of a reproducing population. Many of these records correspond to post-population peaks in Canada, with some lag time for immigration. The Corps finds no evidence of lynx populations becoming established in such areas.

4.4.2.3. Distribution

The Canada lynx occurs throughout Canada and Alaska, in the extreme northeastern and north-central U.S., and in the northern and central Rocky Mountains (ICDC 2010). In western states, most lynx occurrences (83%) were associated with Rocky Mountain Conifer Forest, and most

(77%) were within the 1,500-2,000 m (4,920-6,560 ft) elevation zone (McKelvey et al. 2000*b*). Primary vegetation that contributes to lynx habitat is lodgepole pine, subalpine fir, and Engelmann spruce (Aubry et al. 2000). Within Idaho populations occur north of the Salmon River in the west and north of the Caribou Range in the east (McKelvey et al. 2000). The total population size in Idaho is unknown, but it is thought to be less than 100 individuals (ICDC 2010). In extreme northern Idaho, northeastern Washington, and northwestern Montana, cedar-hemlock habitat types may also be considered primary vegetation. In central Idaho, Douglas-fir on moist sites at higher elevations may also be considered primary vegetation. Secondary vegetation that, when interspersed within subalpine forests, may also contribute to lynx habitat, includes cool, moist Douglas-fir, grand fir, western larch, and aspen forests. Dry forest types (e.g., ponderosa pine, climax lodgepole pine) do not provide lynx habitat (USACE 2006).

4.4.2.4. Local Empirical Information

The IDFG, using 12 remote camera stations and live traps, conducted surveys for furbearers and carnivores throughout Dworshak in 2000 and 2001. Eleven species of furbearers and carnivores were documented. No lynx were observed within the study area. However, lynx have been documented in 2 locations north of Breakfast Creek, one on the Floodwood Road in 1997 and once at Stocking Meadows Ridge in 1998 (USACE 2006). The exact location of the Floodwood sighting is unknown. The Floodwood road begins at Clarkia, Idaho and ends on the top of Smith Ridge by the Clearwater National Forest boundary and varies greatly in elevation, diving into canyons and climbing to the tops of ridges. With respect to Stocking Meadows, it is about 3 miles from the nearest edge of a Corps boundary and lies 1,600 feet higher than the nearest segment of Corps boundary (2,200 feet Corps versus 3,800+ feet Stocking Meadows).

4.4.2.4.1. Current Local Population Information

There are no known local populations of Canada lynx in the action area.

4.4.2.4.2. Ongoing Monitoring

There are no known ongoing monitoring efforts for Canada lynx at Dworshak.

4.4.3. North American Wolverine (Candidate)

4.4.3.1. Listing History

The North American wolverine is currently a candidate species, and was petitioned for listing as threatened or endangered by the USFWS on December 14, 2010.

4.4.3.2. Life History/Biological Requirements

Wolverines are opportunistic feeders, consuming a variety of foods depending on availability. They primarily scavenge carrion, but also prey on small animals and birds and eat fruits, berries, and insects. Wolverines have an excellent sense of smell, enabling them to find food beneath deep snow. Breeding generally occurs from late spring to early fall. Females undergo delayed

implantation until the following winter to spring, when active gestation lasts from 30 to 40 days. Litters are born between February and April, containing one to five kits, with two to three kits being the most common number. Wolverines have large spatial requirements; the availability and distribution of food is likely the primary factor in determining wolverine movements and home range). Wolverines can travel long distances over rough terrain and deep snow, with adult males generally covering greater distances than females. Home ranges of wolverines are generally extremely large, but vary greatly depending on availability of food, gender, age, and differences in habitat (USFWS 2011).

Wolverine habitat consists entirely of alpine, arctic, and sub-arctic regions. Snow cover during the spring is essential for females who use deep snow banks for denning throughout the pregnancy and weaning periods. Habitat areas for wolverines are usually isolated and described as "patchy," often separated by large areas of unsuitable habitat. Almost all wolverine habitat in the contiguous U.S. is federally owned and managed. Suitable wolverine habitat in Oregon is considered to be the high-elevation forests of the Cascade Range, and of the Blue Mountains, Wallowa Mountains, and Ochoco Mountains. There is potential for wolverines from the Rocky Mountain population to enter Oregon from Idaho, Wyoming, or Montana.

4.4.3.3. Distribution

Reproductive dens in Idaho were located in snow-covered boulder talus in subalpine cirque basins (Copeland 1996; Magoun and Copeland 1998). Home ranges of adult wolverines range from less than 100 square kilometers (km2) to over 900 km2 (38.5 square miles (mi2) to 348 mi2) (Banci 1994). Copeland (1996) found that annual home ranges of resident adult females in central Idaho averaged 384 km^2 (148 mi^2), while the annual home ranges of resident adult males averaged 1,522 km^2 (588 mi^2) (USFWS 2011).

4.4.3.4. Local Empirical Information

Wolverines have not been documented at Dworshak and are not on species lists maintained by the Dworshak Wildlife Biologist. Although it is possible, it is likely that wolverines may not occur at elevations consistent with Dworshak Reservoir, as the upper most elevations in the timber forest at Dworshak are at the lower end of the recorded inhabited elevation of wolverines. Combined with the amount of anthropogenic influence at the reservoir, and the solitary nature of wolverines, it seems highly unlikely that wolverines would occur near the reservoir (R. Davis, personal communication, May 17, 2011).

4.4.3.5. Current Local Population Information

There are no known local populations of wolverine in the action area.

4.4.3.6. Ongoing Monitoring

There are no known ongoing monitoring efforts for wolverine at Dworshak.

4.5. Status of Critical Habitat

In 1993, NMFS determined that the critical habitat designations for SR fall-run Chinook salmon would focus on the physical and biological features of the habitat that are essential to the conservation of the species. In 2005, in designating critical habitat for SRB steelhead NMFS focused on certain habitat features called "primary constituent elements" (PCEs) that are essential to support one or more of the life stages of salmon and steelhead. The 2005 designations also analyzed areas that will provide the greatest biological benefits for listed salmon and balance the economic and other costs for areas considered for designation.

There is no designated or proposed critical habitat in Dworshak for SR fall Chinook salmon or SRB steelhead.

4.5.1. Bull Trout

4.5.1.1. Geographical Extent of Designated Critical Habitat

Bull trout critical habitat was designated in 2005.The USFWS revised the designation in 2010. A final rule was published on October 18, 2010.

Unit 21: Clearwater River Unit. The CR Critical Habitat Unit (CHU) is located east of Lewiston, Idaho, and extends from the SR confluence at Lewiston on the west to headwaters in the Bitterroot Mountains along the Idaho–Montana border on the east in Nez Perce, Latah, Lewis, Clearwater, Idaho, and Shoshone Counties. This unit includes five Critical Habitat subunits (CHSUs): Lower/ Middle Fork CR; NFCR (and Fish Lake); South Fork CR; Lochsa River (and Fish Lake); and the Selway River. In the CR CHU, 2,702.1 km (1,679.0 mi) of streams and 6,721.9 ha (16,610.2 ac) of lake and reservoir surface area are designated as critical habitat. Figure 10 shows bull trout critical habitat in relation to Corps lands at Dworshak.

Bull trout critical habitat in the action area is limited to Dworshak Reservoir (defined by 1,600 msl), and some free-flowing areas of reservoir tributaries above 1,600 msl, which includes: approximately 2,200 ft of free-flow Little NF Clearwater River (containing bull trout), a 1,500 ft section of free-flowing portion of Breakfast Creek, 600 ft of Reeds Creek, and 800 ft of Silver Creek. There is no free flowing portion of the NF Clearwater River on Corps lands (Figure 11). All free flowing portions are outside the action area (S. Martin, personal communication, November 4, 2011).

Bull trout may occur throughout the reservoir, and are generally dispersed through the reservoir. However, most bull trout leave the reservoir by April and return to the reservoir in September (S. Wilson, personal communication, November 8, 2011). The highest concentrations of wintering bull trout have been documented as occurring between Cranberry Creek and Elkberry Creek (D. Schiff, personal communication, 2003). Bull trout may also occur in the portions of the Little NF Clearwater River,

Figure 10 Designated Critical Habitat for Bull Trout in Unit 21- North Fork Subunit (USFWS 2010d). The map includes all of the Corps lands at Dworshak.

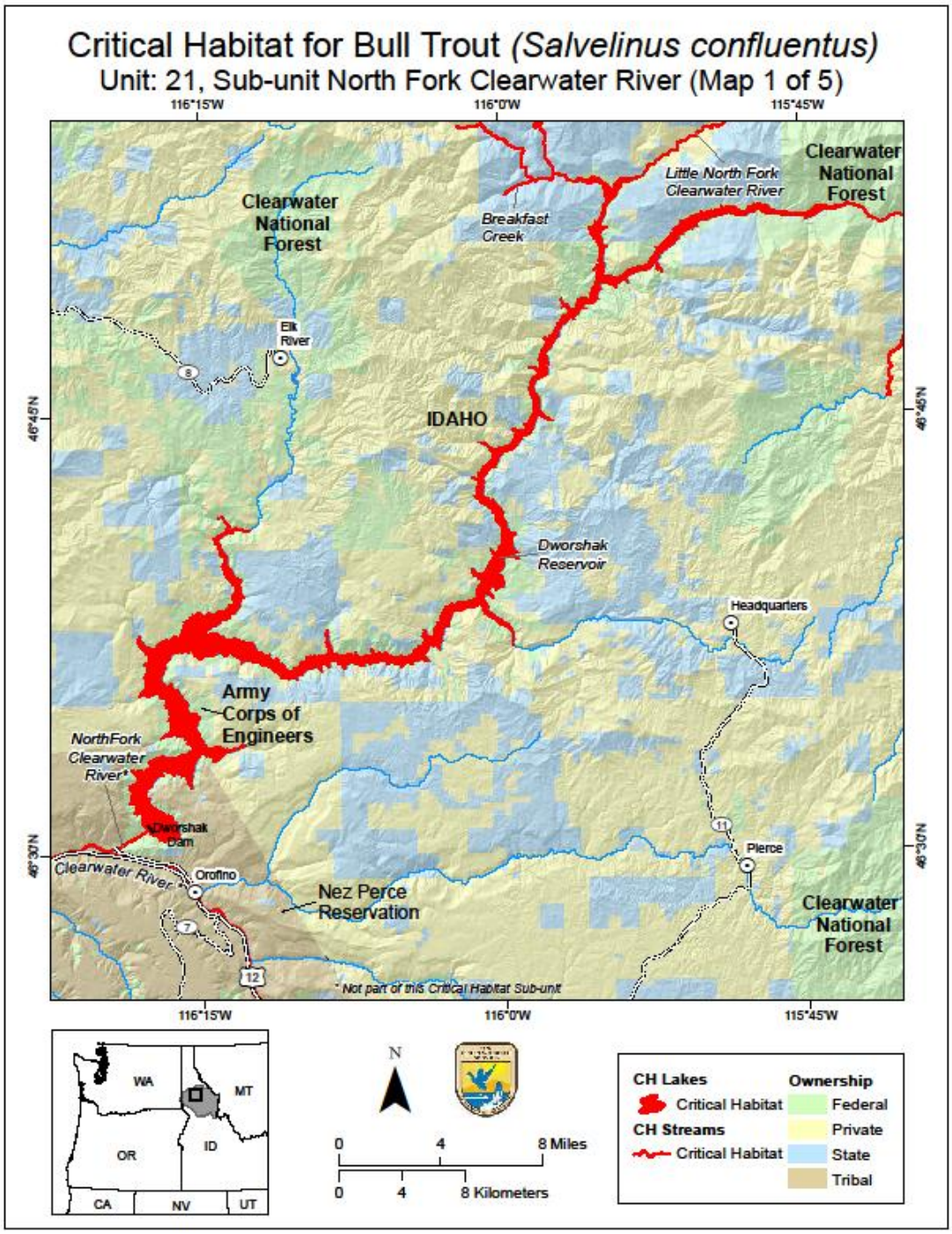
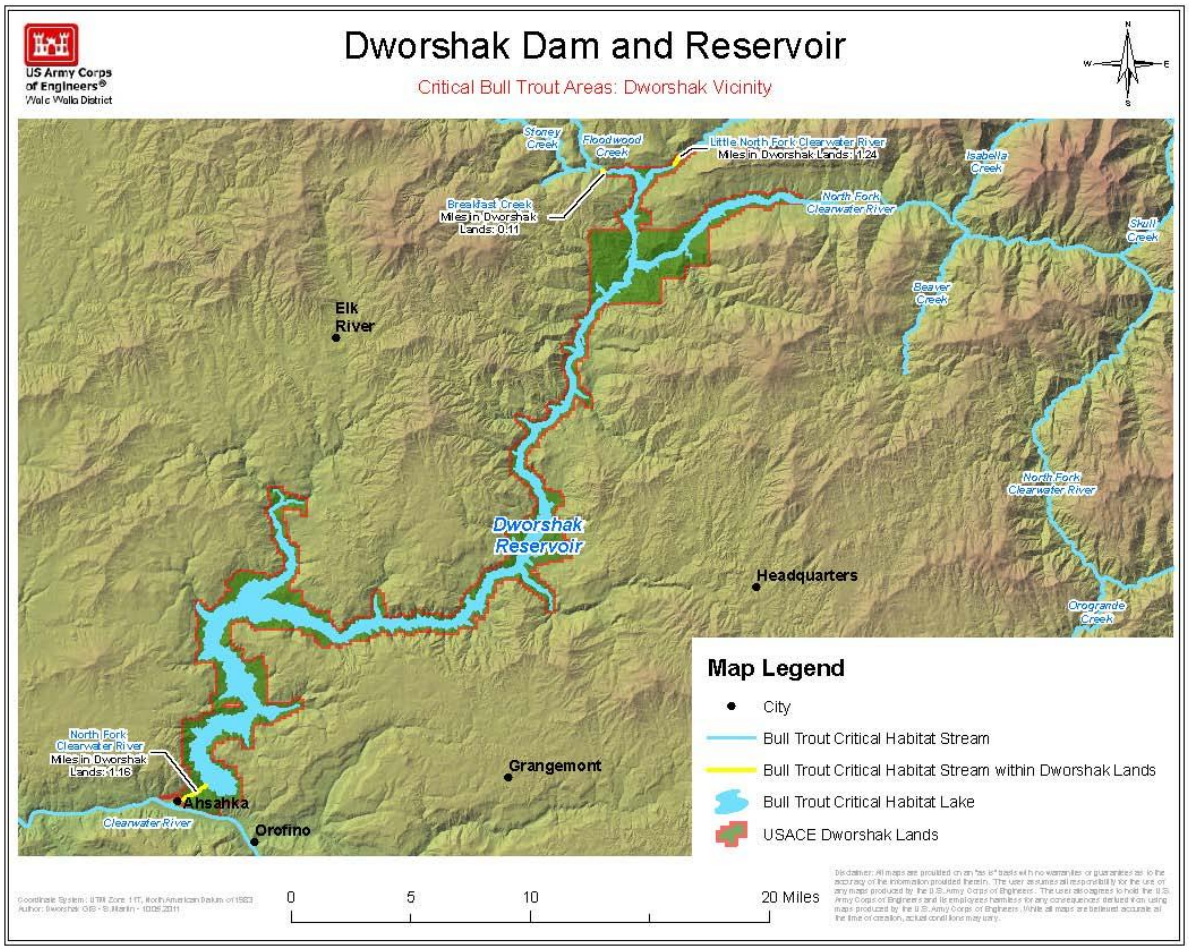


Figure 11 Final bull trout critical habitat (blue) in relation to Corps lands at Dworshak (green bordered in red).



4.5.1.2. Essential Elements of Designated Critical Habitat

Primary Constituent Elements for Bull trout based on the needs identified in 50 CFR 17 (75 FR 63898) and the current knowledge of the life-history, biology, and ecology of the species and the characteristics of the habitat necessary to sustain the essential life history functions of the species, the USFWS has identified the following PCEs for bull trout critical habitat (Table 6).

Table 6 Primary constituent elements (PCEs) of critical habitats designated for bull trout.

PCEs		
1	Water Quality	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia.
2	Migration Habitat	Migration habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.
3	Food Availability	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.
4	Instream Habitat	Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these aquatic environments, with features such as large wood, side channels, pools, undercut banks and unembedded substrates, to provide a variety of depths, gradients, velocities, and structure.
5	Water Temperature	Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will depend on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shading, such as that provided by riparian habitat; streamflow; and local groundwater influence.
6	Substrate Characteristics	In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrates, is characteristic of these conditions. The size and amounts of fine sediment suitable to bull trout will likely vary from system to system.
7	Stream Flow	A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph.
8	Water Quantity	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.
9	Nonnative Species	Sufficiently low levels of occurrence of nonnnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.

4.5.2. Canada lynx

4.5.2.1. Geographical Extent of Designated Critical Habitat

No critical habitat for Canada lynx has been designated within the proposed action area.

4.5.2.2. Essential Elements of Designated Critical Habitat

No critical habitat for Canada lynx has been designated within the proposed action area.

5. Environmental Baseline

The geographical area for which the environmental baseline is being established is discussed in the Action Area section of this document, and includes both Timber Management and Recreation and Reservoir Operation activities.

NMFS describes the environmental baseline in terms of the biological requirements for habitat features and processes necessary to support all life stages of each listed species within the action area. This holds true for bull trout as well, however, the biological requirements for bull trout differ slightly. For the action area, the biological requirements for fish species are the habitat characteristics that support successful completion of spawning, rearing, and freshwater migration.

The climate of the Clearwater Basin is characterized by mild summers and long, cold winters. Mean annual temperatures in the basin range from less than 32°F (0°C) at the highest elevations to over 50°F (10°C) at the lowest elevations. Seasonal temperatures have a fairly uniform pattern. Subfreezing weather is common during the months of October to May, when temperatures reach well below 0°F (-17.8°C), while mild temperatures prevail during the summer months. The average daytime summer temperature is around 88°F (31°C), while the winter nighttime average is approximately 28°F (2.2°C).

Precipitation, which averages 51 inches annually for the overall basin, ranges from 24 inches near the dam to nearly 80 inches near the summit of the Bitterroot Mountain Range. Precipitation has a seasonal pattern, with about 40 percent occurring during the months of November through January. During high snow years, more water storage is needed, and the reservoir is drawn down in anticipation of snowmelt to prevent flooding. In low snow years, the reservoir is allowed to fill early, often increasing access to the shoreline recreational facilities.

Dworshak Reservoir lies within the Clearwater River Basin in north-central Idaho. Elevations in this basin range from 738 feet mean sea level (msl) at the mouth of the Clearwater in Lewiston, Idaho, to over 8,000 feet msl in the peaks of the Bitterroot Mountain Range. The portion of the Clearwater Basin that lies west of Dworshak is characterized by barren hills and plateaus intersected by cultivated valleys.

The 53.6-mile-long reservoir is formed in the North Fork and Little North Fork valleys. Steep slopes dominate the shoreline and project lands, although a few flat or low-slope areas can also be seen (Plates 2A and 2B). These low areas are the primary location of the majority of existing developed recreation sites.

The North Fork Clearwater River originates in a mountainous area underlain by metamorphic and igneous granite rocks. In the lower portion of the reservoir, the valley floor is mantled by stream-deposited material. The lower valley walls are covered by a thin residual soil, with soil depth increasing at higher elevations. Rock outcroppings occur frequently along the canyon walls in the lower reservoir, but seldom appear on the upper two-thirds of the reservoir.

Soils vary from desertic soils to the forest soils more typical of the area. At Dworshak, many unstable soils have developed on parent rock that was, at one time, subjected to tremendous heat and pressure. These soils are generally thin and underlain by an impervious parent rock. This rock contributes to the basin's high runoff characteristics. Many of the soils at Dworshak are highly susceptible to erosion, which precludes their use for further development.

The higher slopes along the reservoir are covered in many places with residual soils that are the product of weathering metamorphic rocks. Because of the instability associated with these soils and the weaker rock masses, particularly in the steeper areas, construction activity is difficult. In some locations along the reservoir, a fairly flat bench occurs between the steeper mountainous terrain and the maximum pool elevation. These flat areas are generally associated with the clays and poorly indurated shales mentioned above. The clay-deposited areas have the hummocky topography, seep areas, and ponded water typical of slide areas.

The most common types of surface soil are sandy loam, loam, and silt loam, with some clay content indicated in each. Because of the natural forest conditions, layers of organic material have accumulated on the surface soil. Soils and slopes are a significant influencing factor at Dworshak. The National Resources Conservation Service (NRCS) Soil Capability Class Classification System describes the soils at Dworshak for the purposes of this report.

There are two major types of soils in this area: Bandmill-Riswold Complex 5 to 20 percent slopes (93%) and Elkridge-Riswold Complex 40 to 70 percent slopes (7%). The Bandmill-Riswold Complex of these soil types are well drained with low to moderate erodibility (Kw = .24-.37).

Capability class is the broadest category in the land capability classification system. Class codes 1 through 8 are used to represent both irrigated and non-irrigated land capability classes. Capability subclass is the second category in the land capability classification system. Class codes e, w, s, and c are used for land capability subclasses.

The subclass represents the dominant limitation that determines the capability class. Within a capability class, where the kinds of limitations are essentially equal, the subclasses have the following priority: e, w, s, and c. Subclasses are not assigned to soils or miscellaneous areas in capability classes 1 and 8.

All of the soils at Dworshak have erosion potential. However, for the purpose of forest and wildlife management, this is not a major concern. The erosion potential of the soil is a significant factor in determining locations for recreational features, including campgrounds, trails, roads, and other amenities. Locations of recreational amenities should avoid areas that have visible signs of existing erosion and excessive slopes. Construction methods and design criteria must also address the limitations imposed by the soils at Dworshak Reservoir.

Dworshak Reservoir and environs encompass a diversity of forest habitats, and contain several rare plant species and unique plant communities. The unusual flora of the area is due, in part, to its location in a core area of inland-maritime climate. Biodiversity of the area is further enhanced by its location between two ecoregions: the Bitterroot Mountains Section of the

Northern Rocky Mountains Province and the Palouse Prairie Section of the Columbia Plateau Province (McNab and Avers, 1994).

Bunchgrass steppe vegetation extends into the lower reaches of the canyon on warm aspects, and elements of Palouse prairie flora, including several regional endemic species, merge with those of moist, western red cedar (*Thuja plicata*) forests of the Clearwater Mountains. Major forest cover types of the area are ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), and western red cedar.

Soil data for the Clearwater Basin indicates that fourteen forest habitat types, as described by Cooper et al. (1991), occur on Corps-managed land surrounding Dworshak Reservoir. Based on regional geology, topography, soils, and climate; disturbance has played a significant role in shaping the composition, form, and structure of these forests.

Historic ecosystem processes included the deposition of ash through volcanic activity, glaciation, flooding, landslides, wind events, and wildfire. Several of these processes have occurred with high enough frequency and severity to be considered when managing natural resources. Although these types of events are natural occurrences, modern man has had substantial effect on their frequency and magnitude, either directly or indirectly. Resource managers should take care in planning new road construction to minimize the potential for landslides. Similarly, forest management practices can affect the impact of wind events as well. By overharvesting, remaining trees are left with little protection to withstand even moderate wind events. However, of these natural ecological processes, none have been more altered by man then wildfire.

Wildfire was historically the most dramatic process to shape North Idaho forests. The impacts of fire to an ecosystem are dependent on the localized fire regime. The exclusion of fire from fire-dependent ecosystems can alter forest composition, form and structure, nutrient cycling, soil properties, erosion potential, and fish and wildlife habitat.

Active efforts to suppress fires from Pacific Northwest ecosystems, including lands surrounding Dworshak Reservoir, began in the early 1900s. Years of fire suppression in the basin have resulted in dramatically altered fire regimes. There has been a significant reduction in the frequency of low-severity fire regimes (ground fires). The reduction in low severity fire frequency has drastically altered the composition, form, and structure of many drier forest types throughout the basin. Unnatural forest change occurs when fire-intolerant tree species (e.g., grand fir) are allowed to mature in the absence of fire, and take over areas historically dominated by fire tolerant species (e.g. ponderosa pine). In contrast, wetter forest types, where frequent low-severity burns were not part of their historic fire regime, are not altered as drastically with the absence of fire. Reduced fire frequencies result in increased forest fuel loads as well, and more severe fires would be expected under more natural conditions.

Most hiking trails provide access to the reservoir; however, drawdowns create exposed banks that are difficult to negotiate in most areas. Bank erosion at high pool has also created ledges that cause difficulty accessing the reservoir in some locations.

Historically, the reservoir remained at full pool from Memorial Day to Labor Day. This allowed for the majority of the recreation areas to be used during the peak summer recreation season. The 1995 FCRPS BO has changed operational procedures, so that reservoir drawdowns begin much earlier to help reduce water temperatures and restore a more natural flow in the Clearwater and Snake Rivers. Currently, full pool lasts for only a few weeks around the Fourth of July. This change of operations has limited access to recreational areas on the reservoir, and necessitates an analysis of alternative resource planning considerations.

The lower North Fork AU is home to numerous terrestrial vertebrates and has been inhabited by the North American wolverine (*Gulo gulo*), fisher (*Martes pennanti*), Townsend's big-eared bat (*Corynorhinus townsendii*), western toad (*Bufo boreas*), and Coeur d'Alene salamander (*Plethodon idahoensis*). Inundation of habitat following the construction of Dworshak Dam has reduced the occurrence of many terrestrial focal species in this area. Migratory corridors used by the wide-ranging North American wolverine have likely been compromised by the creation of Dworshak, as have structurally complex riparian areas used by the fisher. Both Townsend's big-eared bat and the western toad are rare and are threatened by loss or fragmentation of habitat. The Coeur d'Alene salamander has been documented throughout several portions of the AU. Based on surveys conducted in the 1980s, the NFCR drainage represented the core distribution area for Coeur d'Alene salamanders in the Clearwater sub-basin. Recent surveys, however, have been unable to confirm the occurrence of the Coeur d'Alene salamander in many of the previously occupied locations, suggesting the possibility of localized population extirpation.

With the exception of the lower 1.9 miles of the mainstem NFCR, passage of anadromous species into the Lower North Fork Assessment Unit (AU) is completely blocked by Dworshak Dam. Dworshak is located entirely within the Lower North Fork AU and provides a substantial fishery for kokanee (*Oncorhynchus nerka*), smallmouth bass (*Micropterus dolomieu*), rainbow trout (*O. mykiss*), and other native salmonids. Limitations to the Dworshak fishery are primarily related to dam operations resulting in highly variable flows and fluctuating water levels.

Bull trout distribution is restricted to the highest elevation tributaries of the Lower North Fork AU, and to Dworshak. Although westslope cutthroat trout (*O. clarkii henshawi*) are known to be widely distributed throughout most of the AU, limited information is available on the status of populations. Strong populations of both bull trout and westslope cutthroat trout exist in the Little NFCR drainage. Resident salmonids throughout the AU tributary systems are impacted by sediment and temperature issues associated with land use activities, as well as by introductions of exotic species. Brook trout are widely distributed throughout the AU, however little is known about their population status in most areas (Ecovista 2003).

The NFCR feeds Dworshak from the mountains of Idaho. The dam begins at RM 1.9 on the NFCR, just upstream from the confluence with the CR in the town of Ahsahka, Idaho. The drainage area associated with the reservoir is 2440 square miles. There are 175 miles of shoreline in the reservoir, and the gross storage capacity is 3,468,000 acre-feet. The maximum structural height of the dam is 717 feet (ft). The maximum operating pool is 1600 feet mean sea level (msl) with a normal operating range from 1600 msl down to 1445 msl.

Dworshak Dam and a large part of the reservoir are located within the boundaries of the Nez Perce Reservation. Each summer, from July through September, Dworshak is drafted 80 feet from full pool (1600 msl) to provide 1.2 million acre-feet of flow augmentation to benefit juvenile fall Chinook emigrating through lower Snake Reservoirs. As part of the Nez Perce Water Rights Agreement, the Nez Perce Tribe has the permanent right to use 200,000 acre-feet (of the 1.2 million acre-feet) for flow augmentation and temperature control in August and/or September (Haller).

Cold water releases from Dworshak benefits juvenile fall Chinook as well as returning adult fall Chinook and steelhead. Excessive cold water releases in early July can retard the growth of Clearwater fall Chinook so salmon managers attempt to balance the needs of the Clearwater fish, which tend to over-winter in lower Snake, and the SR fish, which out-migrate primarily in June and July. Operational decisions are made on a weekly basis during the summer with the TMT (except for the Tribe's 200kaf, the operation of which is developed by the Dworshak Board, consisting of the Nez Perce Tribe as Chair, the Corps, NMFS, Idaho Department of Water Resources and Bonneville Power Administration) and are guided by temperature modeling by the Environmental Protection Agency (EPA) and the Corp of Engineers. The goal is to not exceed the State of Washington temperature standard of 68 degrees as measured in the tailrace of the reservoir (Haller).

Fluctuations in pool elevation leave 80 to 155 feet of exposed banks in the reservoir below the ordinary high water mark (OHWM). These banks (Figures 12 and 13) were historically submerged under reservoir water, and were stripped of trees and vegetation during construction of the reservoir. The now exposed banks release a great deal of suspended sediment and routinely create turbidity in the reservoir because of rising and lowering reservoir elevations, as well as wind and water erosion events.

Figure 12 Example of Exposed Banks in Dworshak (in Elk Creek Meadows Area).

Figure 13 Example of Exposed Banks in Dworshak (in Elk Creek Meadows Area).

The reservoir area has a great deal of existing and historic roads. Some of the roads are in use, some are historic logging roads. Roads adjacent to the reservoir are generally limited to old logging road beds, with the exception of recreation areas such as Dworshak State Park, Three

Meadows, and roads such as Old Dent Road, Wells Bench Road, and Dent Bridge Road. The lack of roads is likely the result of the steep topography of the area.

There are a few un-named intermittent streams and small isolated wetlands within the action area. The intermittent streams run into Dworshak Reservoir**.** RHCAs will be used as a guideline for these streams and wetlands, 50 feet either side of the streambed, as described by INFISH. No trees will be harvested within the RHCA in accordance with INFISH guidelines. No measurable impacts to water quality are expected from this project.

5.1. Matrix of Pathways and Indicators (MPI)

NMFS uses the "Matrix of Pathways and Indicators" (MPI) (NMFS 1996) to summarize important environmental parameters and levels of condition for each. USFWS adopted a similar strategy in 1997 based on NMFS' matrix. The NMFS matrix is divided into six overall pathways (major rows in the matrix):

- Water Quality
- Channel Condition and Dynamics
- Habitat Access
- Flow/Hydrology
- Habitat Elements
- Watershed Conditions

Each represents a significant pathway by which actions can have potential effects on anadromous salmonids and their habitats, and could be used for analyzing bull trout habitat as well.

After review of the description of the proposed action, the environmental baseline, and using the matrix to determine if the potential impacts of the proposed action, the Corps has determined that the proposed action will not restore or degrade the function of habitat indicators of the environmental baseline, but will maintain existing baseline conditions within the action area. For the purposes of the MPI checklist, "maintain" means that the function of an indicator does not change (i.e., it applies to all indicators regardless of functional level).

Table 7 Checklist for Documenting Environmental Baseline and Effects of Proposed Action on Relevant Anadromous Salmonid Habitat Indicators

PATHWAYS	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION		
Indicators	Properly Functioning	At Risk	Not Properly Functioning	Restore	Maintain	Degrade
Water Quality:						
Temperature			X		X	
Sediment			X		X	
Chem. Contam./Nut.			X		X	
Habitat Access:						
Physical Barriers			X		X	
Habitat Elements:						
Substrate			X		X	
Large Woody Debris	X				X	
Pool Frequency			X		X	
Pool Quality			X		X	
Off-Channel Habitat			X		X	
Refugia			X		X	
Channel Cond. & Dyn.:						
Width/Depth Ratio			X		X	
Streambank Cond.			X		X	
Floodplain Connectivity			X		X	
Flow/Hydrology:						
Peak/Base Flows			X		X	
Drainage Network Increase			X		X	
Watershed Conditions:						
Road Dens. & Loc.		X			X	
Disturbance History			X		X	
Riparian Reserves			X		X	
Watershed Name: Lower North Fork Clearwater subbasin (HUC 17060308)			Location: Dworshak Reservoir, Clearwater County, Idaho			

5.2. Baseline Conditions Justification

All habitat indicators are not properly functioning in Dworshak Reservoir, except for the large woody debris and road density indicators. Baseline conditions improve in streams once out of the influence of the reservoir and its elevation fluctuations, but the overall condition at a watershed scale is as shown in Table 7 (above).

Large woody debris. There are adequate sources of woody debris in riparian areas throughout the reservoir. Density and diameter of woody pieces in every area of the reservoir is more than enough to justify properly functioning.

Road density. Dworshak encompasses approximately 45,697 acres, or 71.4 square miles. There are 139.2 miles of roads, so the road density at Dworshak is 1.95 miles per square mile, which is less than the 2 miles per square mile that qualifies as properly functioning in the MPI (NMFS 1996).

6. Effects of the Action

The proposed project area includes areas upstream of Dworshak Dam identified in the Action Area section of this document. This area encompasses a watershed that has very different baseline elements than it would if it were on a flowing river or stream because of its location above the dam and the existence of the reservoir.

Effects are analyzed for Access, Boundary, Fire, Forest, Road, Wildlife Habitat, and Recreation Management activities, as many of the elements are common to more than one activity (Table 8), and will have the same potential effects.

Table 8 Dworshak management activities.

Management Activity							
Activity Element	**Access**	**Boundary**	**Fire**	**Forest**	**Road**	**Wildlife**	**Recreation**
Gates	X			X		X	X
Signs	X			X		X	X
Fences	X						
Trails	X						X
Monumentation		X					
Broadcast Burning			X	X		X	X
Pile Burning			X	X		X	X
Slashing and/or Pruning			X	X		X	X
Fire Lines			X	X		X	X
Selective Harvest			X	X		X	X
Snag Removal			X	X	X		X
Road Construction			X	X	X	X	X
Road Reconstruction			X	X	X	X	X
Road Maintenance	X	X	X	X	X	X	X
Road Obliteration	X		X	X	X	X	
Road Demolition	X		X	X	X	X	X
Culverts			X	X	X	X	X
Planting			X	X	X	X	X
Wetland Enhancement						X	

6.1. Project Effects

The proposed project area includes areas upstream of Dworshak Dam identified in the Action Area section of this document. This area encompasses watershed that has very different baseline elements than it would if it were on a flowing river or stream, because of its location above the dam and the existence of the reservoir.

6.1.1. Access Management

Access management activities have the potential to create turbidity and sedimentation, as well as toxic contamination. However, given the extremely limited nature of the work associated with Access Management, the Impact Minimization Measures, and the limited disturbance, the potential for adverse effects will be greatly reduced.

The effects of trail development and maintenance are the same (albeit lesser than) those for road construction and maintenance, and are discussed in the road management section (below).

Blasting activities have the potential to produce hydroacoustic stressors for bull trout in the area. However, given the use of BMPs designed to protect fish (ADFG 1991) (see Appendix B), bull trout may be exposed to, but are not likely to respond to the hydroacoustic stressors produced, if exposed, as the BMPs will spatially separate bull trout from the blasting-related effects. Those few individuals that may be in the reservoir during blasting activities are not likely to have responses sufficient to reduce their individual performance.

6.1.2. Boundary Management

Boundary management activities have the potential to create turbidity and sedimentation, as well as toxic contamination. However, given the extremely limited nature of the work associated with Boundary Management, the Impact Minimization Measures, and the limited disturbance, the potential for adverse effects will be greatly reduced.

6.1.3. Fire Management

6.1.3.1. Burning

Under-burning intensity will be low and localized. Fire line construction will expose soil but will also help protect against the loss of streamside shade. Fire lines will be rehabilitated and seed will sprout within a year. Fire line construction will not disturb the stream bank. Under-burning will be monitored by Corps personnel, and burn units will be field checked after prescribed fire treatments to determine whether prescriptions (*i.e.* tree mortality, mineral soil exposure, fuel load reductions) have been met. Further burning may be delayed and future prescriptions modified if prescription objectives have not been met. Activities associated with under-burning are extremely unlikely to reduce shade or deliver sediment to streams due to these minimization measures, and therefore such effects are discountable. Under-burning will leave overstory trees intact; therefore, reduction in large wood recruitment will not occur.

6.1.3.2. Fire Lines

Fire lines constructed around camp sites or around designated burn units have similar effects to Road Management Activities, and, as such, will be discussed in the Road Management section below.

6.1.3.3. Slashing

There should be no measurable effect from slashing.

6.1.4. Forest Management

6.1.4.1. Selective Harvest

Trees identified for retention will be marked by a crew and remaining trees will be available for harvest using a tractor, or line skidder. Harvest treatments would primarily use cable yarding methods. Logging on steep slopes exceeding 40 % will use line skidding machines to yard logs to landings where they will be prepared for truck transport to mills. This process greatly reduces ground disturbance on these slopes.

Timber harvesting can increase sediment delivery to streams, diminish large wood recruitment to streams, reduce stream shade, and alter hydrology within and downstream of the action area. In the proposed action, ground-based yarding will expose soil within the thinning units. Exposed soil heightens the risk that sediment will be eroded and delivered to nearby streams. Increased sediment delivery results in: (1) Increased stream turbidity; (2) increased substrate embeddedness; (3) loss of interstitial spaces and decreases in forage abundance; (4) reduced pool quality; and (5) increased width/depth ratios. Increased width: depth ratios elevate the risk of stream warming and reduce habitat quality for rearing individuals.

Measures such as using existing skidder and forwarder trails, limiting trail size and frequency, and trail rehabilitation will reduce the amount of exposed soil. All ground-based hauling will occur outside RHCAs. Vegetation within the no-cut buffers will act as a filter and reduce the amount of suspended sediment reaching streams. A review by Belt *et al*. (1992) of studies in Idaho (Burroughs and King 1985, Ketcheson and Megehan 1990) and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) concluded that non-channelized sediment flow rarely travels more than 300 feet and that 200- to 300-foot riparian "filter strips" are generally effective at protecting streams from sediment. Streams located within 300 feet of the thinning units may experience increases in sedimentation, however, well vegetated buffers of at least 150 and 100 feet will substantially reduce the amount of sediment delivered to those streams. RHCA buffers and measures to reduce exposed soil will reduce sediment delivery to streams to immeasurable amounts (NMFS 2009).

Forest management activities within a distance equal to one site-potential tree height of streams have the potential to change the distribution, size, and abundance of woody material available for recruitment into streams (Ralph *et al.* 1994, Murphy 1995, Spence *et al.* 1996). Because wood recruitment potential declines rapidly moving away from the stream, a buffer of 50 feet likely includes the majority of streamside large wood recruitment potential, depending on stand age and other factors (McDade *et al.* 1990, Van Sickle and Gregory 1990, Welty *et al.* 2002). All tree thinning will occur outside of the RHCA buffers that have widths of at least 50 feet. That combined with the minimal thinning likely precludes any measurable reduction of wood recruitment to streams from streamside stands of trees (NMFS 2009).

All tributaries to the reservoir within the project boundary are intermittent streams. INFISH guidelines suggest a RHCA encompassing 50 ft either side of these streams. The Corps' plan is to meet the INFISH guideline as a minimum on all intermittent streams unless the topography is such that inside of 50 ft the slope breaks and surface water would no longer drain into the stream

in question. The land type within the project boundary is classified as "breaklands" by the USFS. Due to the type of landscape associated with breaklands, there are frequent changes in relief among these drainages creating narrow drainages less than 100 ft in width. For example, if a given stream drainage is only 40 ft wide (20 ft either side), protecting vegetation (prohibiting harvest) for 50 ft either side of the stream does nothing but limit the opportunity for ponderosa pine restoration. Using the same understanding the Corps will likely protect well over 50 ft if the slope breaks over 50 ft (e.g. 75 ft). In terms of the conditions within the RHCAs described by INFISH the Corps plans to adhere to all once the RHCAs are established.

Timber harvesting can change the distribution of precipitation that reaches the ground, the evaporation rate from the ground, rates of interception or evaporation by foliage, soil water storage capacity, and the amount of water that reaches streams. Stednick (1995) found that in general, 20% of the forest cover must be removed before a measurable increase in annual water yield was observed. In a local study in the Upper Umatilla River Watershed, effects on water yield and peak stream flows were not observed below 50% removal of forest cover (Hervey and Fowler 1995). Because forest cover reduction will be below the thresholds stated above, no measureable change in water yield or peak stream flows should result (NMFS 2009).

Trees that have imminent or likely potential to fall and constitute public safety issues (*i.e.* hazard trees) will be felled along some of the forested roads in the project area. Hazard trees cut within RHCAs will be left on site, adding to the recruitment of wood to the riparian area, as RHCAs buffers will be left during prescribed burns. Trees selected for hazard removal will mostly be dead snags, which lack the crown that provides the majority of stream shade, and therefore, this activity will cause only localized reductions in shade that are unlikely to measurably increase stream temperatures. The remaining hazard trees to be removed will be trees that are overhanging or leaning in the direction of the road and not in the direction of adjacent streams.

Effects from road work as part of Forest Management Activities are included in the effects from Road Management section (below).

6.1.5. Road Management

During project design, a concerted effort was made to minimize the potential for sedimentation of streams through the use of existing roads and implementing sediment control measures. Where possible, existing roads will be used to minimize the need to construct new roads. Blading off existing roadbeds drastically reduces the amount of potential erosion compared to constructing new roads. All roads used during harvest and burning operations will be maintained following sale activities to a standard appropriate for their future intended use. Existing roads will be used to transport logs to mills. Also ignition of prescribed fires will not occur within RHCAs.

The potential effects from roads are likely to be the same as the potential effects from constructing firebreaks in the burn areas, and will, therefore, be analyzed as such, and included in the effects portion of this document in the following as part of road construction effects.

It should be emphasized that culverts will be placed in intermittent non ESA-listed fish bearing

streams as part of the proposed action. These intermittent streams are above the OHWM of the reservoir.

Roads can significantly elevate erosion and sediment delivery, disrupt subsurface flows essential to the maintenance of base flow, and can contribute to increased peak flows (Rhodes et al.1993). Increases in fine sediment delivery to streams reduce pool volume, embed substrate, reduce forage abundance, increase channel widths, and exacerbate seasonal water temperature extremes. The proposed new road construction includes the placement of culverts in intermittent, non-fish-bearing streams.

Increases in fine sediment delivery to these streams are likely if sediment from the instream culvert construction area is suspended during high flows. The IMMs stated above will reduce sediment reaching downstream ESA-listed fish habitat in the reservoir to insignificant amounts. The limited amount of sediment suspended during higher flows will not be measurable compared to turbid background conditions. The amount of sediment created by road construction and culvert installation is unlikely to result in any measurable changes in substrate embeddedness, forage abundance, pool volumes, or channel widths.

The proposed roads will bisect intermittent, non-fish-bearing streams at culvert sites. These roads may affect drainage network through increased surface runoff due to road surface compaction. Precipitation landing on the road surface will be transported to streams rapidly through ditch lines and then into the reservoir. This may affect the magnitude of peak flows, as the hardened road surfaces will accelerate water transport during precipitation events. However, the seasonal nature of these intermittent streams will limit any observable change to peak flows or floodplain connectivity.

Riparian vegetation that is disturbed during road construction and culvert installation will be left on site and added to the riparian system. When streamside vegetation is removed, summer water temperatures usually increase in direct proportion to the increase in sunlight that reaches the water surface (Meehan 1991). However, the limited amount of disturbed vegetation will not result in measureable reductions in shade or increases in water temperatures. The lack of water in the intermittent streams during the driest and hottest time of the year precludes any water temperature increase in summer as a result of shade reduction along the stream crossings. Seeding with native species after culvert installation will eventually replace the disturbed vegetation as seedlings establish mature heights and seeds sprout within a year.

Rebuilding road prisms and conducting maintenance on existing roads will expose soil, increasing the risk of sediment being delivered to nearby streams. RHCA buffers between exposed soil and streams, and IMMs such as sediment fencing, working in the dry whenever possible, minimizing the construction area, and planting and seeding, will reduce sediment delivery to streams. Reconditioned roads inside RHCAs have a greater risk of delivering sediment to nearby streams than those outside RHCAs, especially those approaching stream crossings. However, except for steam crossings, thick stands of vegetation of 50 feet or more in width occur between rehabilitated roads and streams. It is unlikely that measurable amounts of sediment will be delivered to streams due to the well vegetated buffers and impact minimization methods stated above.

It is unlikely that the proposed reconstruction of existing roads (some of which are in RHCAs) will increase sediment delivery to streams for the following reasons: 1) most of the reopened roads are outside RHCA buffers; and 2) existing road beds and culverts will be used (no new further construction only reconditioning). Fallen vegetation lying across the reopened road and hazard trees will be the only vegetation removed due to reopening of the closed roads.

Blasting activities have the potential to produce hydroacoustic stressors for bull trout in the area. However, given the use of BMPs designed to protect fish (ADFG 1991) (see Appendix B), bull trout may be exposed to, but are not likely to respond to the hydroacoustic stressors produced, if exposed, as the BMPs will spatially separate bull trout from the blasting-related effects. Those few individuals that may be in the reservoir during blasting activities are not likely to have responses sufficient to reduce their individual performance.

6.1.6. Wildlife Habitat Management

6.1.6.1. Planting

Planting activities have the potential to create turbidity and sedimentation, as well as toxic contamination. However, given the extremely limited nature of the work associated with planting, the Impact Minimization Measures, and the limited disturbance, the potential for adverse effects will be greatly reduced.

6.1.6.2. Wetland Enhancement

Blasting activities have the potential to produce hydroacoustic stressors for bull trout in the area. However, given the use of BMPs designed to protect fish (ADFG 1991) (see Appendix B), bull trout may be exposed to, but are not likely to respond to the hydroacoustic stressors produced, if exposed, as the BMPs will spatially separate bull trout from the blasting-related effects. Those few individuals that may be in the reservoir during blasting activities are not likely to have responses sufficient to reduce their individual performance.

6.2. Effects on Listed Species

Effects on listed species will be similar for most of the management activity elements, and are therefore, for the sake of simplicity, analyzed collectively.

Bull trout use Dworshak Reservoir for overwintering. However, due to the nature of the action, reservoir conditions, and proposed IMMs and BMPs, it is unlikely that the fish or habitat in the reservoir will be adversely affected.

6.2.1. Elevated Suspended Sediment and Turbidity

No measurable elevations of suspended sediment and turbidity will occur in the reservoir as a result of timber harvest, yarding, slashing, or prescribed burning activities due to impact minimization measures reducing the amount of exposed soil and RHCA buffers between the

harvest units and streams will act as sediment filters. Therefore, the effects of elevated suspended sediment and turbidity on listed species of fish as a result of proposed timber harvest, yarding, slashing, and prescribed burning are insignificant.

Due to the current management of Dworshak water reserves, the effects of this project on the water quality of the reservoir would be minimal due to the high background levels of suspended sediment, and the common turbidity. Current objectives of flow augmentation to enhance downstream conditions for migration of threatened and endangered salmon result in dramatic drawdowns (80 to 155'), exposing up to 200' of mineral soil around the perimeter of the 54 mile reservoir for most of the year. This creates potential for high levels of erosion and sedimentation. Impacts to water quality resulting from this project would be negligible in comparison to erosion caused by annual drawdowns, and will likely be undetectable beyond background levels in the reservoir.

Road construction and rehabilitation are likely to increase sediment delivery to adjacent streams. Minimizing the amounts of exposed soil and IMMs will limit the amount of suspended sediment and minimize adverse effects to ESA-listed fish. Based on previous projects of a similar nature, the turbidity plume resulting from culvert installation and road construction is not likely to extend beyond 600 feet (NMFS 2009), and therefore will not reach locations inhabited by ESA-listed fish which are greater than 600 feet away. The disturbance and turbidity created by culvert installation will cause some juvenile fish to temporarily abandon these areas (Lloyd *et al.* 1987). However, some fish are likely to remain in the affected areas despite the perturbation (Quigley 2003). During that time, these remaining juvenile fish are likely to experience decreased feeding and stress (Redding *et al.* 1987, Lloyd *et al.* 1987, Servizi and Martens 1991), thereby increasing the likelihood that they will be killed or injured. However, given that the culvert installation will be on intermittent streams that are non-fish bearing, combined with the use of RHCAs, it is unlikely that any individual fish would be affected, either upstream or downstream of the dam.

6.2.2. Chemical Contamination

Operation of equipment requires the use of fuel and lubricants, which, if spilled into the channel of a water body or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can cause lethal and sub-lethal chronic effects to other aquatic organisms (Neff 1985). Construction equipment will be staged outside of RHCAs, and all equipment will be cleaned and fueled in these staging areas. Equipment will be inspected and cleaned prior to any instream work. These impact minimization measures will significantly reduce hydrocarbon and other contaminant levels.

The IMM stated above will reduce the risk of chemical contamination to a level not likely to kill or injure any listed species or have any population-level effect, or have an effect on critical habitat. Because of the IMMs, effects from chemical contamination on ESA-listed species and their designated and proposed critical habitat are not reasonably certain to occur, and are therefore discountable.

6.2.3. Blasting

Blasting activities have the potential to produce hydroacoustic stressors for bull trout in the area. However, given the use of BMPs designed to protect fish (ADFG 1991) (see Appendix B), bull trout may be exposed to, but are not likely to respond to the hydroacoustic stressors produced, if exposed, as the BMPs will spatially separate bull trout from the blasting-related effects. Those few individuals that may be in the reservoir during blasting activities are not likely to have responses sufficient to reduce their individual performance.

6.2.4. Riparian Vegetation Reduction

As described above, the proposed action will not remove enough streamside shade to cause a measurable increase in stream temperature. Therefore, no measurable effect on listed species is likely as a result of the minimal amount of stream shade reduction.

Timber harvesting has the potential to displace some wolves during harvesting activities. However, as the reservoir area is used for recreation on a regular basis, and lands adjacent to Corps managed lands are regularly used for harvesting, the wolves in the area should be accustomed to such activities, and the displacement should be minimal.

Overall, harvesting activities should help promote forest health, and promote better health within the local elk populations, which should, in turn, promote better health of the local wolf populations. The benefit may take time to be realized, and may not be easily quantified in the short-term.

6.3. Effects on Critical Habitat

Effects on designated critical habitat and associated PCEs will be similar for most of the management activity elements, and are therefore, for the sake of simplicity, analyzed collectively.

Since there is no designated critical habitat for SR fall Chinook salmon or SRB steelhead upstream of Dworshak Dam, the proposed action will have no effect on any SR fall Chinook salmon or SRB steelhead designated critical habitat.

6.3.1. Bull Trout

Water quality: The proposed action will have no significant effect on short-term and long-term water quantity. Timber harvest may slightly reduce water loss to evapotranspiration, resulting in increased water yield from the watershed. Any increase in water yield should be so small that it could not be detected or measured. The effect on this PCE is expected to be insignificant.

Migration corridors: Migration is not likely to be significantly altered because of the lack of migration occurring in the work in the area, the intermittent nature of the affected streams affected, the fact that the affected streams are non fish bearing, the fact that the culvert sites are

located well above the OHWM of the reservoir, and the short duration of the instream work during culvert placement. The effect on this PCE is expected to be insignificant.

Food availability: A minor decrease in the abundance of macroinvertebrates may occur up to 600 feet downstream of instream work sites for a period of a few weeks as a result of increased fine sediment in stream substrates. However, these streams are intermittent and non ESA-listed fish bearing. It is likely that any decrease in the abundance of macroinvertebrates will occur only at culvert installation sites. Because of the conditions on-site (as seen in Figures 12 and 13) and the fluctuation in reservoir levels, it is likely that the reduction in abundance of macroinvertebrates will be immeasurable, and any potential adverse effects are expected to be insignificant.

Instream habitat: The proposed project will have no effect.

Water temperature: The proposed project will have no effect.

Substrate characteristics: The turbidity generated by instream work may eventually be deposited as fine sediment in downstream substrates of the reservoir. Substrates in the reservoir portion of the action area are not suitable for bull trout spawning. Substrate fine sediment and embeddedness may temporarily increase as a result of the proposed action in the reservoir, with little to no effect on suitability for bull trout spawning. Most of the fine sediment will be remobilized downstream from culvert installation sites during the next high flow event. IMMs limiting exposed soils and suspended sediment will limit any increases in substrate embeddedness. The effect on this PCE is expected to be insignificant.

Stream flow: The proposed project will have no effect.

Water quantity: The proposed project will have no effect.

Nonnative species: The proposed project will have no effect.

6.3.2. Canada Lynx

No critical habitat for Canada lynx has been designated within the proposed action area.

6.3.3. Gray Wolf

No critical habitat rules have been published for the gray wolf.

6.4. Cumulative Effects

The action area is used heavily for year-round recreation activities. These activities are reasonably certain to continue, and will not result in any increased measurable cumulative effects on ESA-listed species when analyzed with the proposed action. Seasonal drawdowns of the reservoir will continue for the foreseeable future, continuing the annual fluctuation of the reservoir, and perpetuating the current conditions within the reservoir.

6.5. Effects Determination

Tables 8 and 9 contain a summary of the effects determination and determination rationale for bull trout and bull trout critical habitat. The term "action component" describes the potential effect or pathway for potential effect for a given activity or element.

Table 9 Tracking table for species effects.

Effects Tracking Table for Corps Projects Dworshak Recreation and Forest Health Timber Sales									
Species	**Action Component 1**	**Action Component 2**	**Action Component 3**	**Action Component 4**	**Action Component 5**	**Action Component 6**	**Action Component 7**	**Action Component 8**	**Action Component 9**
Bull Trout	**Access, Boundary Management**	**Access, Boundary Management**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Wildlife Habitat Management**	**Road, Wildlife Habitat Management**	**Wildlife Habitat Management**
Effects of the Action (Predicted Stressor)	Sediment and Turbidity	Toxins	Sediment and Turbidity	Toxins	Felling of Trees in Streams	Riparian Vegetation Reduction	Sediment and Turbidity	Blasting	Toxins
Impact Minimization Measure(s)	Hand Tools for all but gate installation	Hand Tools for all but gate installation	Erosion control, reseeding, selective harvest, RHCA buffers	Spill Prevention Plan, spill kit	RHCA buffers	RHCA buffers	Hand Tools for planting, RHCA buffers,	ADFG 1991	Spill Prevention Plan, spill kit
Stressor Likely to be Produced?	yes	no (insignificant)	yes	yes	no	no	yes	yes	yes (insignificant)
Species Likely to be Exposed to Stressor?	no	no	yes	yes (insignificant)			no	yes	no
Species Likely to Respond to Stressor?			yes (insignificant)	no				yes (insignificant)	
Response Likely to be Sufficient to Reduce Individual Performance?			no					no	
Effects Determination	no effect	no effect	NLAA	NLAA	no effect	no effect	no effect	NLAA	no effect

Table 10 Tracking table for critical habitat.

Effects Tracking Table for Corps Projects Dworshak Recreation and Forest Health Timber Sales									
Critical Habitat	**Action Component 1**	**Action Component 2**	**Action Component 3**	**Action Component 4**	**Action Component 5**	**Action Component 6**	**Action Component 7**	**Action Component 8**	**Action Component 9**
Bull Trout	**Access, Boundary Management**	**Access, Boundary Management**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Fire, Forest, Road Management, Recreation**	**Wildlife Habitat Management**	**Road, Wildlife Habitat Management**	**Wildlife Habitat Management**
Effects of the Action (Predicted Stressor) (should not introduce effects not listed for species)	Sediment and Turbidity	Toxins	Sediment and Turbidity	Toxins	Felling of Trees in Streams	Riparian Vegetation Reduction	Sediment and Turbidity	Blasting	Toxins
Impact Minimization Measure(s)	Hand Tools for all but gate installation	Hand Tools for all but gate installation	Erosion control, reseeding, selective harvest	Spill Prevention Plan, spill kit	RHCA buffers	RHCA buffers	Hand Tools for planting, RHCA buffers,	ADFG 1991	Spill Prevention Plan, spill kit
Stressor Likely to be Produced?	yes	no (insignificant)	yes	yes	no	no	yes	yes	yes
Effects on PCEs									
Water Quality	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant
Migration Habitat	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant
Food Availability	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant
Instream Habitat	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Water Temperature	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Substrate Characteristics	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant
Stream Flow	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Water Quantity	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Nonnative Species	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Effects(s) on Conservation Value of PCEs-5th Field HUC	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant
Effects Determination	insignificant	insignificant	insignificant	insignificant	no effect	no effect	insignificant	insignificant	insignificant

6.5.1. Listed Species

The Corps determined that the proposed action will have **no effect** on SR fall Chinook salmon SRB steelhead, wolverine and **may affect, but is not likely to adversely affect** bull trout.

The effects of the action will include minor and temporary increases in turbidity and fine sediment in the substrate, and a slight, temporary reduction in natural cover in the reservoir and would be insignificant (Table 9). Although sediment effects are harmful to ESA-listed fish species, they will be limited in intensity, extent, and duration.

Any potential sediment effects on bull trout that may be present in the reservoir during activities associated with the proposed action would be **insignificant** when compared to the levels of suspended sediment within the reservoir that are part of the baseline condition, and the distribution of bull trout in the reservoir.

Because of the implementation of IMMs, effects from riparian vegetation reduction on ESA-listed species are not reasonably certain to occur.

The proposed action will have **no effect** on Canada lynx (Table 10).

6.5.2. Critical Habitat

Because of the limits on the intensity, extent and duration of the adverse effects on the environment, the PCEs of the bull trout designated critical habitat in the action area are likely remain functional, or retain their current ability to become functionally established, to serve the intended conservation role for the species. Therefore, the Corps has determined that the proposed action **may affect, but is not likely to adversely affect** bull trout designated critical habitat.

There is no designated or proposed Canada lynx critical habitat in the area.

6.5.3. Summary.

Table 11 Effects determination summary.

Species	Species Determination	Critical Habitat Determination
NMFS		
SR Fall Chinook	No Effect	No Effect
SRB Steelhead	No Effect	No Effect
USFWS		
Bull trout	May Affect, Not Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
Canada lynx	No Effect	No Effect
North American Wolverine	No Effect	None Designated

7. Conclusions

The proposed project is designed to programmatically manage forest and wildlife resources within Corps-managed lands at Dworshak Dam and Reservoir. The primary purposes for this action are to enhance ecosystem integrity, forest health, wildlife habitat, and recreational opportunities. This will be accomplished through a series of activities, along with their associated elements, as outlined in this document.

The Corps has proposed a number of IMMs as part of the proposed action that will alleviate the certainty for any potential adverse effects to likely adversely affect ESA-listed species or their designated and proposed critical habitats. The analysis of others in relation to baseline conditions also leads to the conclusion that other potential adverse effects that may result from the proposed action would be insignificant.

8. Essential Fish Habitat

The action area (as discussed in the Action Area section of the ESA portion of this document) includes areas designated as EFH under the MSA for various life-history stages of Chinook and Coho salmon. The Lower North Fork Clearwater sub-basin (HUC 17060308) has been identified as inaccessible historic EFH for Chinook salmon (PFMC 1999).

8.1. Description of the Proposed Action

The Pacific Fishery Management Council (PFMC) designated EFH for groundfish, coastal pelagic species, and Chinook salmon, Coho salmon, and Puget Sound pink salmon (PFMC 1999). The proposed action and action area for this assessment are described in the ESA portion of this document.

8.2. Effects of the Proposed Action

Based on information provided above, and the analysis of effects presented in the ESA portion of this document, the Corps concludes that the effects on Chinook salmon EFH are the same as those for designated and proposed critical habitat for the fish species listed in this document designated critical habitat and are described in detail in *Effects on Critical Habitat* section of the ESA portion of this document. The proposed action may result in short-term adverse effects on a variety of habitat parameters, but will be minimal. These adverse effects are:

- Increased turbidity and sedimentation will occur from construction activities. A turbidity plume is likely to extend up to 600 feet downstream of culvert installation sites or roads.
- A short-term minor decrease in macroinvertebrates may occur as a result of increased fine sediment in stream substrates due to work associated with these activities. However, there is no proposed work in fish-bearing streams, and the streams in which work will be performed are intermittent. Therefore, the effect on EFH is de minimis.

- Removal of a few hazard trees currently providing stream shade will reduce natural cover. However, adherence to RHCA buffers will reduce the effect to a level that is insignificant or discountable.
- Due to the use of heavy equipment, there is an increased risk of chemical contaminant release. However, proposed IMMs and BMPs reduce the risk to a level that is insignificant or discountable.

8.3. Proposed Conservation Measures

Proposed conservation measures include:

- IMMs and BMPs listed in the ESA portion of this document.
- Environmentally critical habitats such as spawning gravels that may be encountered, and endangered species habitats should be avoided.

8.4. Conclusions by EFH

Based upon the project description, the project design, the minimal short-term potential impacts associated with the project above the dam, the unlikelihood of impacts below the dam, and the proposed conservation measures (BMPs and IMMs), the Corps believes there will **be no adverse effects to EFH**.

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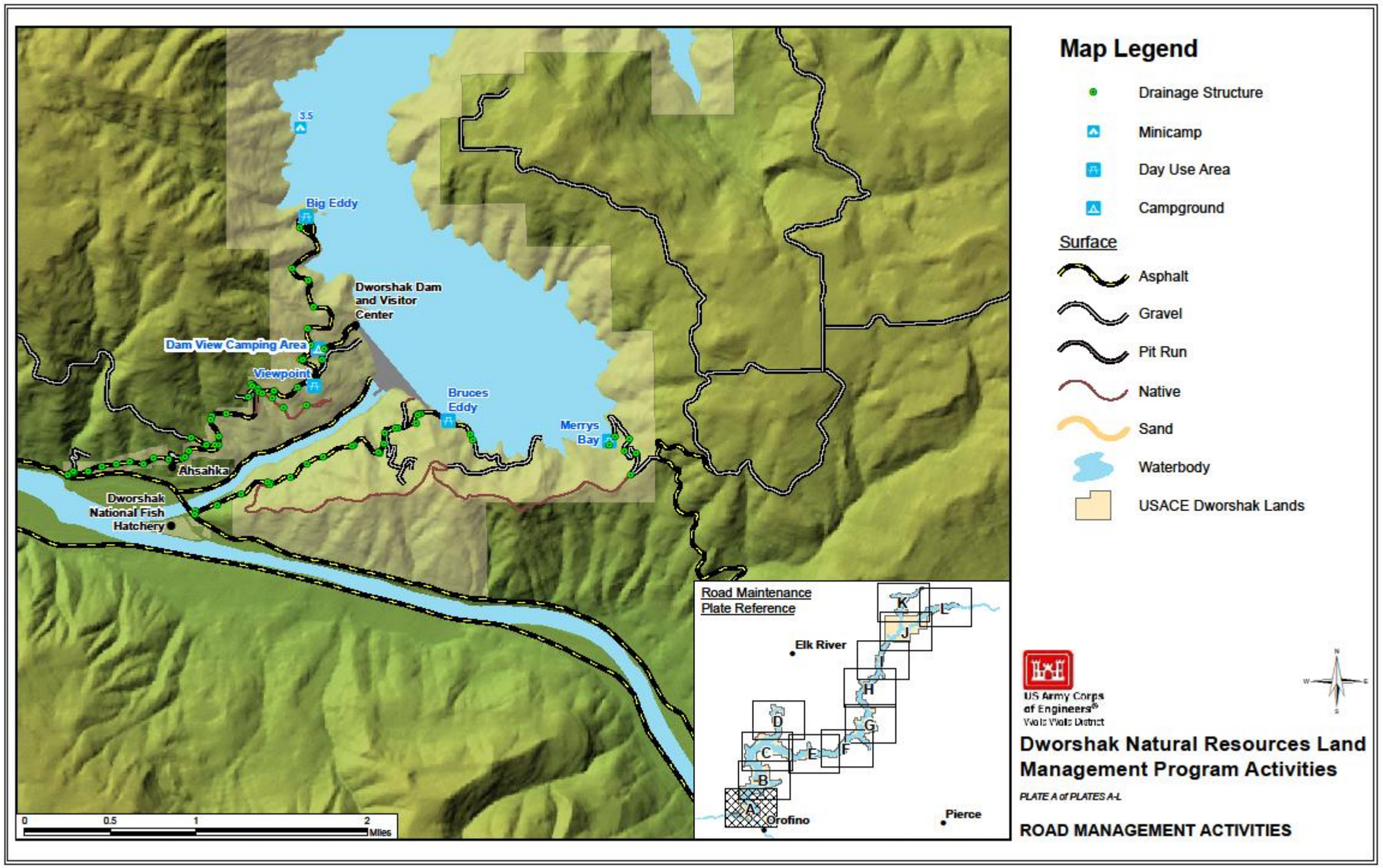
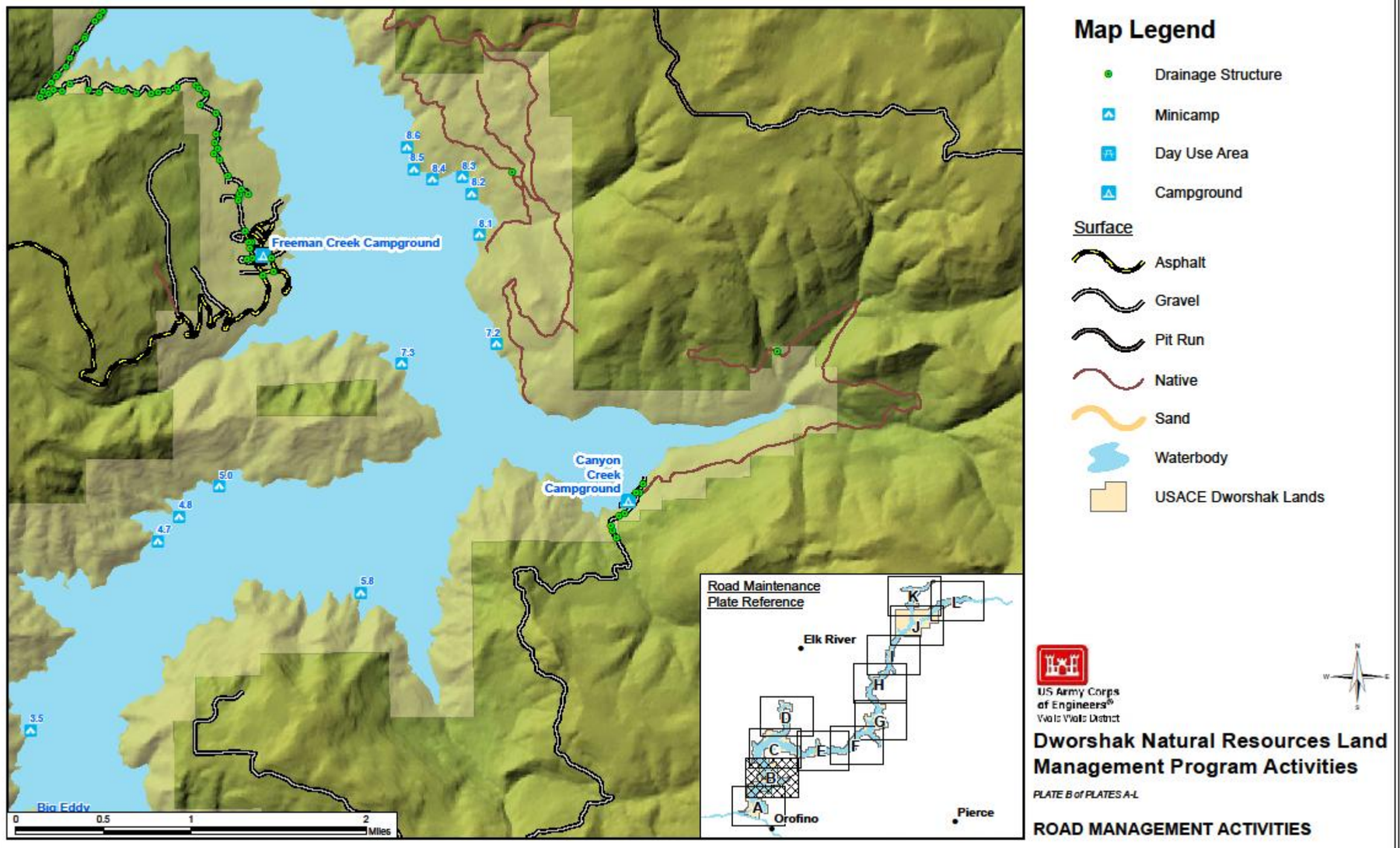
10. APPENDIX A: ROAD MANAGEMENT MAPS




Freeman Creek Campground
Canyon Creek Campground
Big Eddy
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Road Maintenance Plate Reference
Elk River
Orofino
Pierce
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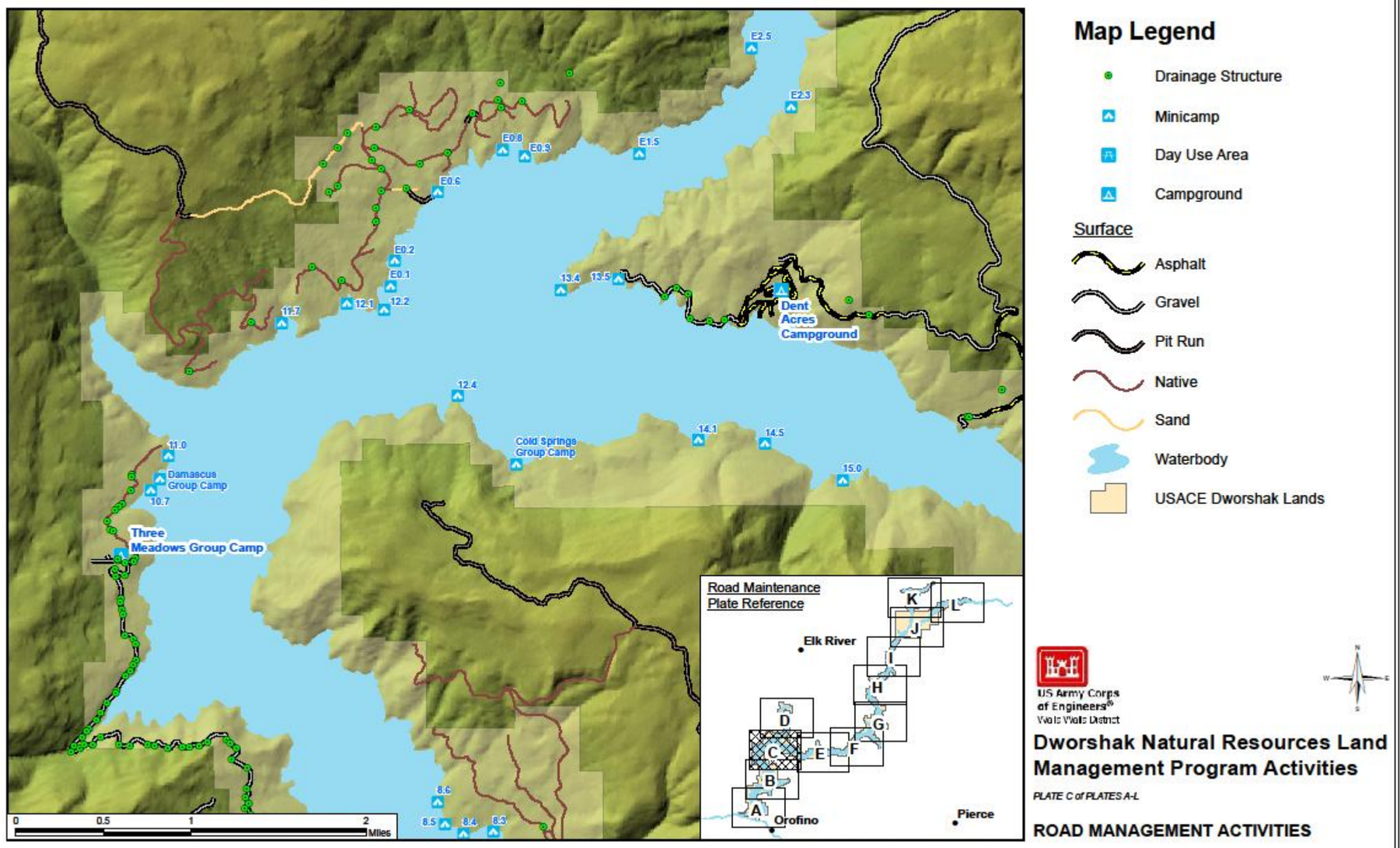
L
Map Legend
Drainage Structure
Minicamp
Day Use Area
Campground
Surface
Asphalt
Gravel
Pit Run
Native
Sand
Waterbody
USACE Dworshak Lands
US Army Corps of Engineers®
Walla Walla District
Dworshak Natural Resources Land Management Program Activities
PLATE B of PLATES A-L
ROAD MANAGEMENT ACTIVITIES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11.7
Dent Acres Campground
12.4
14.1
14.5
15.0
Cold Springs Group Camp
11.0
Damascus Group Camp
10.7
Three Meadows Group Camp
8.6
8.5
8.4
8.3
0
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1
2
Miles
Road Maintenance Plate Reference
Elk River
Orofino
Pierce
A
B
C
D
E
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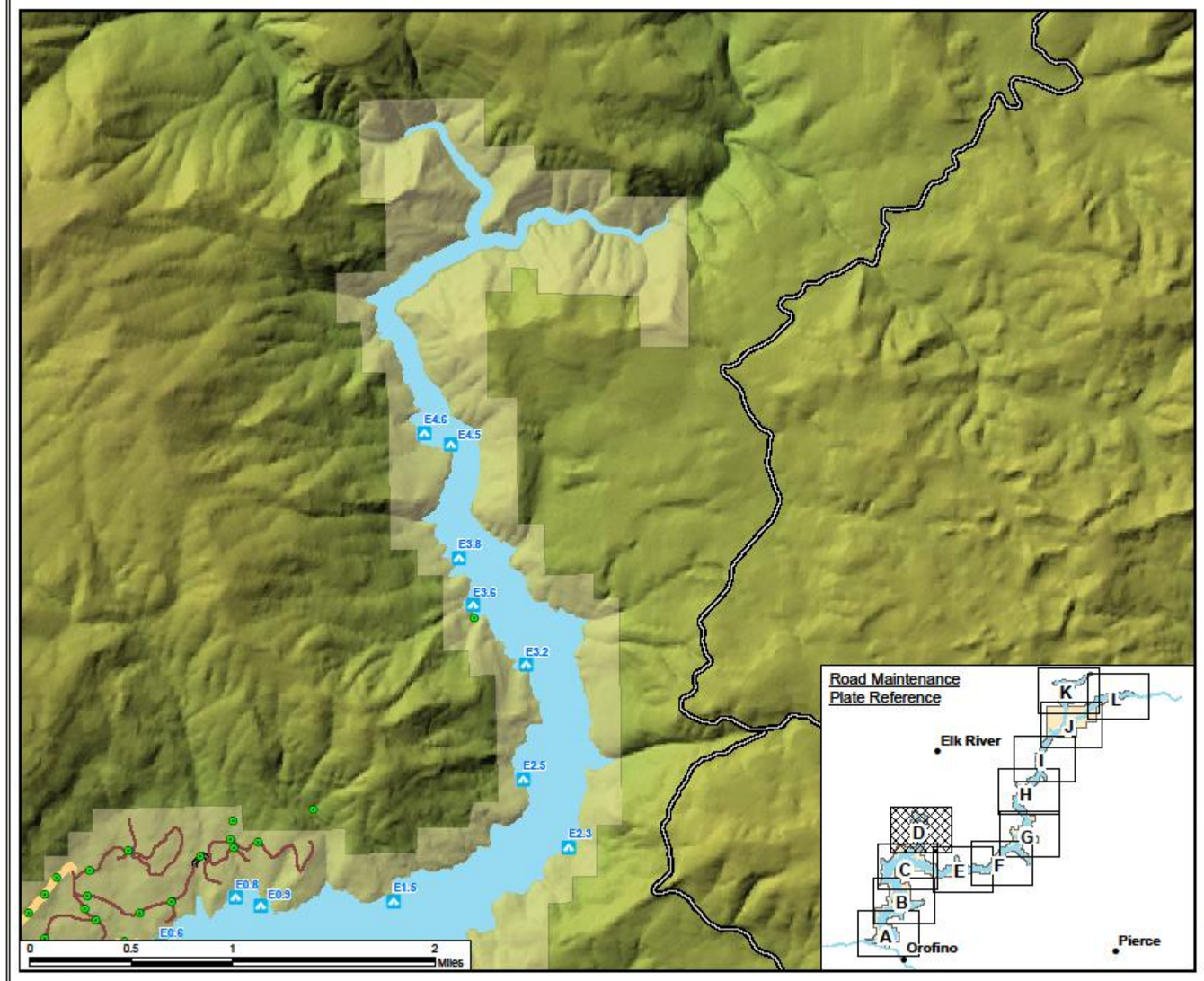
J
K
L
Map Legend
Drainage Structure
Minicamp
Day Use Area
Campground
Surface
Asphalt
Gravel
Pit Run
Native
Sand
Waterbody
USACE Dworshak Lands
US Army Corps of Engineers®
Walla Walla District
Dworshak Natural Resources Land Management Program Activities
PLATE C of PLATES A-L
ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

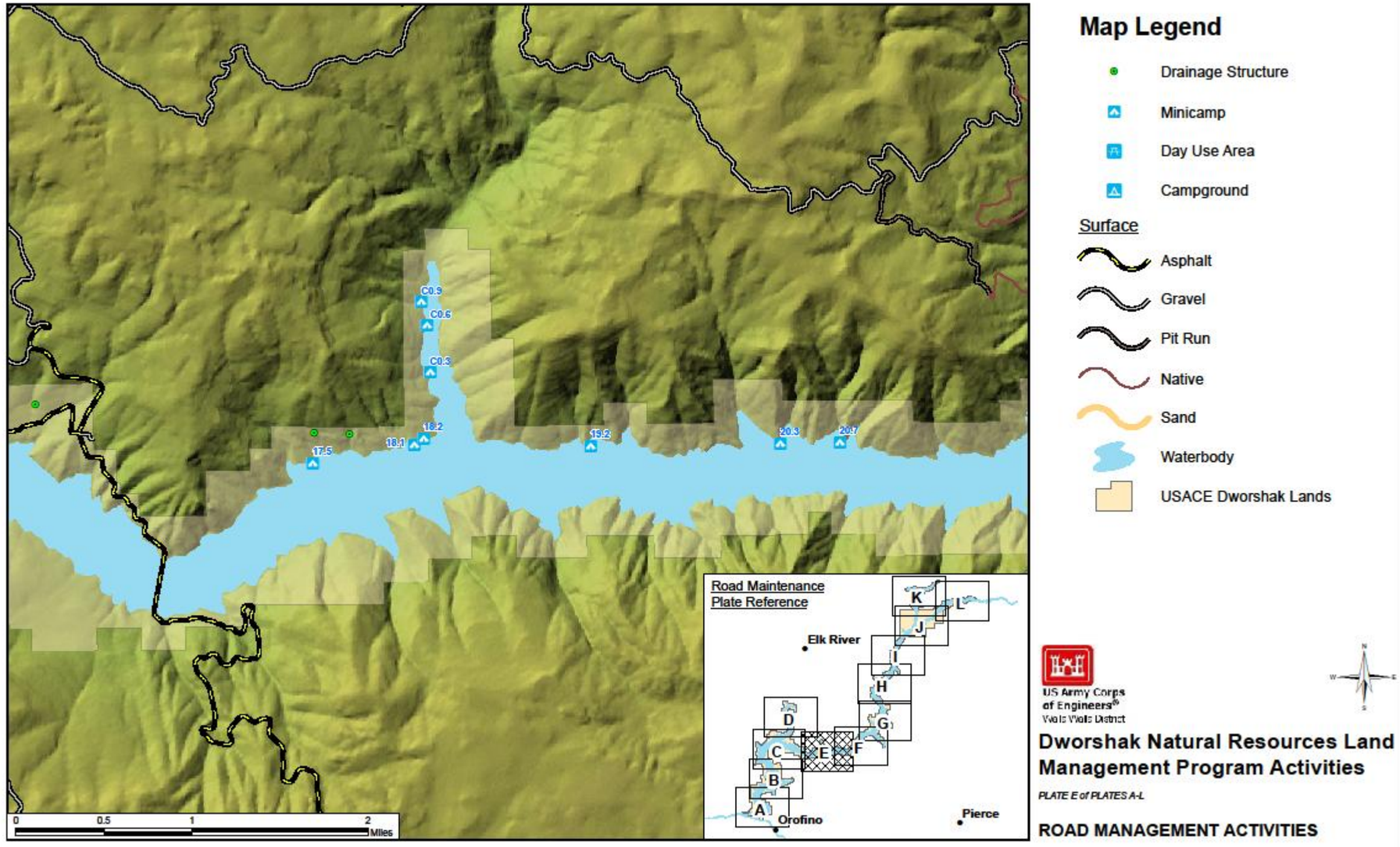
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE D of PLATES A-L

ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

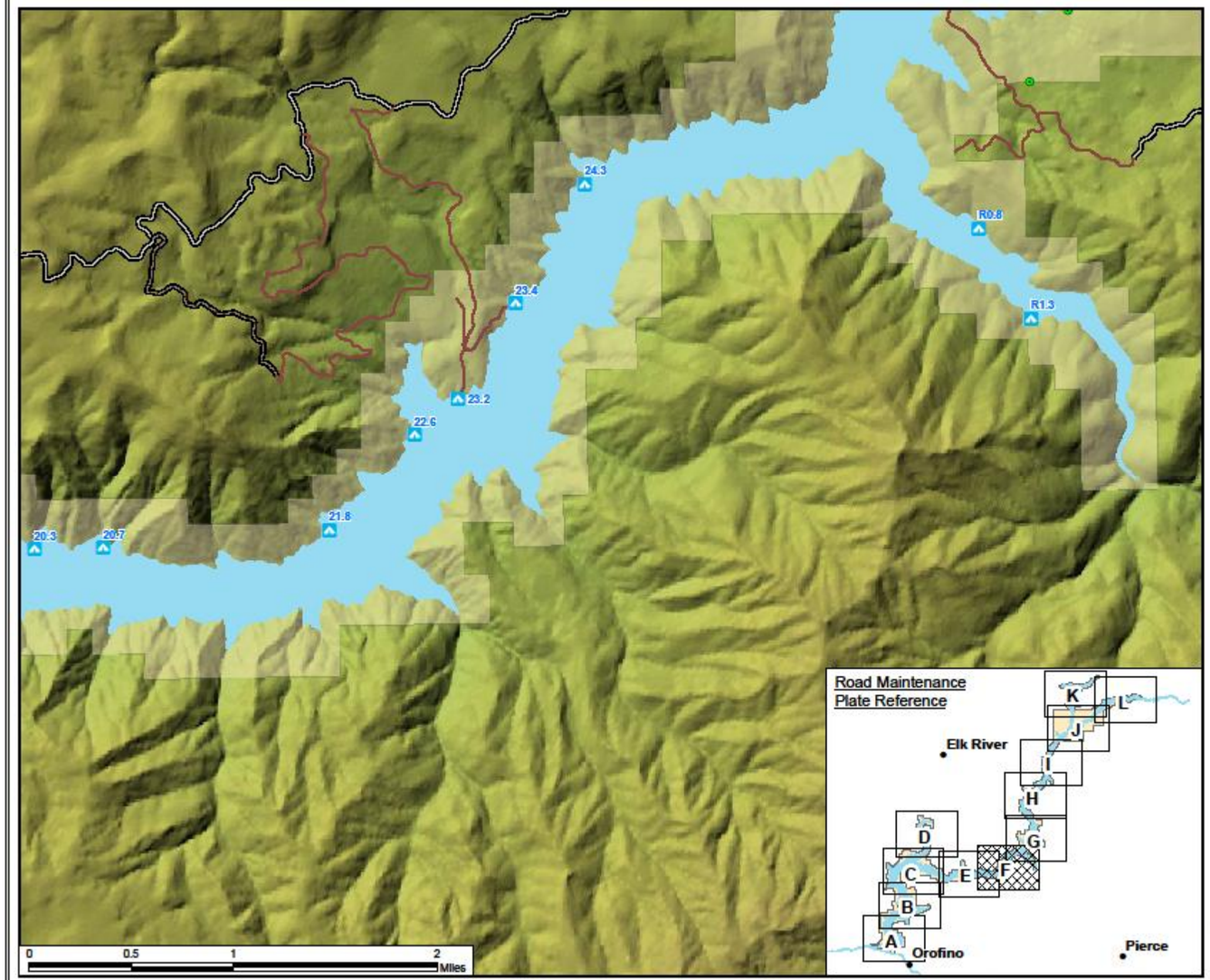
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE E of PLATES A-L

ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

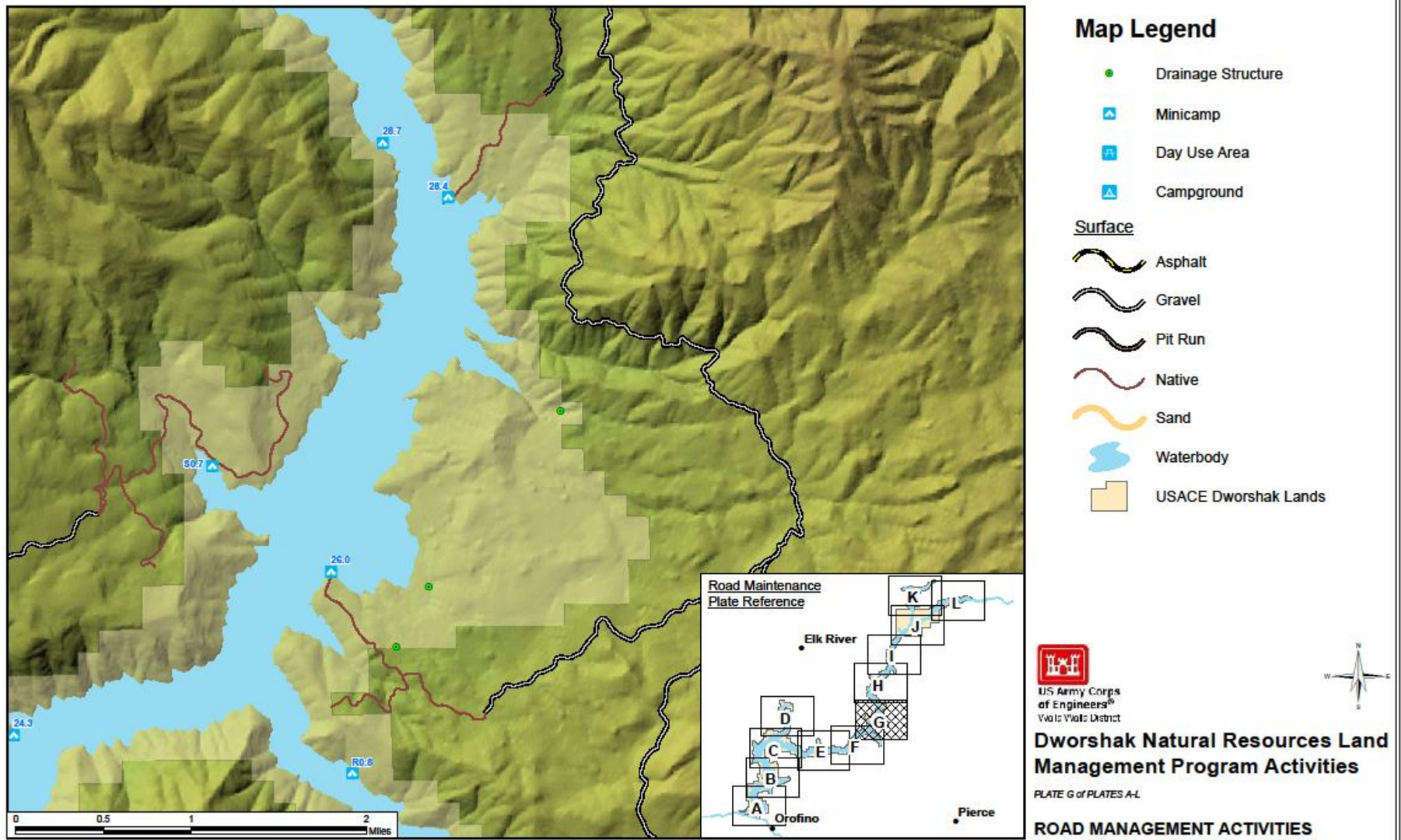
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE F of PLATES A-L

ROAD MANAGEMENT ACTIVITIES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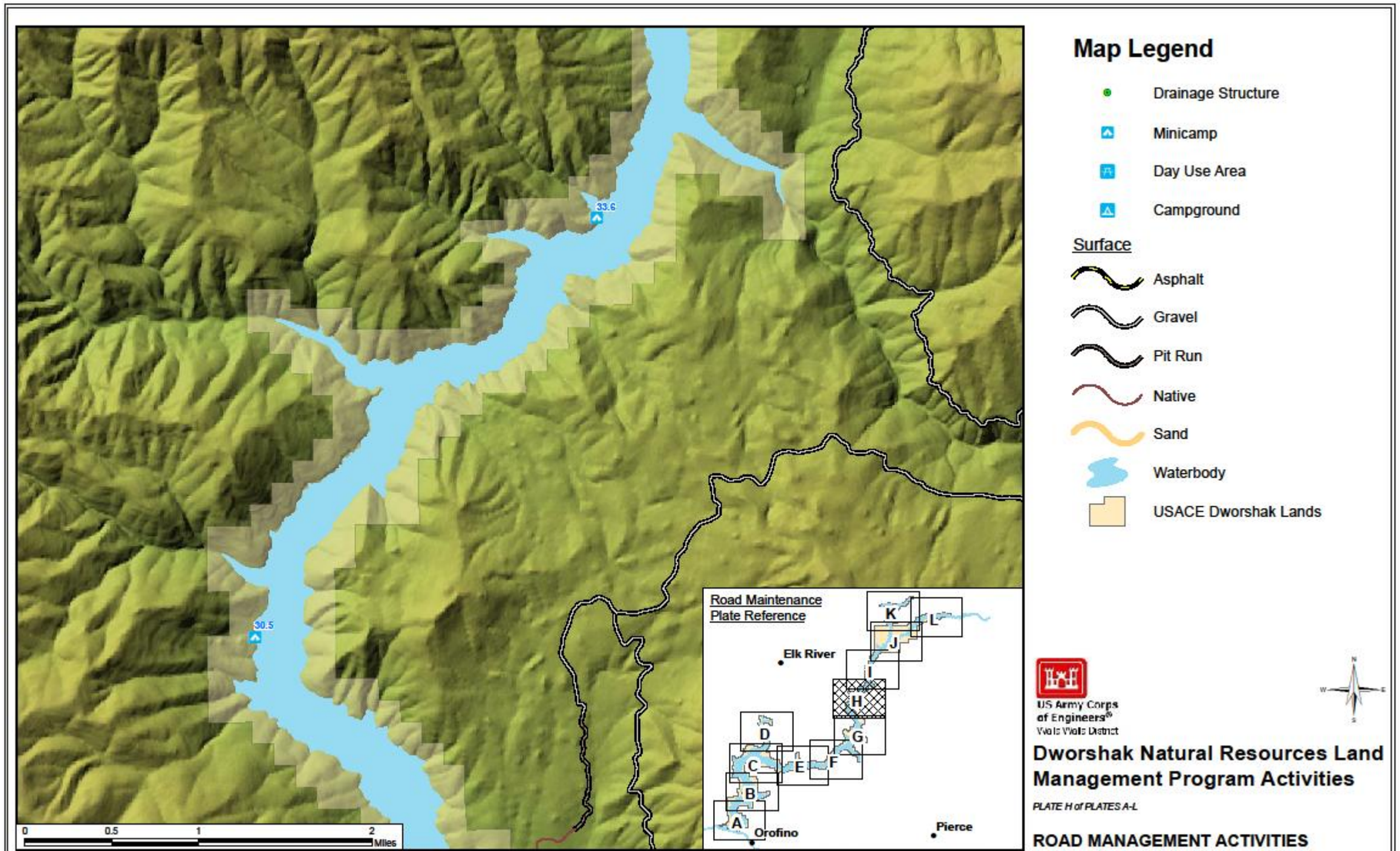
28.4
S0.7
26.0
24.3
R0.8
0
0.5
1
2
Miles
Road Maintenance
Plate Reference
K
L
J
I
H
G
D
C
E
F
B
A
Elk River
Orofino
Pierce
Map Legend
Drainage Structure
Minicamp
Day Use Area
Campground
Surface
Asphalt
Gravel
Pit Run
Native
Sand
Waterbody
USACE Dworshak Lands
US Army Corps
of Engineers
Walla Walla District
Dworshak Natural Resources Land
Management Program Activities
PLATE G of PLATES A-L
ROAD MANAGEMENT ACTIVITIES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0
0.5
1
2
Miles
Road Maintenance
Plate Reference
A
B
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D
E
F
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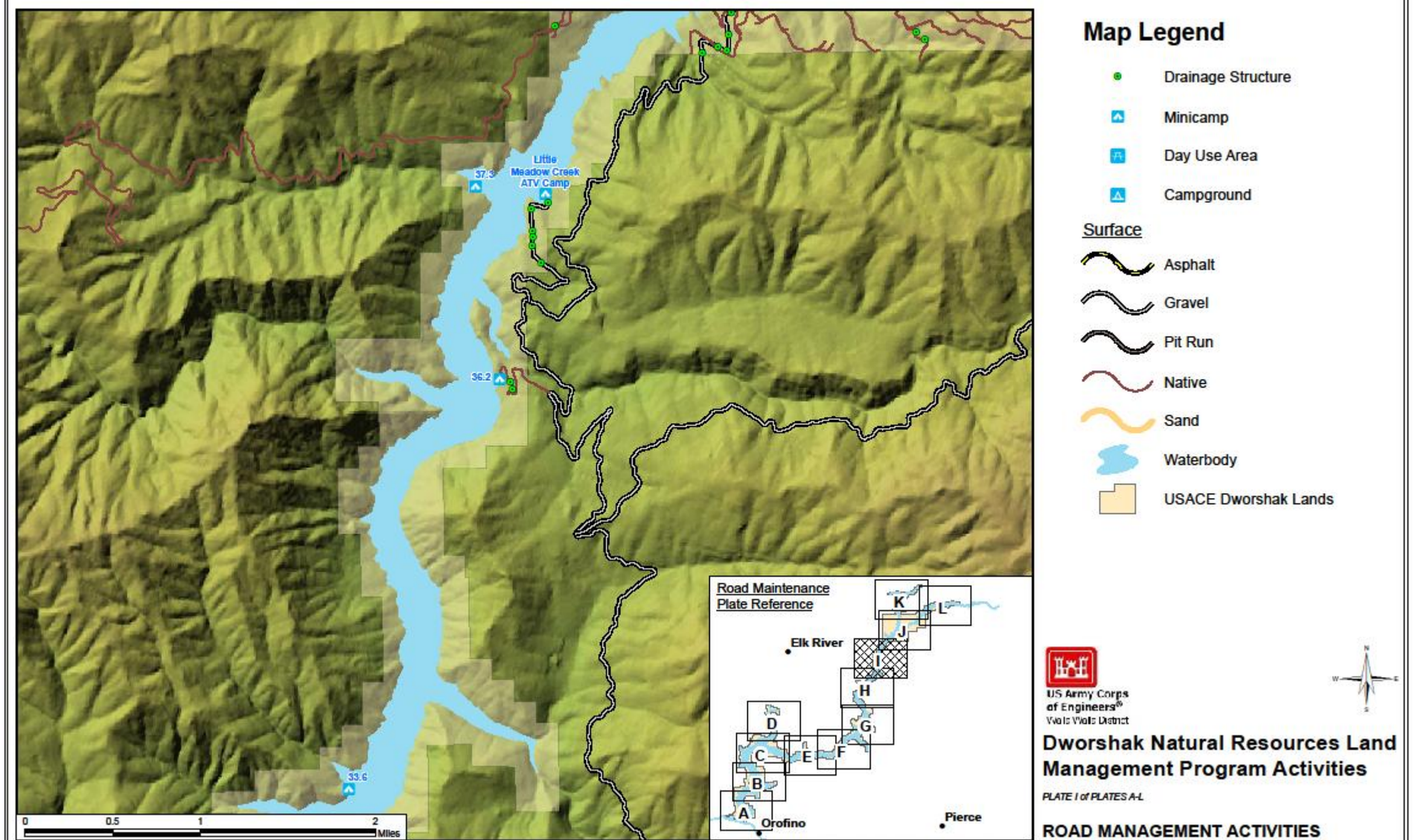
J
K
L
Elk River
Orofino
Pierce
Map Legend
Drainage Structure
Minicamp
Day Use Area
Campground
Surface
Asphalt
Gravel
Pit Run
Native
Sand
Waterbody
USACE Dworshak Lands
US Army Corps
of Engineers
Walla Walla District
Dworshak Natural Resources Land
Management Program Activities
PLATE H of PLATES A-L
ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

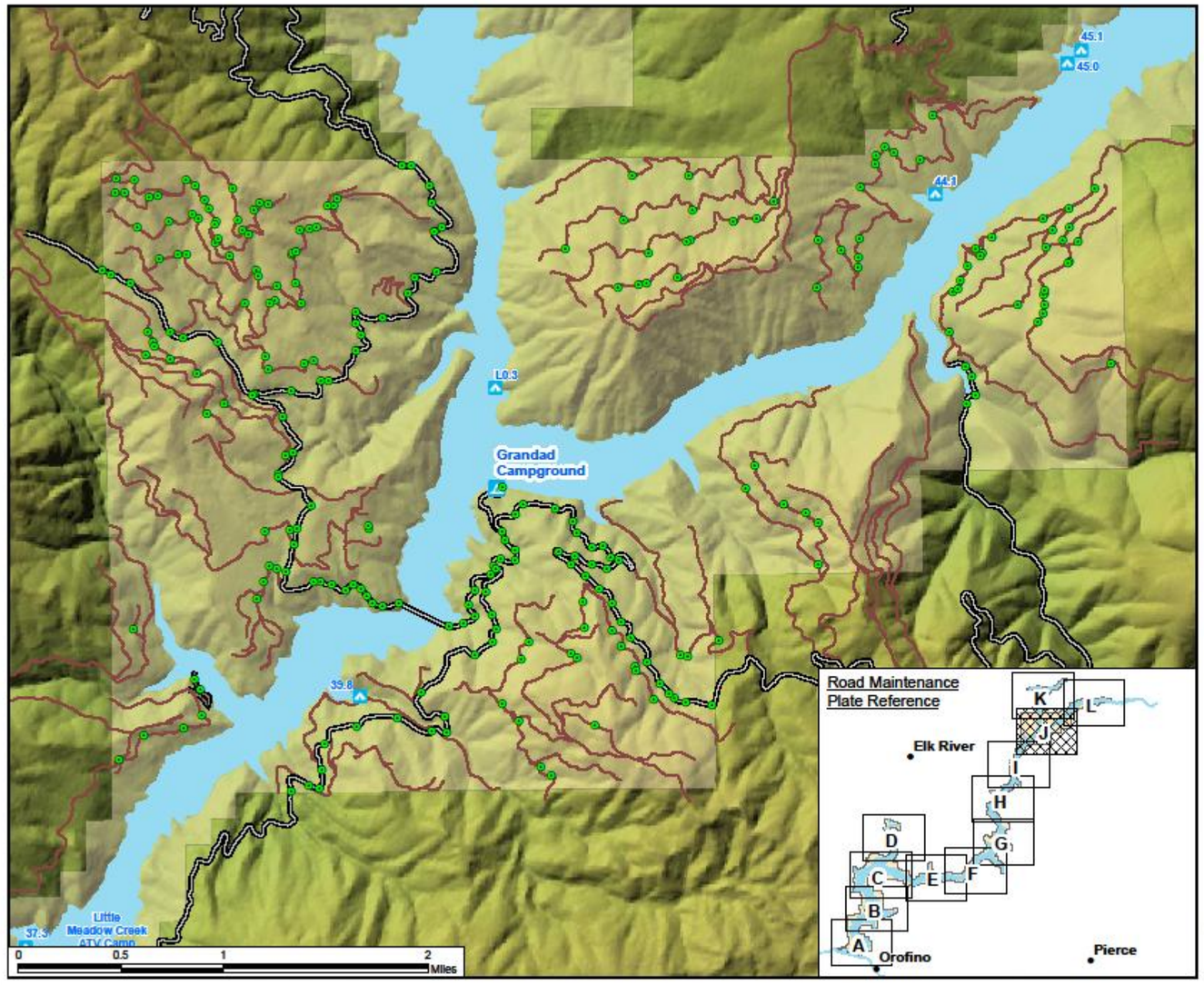
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE I of PLATES A-L

ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

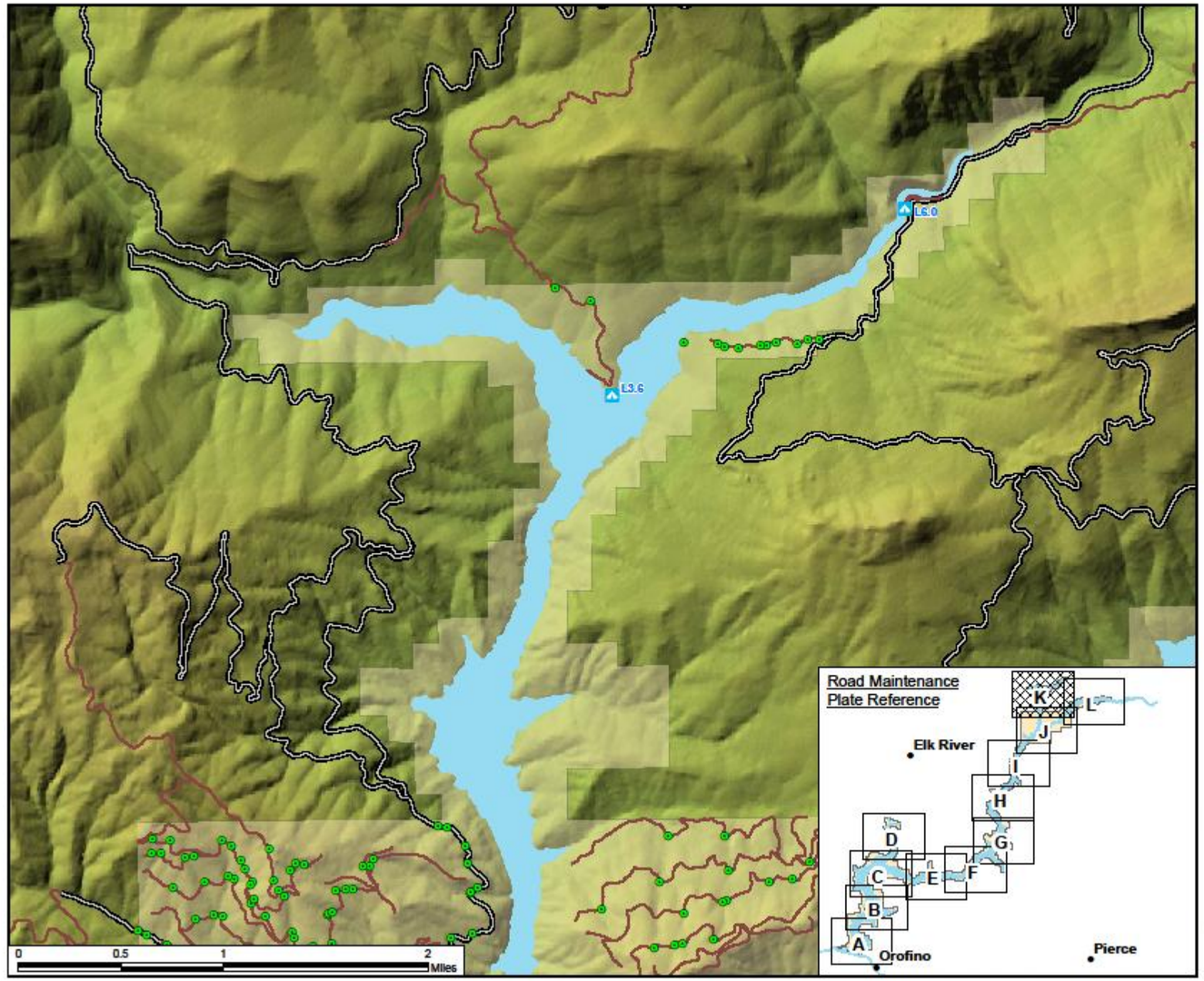
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE J of PLATES A-L

ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

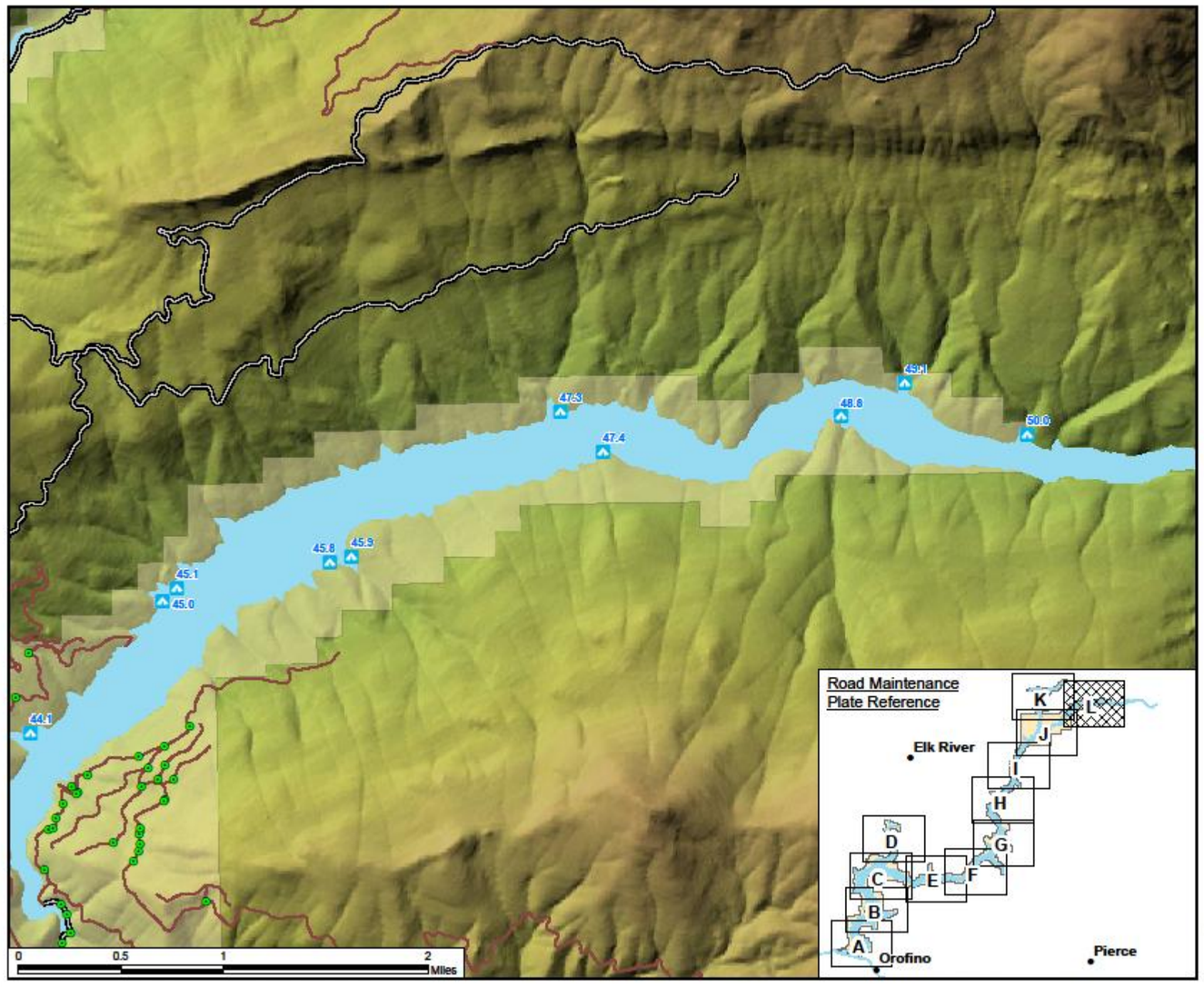
- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE K of PLATES A-L

ROAD MANAGEMENT ACTIVITIES



Map Legend

- Drainage Structure
- Minicamp
- Day Use Area
- Campground

Surface

- Asphalt
- Gravel
- Pit Run
- Native
- Sand
- Waterbody
- USACE Dworshak Lands

US Army Corps of Engineers®
Walla Walla District

Dworshak Natural Resources Land Management Program Activities

PLATE L of PLATES A-L

ROAD MANAGEMENT ACTIVITIES

11. Appendix B: Dworshak Blasting Activities

Dworshak Blasting

11.1. Purpose and Need

The Walla Walla District of the US Army Corps of Engineers proposes to use explosives to enhance the habitat suitability for amphibian reproduction at small isolated wetlands and to reduce unauthorized vehicle use.

11.1.1. Wetland Enhancement

Dworshak has a number of small isolated wetlands that warrant protection and/or enhancement.

11.1.2. Road Obliteration

There is a large volume of unauthorized motor vehicle use on Corps land surrounding Dworshak Reservoir resulting in negative impacts to soils, vegetation, wildlife, water quality and aesthetics as well as having the potential to affect resident fish and aquatic ecology, recreation, cultural resources and T&E species. The Dworshak access management program utilizes one or a combination of education, signage, and physical barriers (when necessary) to prevent unauthorized access. Many of these are gates and barricades, which require annual inspection and maintenance. Obliterating all or portions of roads and trails could be used to prevent unauthorized access at a lower maintenance cost. Road obliteration may be the only physical barrier option in areas where access is limited. In these cases explosives will be used to obliterate a portion of these roads.

11.1.3. Trail Construction / Maintenance

Hiking, horseback riding, and mountain biking are increasingly popular authorized activities on reservoir lands. Currently, there are no motorized trails on Dworshak lands with the exception of one pilot project for an ATV trail at Little Meadow Creek to analyze potential impacts to

Dworshak lands. Significant demand by area OHV users, coupled with the need to update DM-10, culminated in the creation of the Dworshak Public Use Plan authorizing motorized recreation. Given the nature of the terrain around Dworshak, and the myriad of trail types on Dworshak, the necessity may arise to use explosives to remove rocks and other hard surfaces that cannot be altered by conventional methods.

11.1.4. Road Construction/Maintenance

Roads to be constructed or maintained for natural resource management activities, such as harvest operations, may require blasting of rocks and other hard surfaces that cannot be altered by conventional methods. The potential for this work is extremely low as generally rocky outcroppings and the like are nearly always avoided during road layout. However, the possibility that a particular rocky outcropping cannot be avoided and must be blasted exists, but is remote.

11.2. Proposed Action

Once a wetland, trail or a road is identified for blasting the work would include the following:

Exact locations of each hole will be marked on the ground based on potential to improve the wetland habitat or obliterate the road surface.

- Holes will be dug into the soil using either a rock bar or a post-hole digger.
- Explosives will be placed in the holes; charges may be tied together, and set off.
- Explosives will be discharged in such a manner as to adhere to the best management practices mentioned below for fish protection.
- Guards and warning signs will be posted during the entire blasting procedure.

11.3. Best Management Practices

11.3.1. Protection of Fish

The Alaska Department of Fish and Game (ADFG) developed blasting standards for the protection of fish. These guidelines were established to prevent adverse impacts to adults, larvae and eggs. The Corps proposes to use those guidelines as a practice to avoid impacts to fish. The standards are summarized as follows;

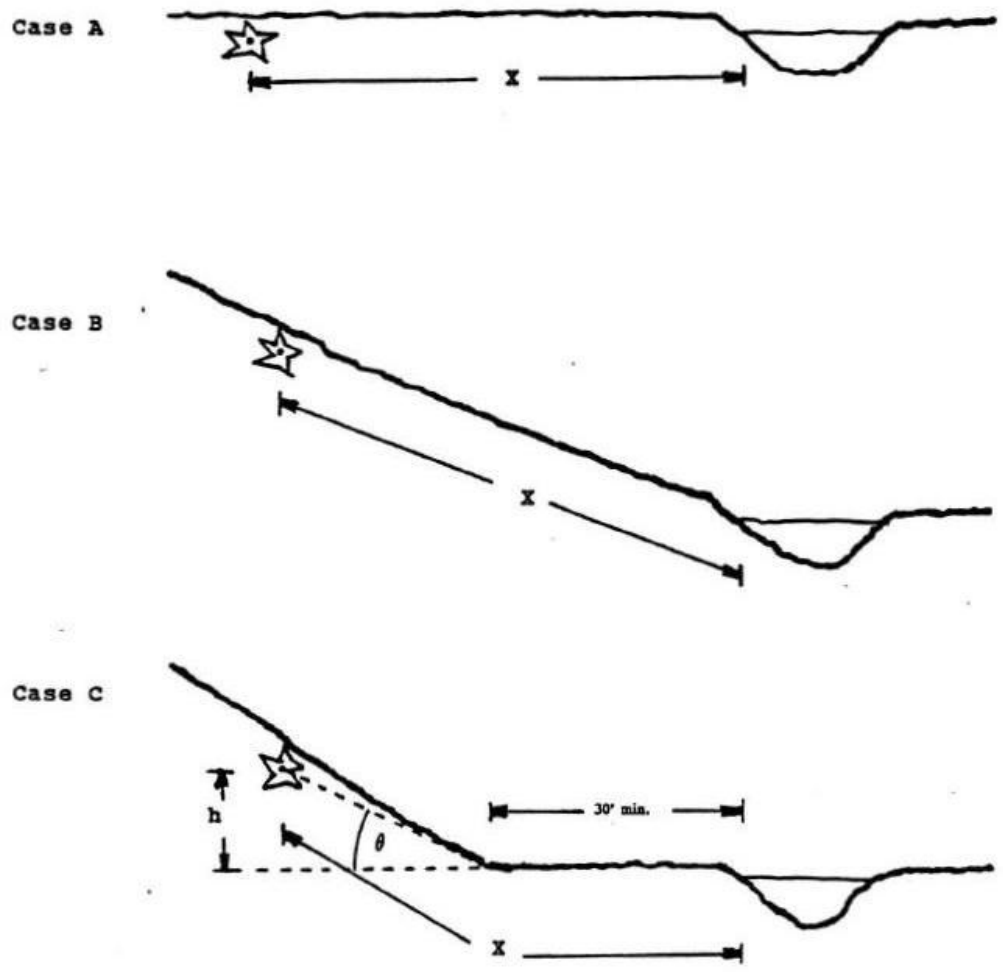
> "no person may discharge an explosive that produces or is likely to produce an instantaneous pressure change greater than 2.7 pounds per square inch (psi) in the swim bladder of a fish or produces or is likely to produce a peak particle velocity greater than 0.5 inches per second (ips) in a spawning bed during the early stage of egg incubation."

The report, "Blasting Standards for the Protection of Fish" put out by the ADFG states that these standards are the result of a thorough review of the available literature.

The guidelines present several figures and tables that guide personnel to calculate the size of charge allowable given a variety of environmental conditions (distance, angle and height from water, substrate material). Three of the most pertinent figures and tables are presented below.

Figure 14 Topographic cases considered in ADFG's proposed blasting standards.

FIGURE 4. THREE TOPOGRAPHIC CASES CONSIDERED IN ADF&G'S PROPOSED BLASTING STANDARDS



X = Total setback in feet from blast point to high value fish habitat. X is less than 30 feet only when reviewed on a case by case basis.

θ = Angle in degrees between valley floor and blast point.

h = Height in feet of center of charge above valley floor.

Figure 15 Table 3 from ADFG's proposed blasting standards.

DRAFT

TABLE 3: CASE A AND B SETBACKS FROM ANADROMOUS FISH WATERS (2.7 psi Standard) (in feet)[1/]

	Explosive Charge Weight (in pounds)[2/]							
Material	1	2	5	10	25	100	500	1000
Rock	34	49	77	109	172	344	769	1088
Frozen Soil	32	45	72	102	161	322	719	1017
Ice	30	41	64	91	144	288	644	910
Saturated Soil	30	41	65	91	145	289	647	915
Unsaturated Soil	30	30	45	63	100	200	448	633

-20-

FEBRUARY 15, 1991

1/ The straight line distance through the material from the center of the charge to the waterbody, assuming that the blast energy is confined within the material. Uncontained blasts or explosive charges with a detonation velocity of less than 5,000 feet per second will be reviewed on a case-by-case basis.

2/ The scaled distance relationships apply to single shots of a given weight of explosive or single shots in a multiple charge if each charge is separated by an eight millisecond or longer delay. For example, a 500 pound shot on level ground in rock requires a setback distance from a waterbody of 769 feet; a 500 pound shot in rock in charges of 100 pounds each separated by eight millisecond or longer delays requires a setback distance of 344 feet.

Figure 16 Table 5e from ADFG's proposed blasting standards.

DRAFT

TABLE 5e: CASE C SETBACKS FROM ANADROMOUS FISH WATERS (2.7 psi Standard) (in feet)[1/]

Material: Unsaturated Soil

Explosive Charge Weight (in pounds)[2/]

		1	2	5	10	25	100	500	1000
Slope	10°	30(0)	30(0)	44(0)	62(1)	99(1)	197(2)	441(4)	624(5)
	20°	30(0)	30(0)	42(1)	60(1)	94(2)	188(3)	421(8)	595(11)
	30°	30(0)	31(1)	39(1)	55(2)	87(2)	173(5)	388(11)	548(16)
	40°	31(1)	31(1)	34(1)	49(2)	77(3)	153(6)	343(14)	485(20)
	50°	31(1)	31(1)	32(2)	41(2)	64(4)	129(8)	288(17)	407(24)
	60°	31(1)	31(1)	32(2)	33(3)	50(4)	100(9)	224(19)	317(27)
	70°	31(1)	31(1)	32(2)	33(3)	35(5)	68(9)	153(21)	217(30)
	80°	31(1)	31(1)	32(2)	33(3)	35(5)	40(10)	78(22)	110(31)
	90°	31(1)	31(1)	32(2)	33(3)	35(5)	40(10)	52(22)	62(32)

(N) = Minimum height in feet of center of charge above valley floor (see text and Figure 4).

1/ The straight line distance through the material from the center of the charge to the waterbody, assuming that the blast energy is confined within the material. Uncontained blasts or explosive charges with a detonation velocity of less than 5,000 feet per second will be reviewed on a case-by-case basis.

2/ The scaled distance relationships apply to single shots of a given weight of explosive or single shots in a multiple charge if each charge is separated by an eight millisecond or longer delay. For example, a 500 pound shot on a 10° slope in unsaturated soil requires a setback distance from a waterbody of 441 feet; a 500 pound shot in unsaturated soil in charges of 100 pounds each separated by eight millisecond or longer delays requires a setback distance of 197 feet.

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FEBRUARY 15, 1991

11.3.2. Protection of Migratory Birds

Recommendations established by the United States Fish and Wildlife Service (USFWS) will be used to protect nesting bald eagles. These recommendations state; "To avoid disturbing nesting eagles and their young, we recommend that you avoid blasting and other activities that produce extremely loud noises within 1/2 mile of active nests (or within 1 mile in open areas), unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area."

These will be applied to all breeding migratory birds. In nearly all instances blasting will occur outside of the general avian breeding season (February 1 through August 15th). If blasting will occur within this season the above USFWS recommendations will be followed.

11.4. References

ADFG (Alaska Department of Fish and Game). 1991. Blasting standards for the protection of fish. Available at: http://www.adfg.alaska.gov/static/license/uselicense/pdfs/adfg_blasting_standards.pdf

12. Appendix C: Example Monitoring Plan

Little Bay Stewardship Project
Monitoring Plan
10-7-08

Background

The Interior Columbia Basin Ecosystem Management Project (ICBEMP) determined that the North Fork of the Clearwater River subbasin is below the historical range of variability for the lower montane late seral forest and lower montane early seral forest, as a result of logging practices and fire suppression.
The elimination of the historical pattern of frequent low-intensity fires in both ponderosa pine and pine-mixed conifer forests has resulted in major ecological disruptions (Arno 1996). Without frequent fire, timber stands become overstocked and stressed as individual trees compete for limited moisture and nutrients. As a result, stands are more susceptible to beetle infestation, disease, and stand-replacing wildfires. As a result of the present condition, ICBEMP has also documented a scarcity in associated wildlife

Location

The project area is located along Dworshak Reservoir north of Canyon Creek, between river miles 7 and 11 comprising approximately 1,300 acres with actual effects to approximately 800 acres.

Legal Location: T38N R1E; Sections 25 & 36
T38N R2E Section 31
T37N R2E Sections 6, 7 & 8

Project Objectives

- Restore fire as a process that restores and maintains the ecosystem
- Restore habitats for wildlife and plant species,
- Reduce forest fuels
- Create seedbeds for Ponderosa pine and Western larch

Monitoring Plan Objectives

- **Inventory Plots:** Establish 19 (1/10 acre) pre-treatment inventory plots to assess current conditions.
    - Monitoring shall consist of photos and gathering of the following information:
        - Overstory species & size class
        - Canopy cover
        - Number and percent cover of browse species
        - Percent cover of noxious weed species
        - Fuel loading (photo interpretation) and duff depth
        - Number, size and species of snags

- **Monitoring Plots:** Of the 19 plots, 9 will be selected for post-treatment monitoring to measure change vegetation, fuel loading and big game use. Plot selection will allow for evaluation among varying habitat types, aspects and slopes. Photos will also be taken at each post-treatment plot.
    - Fuel loading and duff/litter depth will be measured within a 100^{th} acre plot centered within the original 1/10 acre plot. The number of 10, 100 and 1000 hour fuels will be recorded and average length will be estimated for each. Duff/litter depth will be measured in 5 locations within the 100^{th} acre plot. Fuel loading and duff/litter depth will be recorded pre-harvest (original survey), post-harvest/pre-burn, and post-burn. Fuel loading and duff/litter depth for plots that fall within the machine/pile and burn unit will be surveyed during first post-treatment vegetation survey.
    - Vegetation information will be collected 2.5-3 years post-treatment and every 5 years following. Prescribed burns within the Little Bay project will be accomplished over a two+ year period. To keep monitoring results consistent and comparable the permanent monitoring points will be sampled in two groups consistent with the year burned SEE TREATMENT SCHEUDLE.

- **Wildlife Monitoring:** Conduct pre-treatment and post-treatment surveys to monitor change in select species use including flammulated owl, goshawks, pigmy nuthatch and white-headed woodpecker. Surveys will include resident owl surveys, landbird surveys, woodpecker surveys, late season owls (flammulated) and raptor nest surveys. Post-treatment surveys are to be accomplished the first, third and fifth years after all treatments are completed and every 5 years after that.

- **Sensitive Plant Monitoring:** Locate and document sensitive plant species use within the project boundary. Once found populations of these species should be monitored following treatment to determine effect from treatment.

Implementation

- **Inventory Plots:** Nineteen (19) Inventory Plots were established in 2003, representing all but one of the planned timber sale units. Pre-harvest vegetation and fuel loading information was collected. From these nine representative sites were selected for post-treatment monitored. These are; 3, 5b, 6a, 6b, 8b, 9a, 11.

- **Monitoring Plots:**
    - FUEL MONITORING: Of the nine established permanent monitoring plots, 5 fell within burn units and fuel loadings will be taken pre-harvest (inventory effort), post-harvest/pre-burn, and post burn.
        - In August 2005, post-harvest/pre-burn fuel loading was measured within plots 3, 5b, 8b and 9a.
        - In November 2005 post-burn fuel loadings were taken at these plots.
        - Unit 12 was prescribed burned in October of 2007. The final burn unit did not include plot 12A. In the spring of 2008 plot 12b was visited. The area surrounding plot 12b did not burn and no data was collected. In general the burn was excellent on the south facing slopes, best burn to date. However, on the north facing slopes it was very spotty.

    - VEGETATION MONITORING:
        - We decided to do some additional slashing and burning in the middle and south units of the Little Bay project. As a result we have chosen to wait on the monitoring. We have not yet (10/7/08) been able to burn those new units. The burn is again planned for fall 2009.
        - No window for burning in 2009 was available. Decided to not burn any more units in Little Bay as the ground fuels are no longer available.
        - NEXT: <u>Conduct monitoring at 3, 5b, 6a, 6b, 8b,9a and 11 in 2011</u>.

Little Bay Vegetation Monitoring Schedule		
Year	Harvest Units 1-11, burn units south and middle (monitoring plots 3, 5b, 6a, 6b, 8b, 9a & 11)	~~Harvest Unit 12, burn unit north (monitoring plots 12a & 12b)~~
2007		~~Burned~~
2008	Additional Slashing and Burning	
2009		
2010		~~Survey~~
2011	Survey	
2012		
2013		
2014		
2015		~~Survey~~
2016	Survey	
2017		
2018		
2019		
2020		~~Survey~~
2021	Survey	
2022		
2023		
2024		
2025		~~Survey~~
2026	Survey	
2027		
2028		
2029		
2030		~~Survey~~

-
- **Wildlife Monitoring:**
  - Resident Owls: An owl survey transect with 7 point locations was established in 2003. Two surveys were conducted in 2004. Two surveys were conducted in 2010. RUN TWICE IN 2012.
  - Woodpeckers: The survey transect previously established by Idaho Fish and Game for landbird monitoring will be used to monitor woodpecker use. One survey was conducted in 2010. RUN TWICE IN 2012.
  - Landbirds: The survey transect previously established by Idaho Fish and Game was used to monitor landbird use. This transect was ran once in 2006. This transect was ran twice in 2010. RUN TWICE IN 2012.
  - Raptors: Surveyed for goshawks in 2006 using playback calls of goshawks within characteristic goshawk habitat. Monitored know osprey nests in 2004, 2005 and 2006. CONTINUE TO LOCATE AND MONITOR RAPTOR NESTS.
  - Late Season Owls: Two surveys were conducted in 2010. RUN TWICE IN 2012.

- **Sensitive Plants:** Monitoring the population of Jessica's aster was conducted by the Idaho CDC in 2003 and 2004.
    - 2008: Hired CDC to monitor Jessica's Aster populations.
    - SUPPORT IDAHO CDC WHEN DESIRING TO MONITOR SENSITIVE PLANT POPULATIONS IN THE AREA.

DWORSHAK NATURAL RESOURCES LAND MANAGEMENT PROGRAM ACTIVITIES

DWORSHAK RESERVOIR

PM-EC-2010-0065

Amendment to the Biological Assessment

for

Threatened and Endangered Species,
Critical Habitat, and Essential Fish Habitat

Under the Jurisdiction of:

National Marine Fisheries Service
and
U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

Date
20 August 2015

If additional information regarding this document is required, please contact Jason Achziger, Fishery Biologist in the Environmental Compliance Section of the U.S. Army Corps of Engineers, Walla Walla District, at (509) 527-7262, or by email at jason.k.achziger@usace.army.mil. Other correspondence can be mailed to:

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Charles Chamberlain
For: Chief, Environmental Compliance Section
U.S. Army Corps of Engineers
Walla Walla District

Environmental Compliance Section

TABLE OF CONTENTS

Glossary

Activity	Land Management Activity (Access, Boundary, Fire, Forest, Road, Wildlife Habitat, and Recreation Management)
BA	Dworshak Natural Resources Land Management Program Activities Biological Assessment
BMP	Best Management Practice
Corps	U.S. Army Corps of Engineers
DM-15	Design Memorandum No. 15, *Plan for Development of Rocky Mountain Elk Habitat*
Dworshak	Corps-managed Lands at Dworshak Dam and Reservoir
ESA	Endangered Species Act of 1973, as amended
mi	Miles
mi^2	Square Miles
NMFS	National Marine Fisheries Service
PCE	Primary Constituent Element
Plan	Dworshak Trail Management Plan
Program	Dworshak Natural Resources Land Management Program
USFWS	U.S. Fish and Wildlife Service

13. Introduction

The U.S. Army Corps of Engineers (Corps) proposes to amend the Dworshak Natural Resources Land Management Program Activities biological assessment (BA) (USACE 2011a) to include activities described in the draft Dworshak Trail Management Plan (Plan) (USACE 2013).

This amendment will allow the Corps to efficiently continue to programmatically manage forest and wildlife resources within Corps-managed lands at Dworshak Dam and Reservoir (Dworshak), Clearwater County, Idaho, as part of the Dworshak Natural Resources Land Management Program (Program), while allowing the Corps to efficiently and seamlessly include activities under the Plan. This will allow the Corps to comply with section 7 of the Endangered Species Act (ESA) and report to the U.S. Fish and Wildlife Service (USFWS) using the mechanisms already in place.

Additionally, the effects of road and trail management on ESA-listed species and critical habitat were analyzed in the BA. Addition of the Plan's activities to the BA will not result in any effects not already considered in the previous informal consultation (USACE 2011a; USFWS 2011a).

As with the BA, the addition of the Plan to the BA is proposed as programmatic management because it is distinguished by well-defined activity types with potential adverse effects that are minor, repetitive, and predictable. Individual consultation of these actions at the project scale would produce the same overall result and not provide any additional conservation benefit.

14. Background / History

The BA (USACE 2011a) described management activities under the Program and Program management activity "elements." The U.S. Fish and Wildlife Service (USFWS) concurred with the Corps' determinations in the BA on December 7, 2011 (USFWS 2011a), concluding informal consultation under section 7 of the Endangered Species Act (ESA).

As described in the BA, Dworshak's Program has traditionally been conducted under individual plans, and has been managed, in general, at the project scale. This approach resulted in several consultations that have involved similar activities, with similar effects, and added workload, both to the Services and the Corps. The Corps, in close coordination with USFWS, minimized consultation-related workload for the Corps and the Services, while producing the same overall result through a programmatic approach to management, and programmatic consultation with the BA (USACE 2011a).

The Dworshak Trail Management Plan (Plan) has been developed by the Dworshak Natural Resource Section to accommodate changes in public use at Dworshak Reservoir and to fulfill the intent of the Dworshak Reservoir Public Use Plan as approved on February 24, 2011 and in compliance with DM-15, the "Plan for Development of Rocky Mountain Elk Habitat."

14.1. Documentation of Relevant Correspondence

The design of this Program has been accomplished through great effort and coordination between the Dworshak Natural Resource Team, and the Corps' Environmental Compliance Section. Numerous emails, telephone calls, and exchange of information facilitated the development of this Program.

As with the development of the BA, numerous emails, telephone calls, and exchange of information between the Corps' Environmental Compliance Section and the U.S. Fish and Wildlife Service facilitated the successful and timely completion of informal consultation on the Dworshak Natural Resources Land Management Program Activities consultation.

Early coordination and email exchanges between the Corps' Environmental Compliance Section and the U.S. Fish and Wildlife Service has ensured integration of the Dworshak Trail Management Plan with the Dworshak Natural Resources Land Management Program Activities Program.

14.2. Supplemental Information

Supplemental information includes:

- Dworshak Natural Resources Land Management Program Activities Biological Assessment (USACE 2011a)
- Dworshak Trail Management Plan (USACE 2013)
- Dworshak Reservoir Public Use Plan (USACE 2011)[4]

14.3. Federal Action History

The Federal Action History can be found on page 7 of the BA, but also now includes the December 7, 2011 Dworshak Natural Resources Land Management Program-Clearwater County, Idaho-Concurrence (0IEIFWOO-2012-I-0039).

15. Project Description

15.1. Action Area

The action area has not changed from what was described on p. 13 of the BA.

15.2. Project Purpose and Objectives

The purpose of motorized and non-motorized trail systems development is to meet the intent of the Dworshak Public Use Plan; this action is needed to maintain and enhance opportunities for non-motorized recreation while minimizing user conflicts and impacts on natural resources.

[4] http://www.nww.usace.army.mil/Portals/28/docs/dworshak/pub-use-plan.pdf

15.3. Project Activities

Program management activities were broken down into Program management activity "elements" in the BA. Program activities and their associated activity elements are listed in Table 2 in the BA on p. 18, along with maximum annual quantities (e.g. miles, acres, etc.) for each activity element.

In addition to the BA and previous consultation, and in alignment with the Dworshak Public Use Plan, the Corps proposes the following actions:

- Continued management and improvement of the existing non-motorized trail system to expand opportunities for the hiking, mountain biking, and equestrian communities.
- Continued management of the Little Meadow Creek ORMV trail and camp.
- Creation of up to seven *off-highway vehicle* (OHV) trail systems along Dworshak reservoir[5].
- Creation of a non-motorized multiple use trail system.
- Opening two existing roads to permit full size vehicle access to two isolated primitive campgrounds.

The Corps has modified Table 2 from p. 18 in the BA to include Trail Management (Table 1). Trail Management activities under the Plan are subject to the availability of funding, and will be done as funding permits. As such, implementation of Trail Management activities under the Plan will be recorded and reported annually, as there are known quantities of trails under the Plan, but unknown annual quantities that could be implemented. However, it is reasonably certain that all of the work under the Plan will not be implemented at once. Implementation is likely to take several years, as the Plan calls for a phased approach.

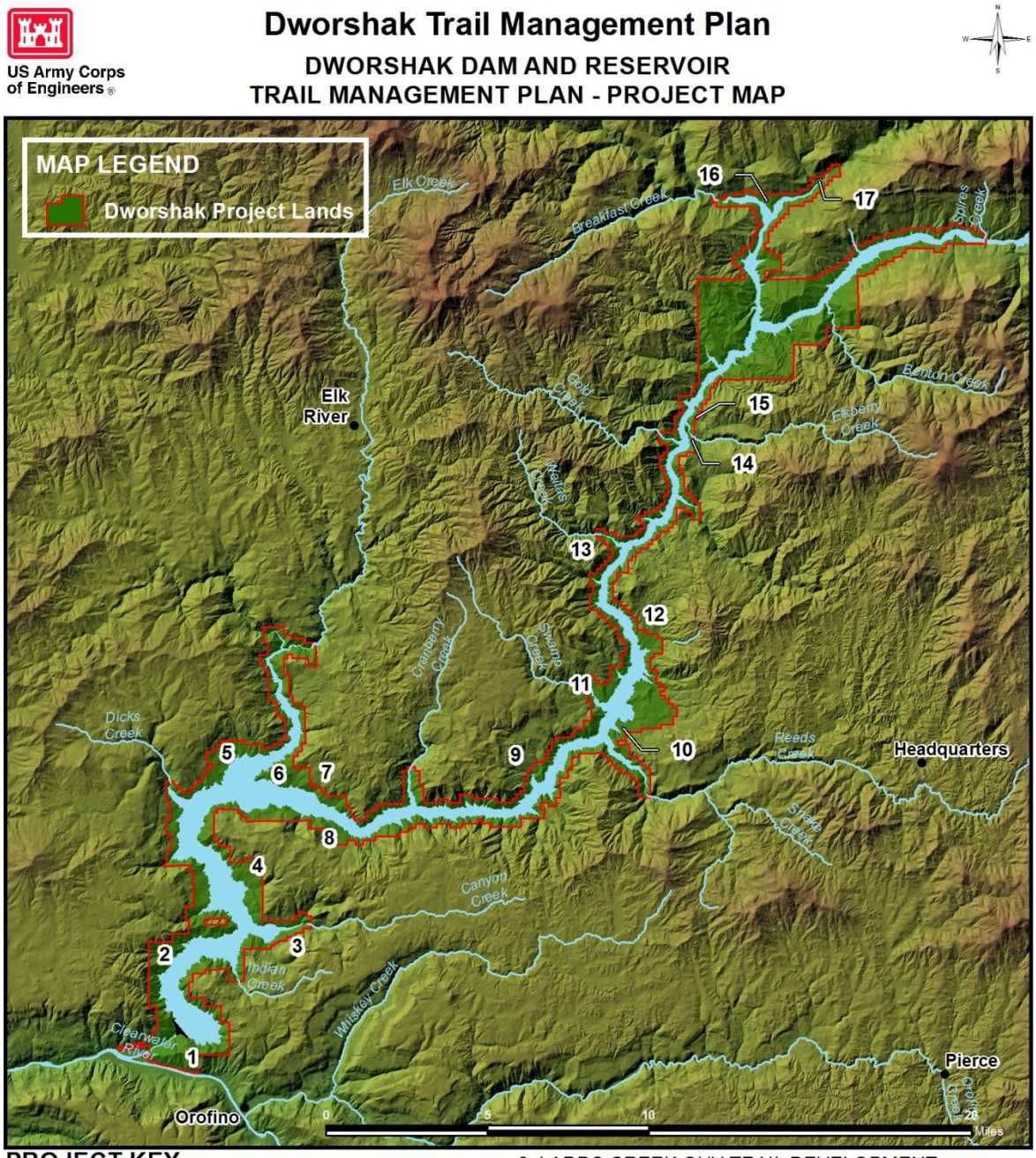
Amended Program activities and their associated activity elements are listed in Table 1, along with the quantities for each element. Locations for Trail Management Activities that are in addition to what was described in the BA are shown in Figure 1.

[5] Please note, presently there is an effort by the Idaho Department of Lands to acquire an easement for construction of an OHV trail to Camp 47.3 for which the Dworshak Project fully supports.

Table 12 Dworshak programmatic activity elements.

Dworshak Programmatic Activity Elements	Maximum Quantity per Year
Access and Trails Management	
Gate and/or Barricade Installations	5 per year
Gate and/or Barricade Modifications	5 per year
Gate and/or Barricade Refurbishing	10 per year
Sign Installation/Maintenance	20 per year
Fence Repair and Maintenance	5 miles per year
Fence Removal	5 miles per year
Trail Corridor Brushing and Tread Maintenance	50 miles per year
Bridge Installation/Maintenance	5 per year
Surface Water Control Structure Installation/Maintenance	50 per year
Boundary Management	
Boundary Monument Installation	5 miles per year
Fire Management	
Broadcast Burning	1,000 acres a year
Pile Burning	100 piles per year
Slashing and/or Pruning	200 acres per year
Fire Lines	25 mini camps (approx. 1.25 mi)
	designated burn units
Forest Management	
Selective Harvest	750 acres a year
Road Management	
New Construction	5 miles per year
Road Reconstruction	15 miles per year
Road Maintenance	50 miles per year
Road Obliteration	2 miles per year
Road Demolition	1/4 mile per year
Culverts	50 per year
Wildlife Habitat Management	
Wetland Enhancement	2 per year
Planting	1,500 plants per year
Recreation Management	
Recreation Foot Trails	10 miles per year
Trail Management (total Plan miles)	
OHV Trail Development	19.8
Non-Motorized Trail Development	12.8
4x4 Recreation Access Trail Development	0.7
Existing Trail Management and Improvement	20.4

Figure 17 **Trail development map.**



PROJECT KEY

1. AHSAHKA RIDGE TRAIL SYSTEM DEVELOPMENT
2. BIG EDDY TRAIL MANAGEMENT
3. CANYON CREEK TRAIL MANAGEMENT
4. LITTLE BAY TRAIL SYSTEM DEVELOPMENT
5. ELK CREEK MEADOWS OHV TRAIL DEVELOPMENT
6. DENT PENINSULA OHV TRAIL DEVELOPMENT
7. DENT TRAIL MANAGEMENT
8. COLD SPRINGS TRAIL MANAGEMENT
9. LADDS CREEK OHV TRAIL DEVELOPMENT
10. MAGNUS BAY 4X4 TRAIL DEVELOPMENT
11. SWAMP CREEK OHV TRAIL DEVELOPMENT
12. EVANS CREEK OHV TRAIL DEVELOPMENT
13. WEITAS CREEK OHV TRAIL DEVELOPMENT
14. ELKBERRY CREEK OHV TRAIL DEVELOPMENT
15. LITTLE MEADOW OHV TRAIL MANAGEMENT
16. L3.6 OHV TRAIL DEVELOPMENT
17. L6.0 4X4 TRAIL DEVELOPMENT

The following is a description of each Trail Management activity element.

15.3.1. OHV Trails

In general, designated OHV trails will follow existing primitive roads and some user-defined trails, although some segments of these existing user-defined OHV trails will be realigned to decrease erosion potential and to enhance user safety. Potential OHV trails are permitted in the following areas as classified in the 2011 Public Use Plan:

- Recreation
- Multiple Resource Management, including
    - Recreation Future Management
    - Recreation – Low Density
    - Wildlife Management

OHV trails will not be allowed in areas classified as Project Operations, Environmentally Sensitive or Mitigation, unless trail segments use existing public roads through those areas.

Recreational OHV use will only be allowed on designated trails with no cross-country travel permitted. OHV use will be permitted on exposed banks below the ordinary high water mark at designated locations to enable motorized transport from boat to camp from all normal pool elevations.

Trails will be built to the characteristics of Class 3 and Class 4 motorized trails as outlined in the Dworshak Public Use Plan and summarized below:

- Class 3 Motorized Trail
    - Trail wide and suitable for one lane and occasional two-lane passage for managed use types.
    - Occasional moderate tread protrusions and short awkward sections, which require speed and maneuvering adjustments.
    - Tread infrequently graded. Obstacles cleared if they substantially hinder the managed use and difficulty level.
    - Tread surface generally native materials, with occasional on-site fill or imported materials, if more stable surface is desired.
    - Crossings may be wet fords; likely with hardening and armoring or simple bridges for resource protection and to ensure appropriate access.
    - Trails have frequent markers and are readily followed.
    - Signing size and type appropriate for managed speeds and potential nighttime use (signs likely reflectorized).

- Class 4 Motorized Trails
    - Trail wide and suitable for the managed use type, and may consistently accommodate two-way passage.
    - Tread surface generally smooth with only small protrusions, which moderately affect speed and ease of travel.

- Tread graded as needed.
- Tread surface may include imported aggregate or intermittent paved sections if more stable surface is desired.
- Crossings are typically either hardened or armored or a substantial bridge.
- Recommended speeds or speed limits may be posted.
- Trails have frequent markers and are easily followed.
- Signing size and type appropriate for managed speeds and potential nighttime use (signs reflectorized).

15.3.2. Non-Motorized Trail System

The primary rationale for establishing a multiple use non-motorized trail system on Dworshak is to meet demand from the area horse riding and mountain biking communities. Based on meetings with groups and individuals involved in the collaboration process for development of the Dworshak Public Use Plan, the issue of a lack of adequate recreational opportunities for horseback riding and mountain biking arose. While Dworshak trails currently allow all forms of non-motorized use, the trails have been managed with an emphasis on day-use hiking.

The purpose of non-motorized trail system development is to meet the intent of the Dworshak Public Use Plan to maintain and enhance opportunities for non-motorized recreation while minimizing user conflicts and impacts on natural resources.

TRAIL CONSTRUCTION STANDARDS

Trails will be constructed and maintained to the characteristics of Class 2 and Class 3 non-motorized trails as adapted from the U.S. Forest Service Trail Class Matrix (2005) and summarized below:

- Class 2 Non-Motorized Trails
  - Trail discernible, continuous, and rough with few or no allowances for passing.
  - Tread is constructed from native materials.
  - Vegetation may encroach into trail corridor.
  - Blockages cleared to define route and protect resources.
  - Drainage functional.
  - Primitive foot crossings and fords.
  - Few destination signs present.
  - Minimum number of signs required for basic direction.

- Class 3 Non-Motorized Trails
  - Tread obvious and continuous with occasional allowances for passing.
  - Tread is generally constructed from native materials, but may have segments containing aggregate.
  - Tread surface is generally smooth with only small protrusions.
  - Vegetation is fully cleared within the trail corridor.
  - Trail structures may be common and substantial, such as:

        - Bridges
        - Retaining walls
        - Steps
        - Causeways
    - Crossings are typically either hardened or armored or a substantial bridge.
    - Trails have frequent markers and are easily followed.
    - Directional signs are typically present.
    - Informational and interpretive signs may be present.

15.3.3. Existing Trail System

Presently, there are approximately 20.37 miles of trails spread amongst six defined trails on Dworshak. Historically, these trails have been managed for pedestrian activities consisting of day hikes and short duration backpacking trips as maintenance for these types of activities generally require fewer resources than those for other types of non-motorized use. However, by managing for pedestrian use, there has historically been a lack of quality recreation for other non-motorized user groups, specifically the equestrian and mountain biking communities.

ALLOWED USE AND PROHIBITED USES

With the exception of the Little Meadow Creek ORMV trail, all existing Dworshak trails have no prohibited uses other than the prohibition of motorized vehicle use; this status is not expected to change unless resource damage occurs or un-resolvable user conflicts develop.

SEASON OF USE

Presently, all trails are open yearlong to any non-motorized activity and this use is not expected to change unless resource damage occurs or un-resolvable user conflicts develop.

15.3.4. 4x4 Trail Recreation

The primary rationale for formalizing the use of and re-commissioning two existing roads for 4x4 vehicle use is due to demand from members of the recreating public. Based on meetings with groups and individuals involved in the collaboration process for development of the Dworshak Public Use Plan, the issue of a lack of adequate recreational access for full size vehicles to the reservoir arose many times. Currently, full size vehicles are not allowed access to any primitive camping sites on Dworshak. However, there are suitable sites and roads in existence that can provide that opportunity. Maintenance on these roads would require few resources due to the layout, drainage, and material composition of the roads, as well as intended use of the roads for 4x4 use.

ROAD CHARACTERISTICS

Roads re-commissioned for use as a full size vehicle trail are only those roads accessing the following recreation sites:

- Camp 26.0: located in the vicinity of the Magnus Bay area (middle reservoir).

- Camp L6.0: located near the northern-most point of the reservoir.

Roads re-commissioned are located in the following land use classifications that support this type of development:

- Multiple Resource Management – Recreation Future Management
- Multiple Resource Management – Low Density Recreation
- Multiple Resource Management – Wildlife Management

Roads will be brushed, graded, ditched, and any drainage structures will be cleaned. If necessary, any ruts and gullies will be filled with native material and some overstory vegetation will be removed to enhance moisture evaporation from the road surface. Please see the Dworshak Road Management Plan for a detailed description of the activities associated with road re-commissioning.

COMPLIANCE MONITORING

Road users will be monitored by Dworshak Natural Resource staff for compliance with Corps rules and regulations and written warnings or citations may be served to non-compliant users. The Dworshak Natural Resource Management office reserves the right to close or reduce motorized access to any road on Dworshak lands.

The 4x4 trails will be assessed and monitored on an individual basis. A trail may be closed at any time based on, but not limited to, environmental degradation, impacts to wildlife, the presence of threatened or endangered species, or the lack of funding to adequately maintain the road.

SEASONS OF USE

Dworshak has chosen to not impose season of use restrictions on these access roads for the following reasons:

- Road Configuration
    - Roads to each primitive campsite allow for direct access only with little to no chance of motorized off-roading activities that may result in the creation of user-defined roads.
- Adjacent Road Access
    - Arterial roads leading to the proposed re-commission roads are subject to road restrictions imposed by their managing entities.
    - Arterial roads leading to the proposed re-commission roads are subject to the maintenance activities, or lack thereof, by their managing entities. In this case, the arterial roads are generally not maintained during the winter season due to the remoteness of the area and lack of winter activities in the area.

15.3.5. Trail Inventory Procedures

The proper documentation of existing trail conditions is critical to properly maintaining the infrastructure supporting any trail within the Dworshak trail system.

To support the Dworshak trail maintenance program, two levels of inventory are used in assessing the condition of Dworshak trails; annual review and five-year inventory. Annual reviews are designed to assess the trail for issues requiring immediate attention within the following recreation season. Five-year inventories are conducted to provide the data necessary for planning within the 5-year cycle associated with the Operational Management Plan.

ANNUAL REVIEW

Annual reviews of Dworshak trails will be conducted prior to Memorial Day weekend. Usually, these reviews can be accomplished at the same time as annual maintenance activities.

FIVE YEAR INVENTORY

As 5-year inventories are used for planning purposes, the amount of data collected is more detailed and in-depth to the information collected with annual reviews. The 5-year inventories require more tools and additional training to properly use these tools.

15.4. Project Timeline

The proposed action will occur annually between 2013 and 2021, with quantities of each activity limited to those described above for a given year.

15.5. Proposed Conservation Measures

The following Best Management Practices (BMPs) are extracted from p. 48-49 in the BA, and are specific to Trail Management.

22) Ensure diversion of surface runoff around road construction.
23) Place berms to prevent runoff to local creeks around road construction.
24) Use erosion bars and sediment traps for road construction.
25) Care will be taken to minimize the visual intrusiveness of the operation on the reservoir user.
26) Road obliteration work will be conducted during dry conditions when the potential for erosion is minimal.
27) All disturbed surfaced roads and trails shall be grass seeded with native grass species upon completion.
28) Ensure diversion of surface runoff around road obliteration work.
29) Place sediment traps and/or silt fences to prevent runoff to local creeks around road obliteration work.
30) Any instream work will be done under dry conditions either through dewatering or done when intermittent streams are dry.

15.6. Project Tracking

Project tracking in the form of a spreadsheet, sent to USFWS annually in conjunction with any monitoring reports, will continue to allow for tracking of which projects are implemented each year and the location of those projects.

16. Status of Species and Critical Habitat

On June 24, 2013 the Corps verified the current species list of threatened, endangered, and candidate species that pertain to the area affected by this action under jurisdiction of the National Marine Fisheries Service (NMFS)[6], as well as the list for species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) for Clearwater County, Idaho[7].

Whitebark pine (*Pinus albicaulis*) has been added as a candidate species to the USFWS list since the BA was written in 2011.

17. Environmental Baseline

The geographical area for which the environmental baseline is being established is discussed in the Action Area section of this document, and includes both Timber Management and Recreation and Reservoir Operation activities.

6 http://www.nwr.noaa.gov/publications/protected_species/salmon_steelhead/status_of_esa_salmon_listings_and_ch_designations_map.pdf

7 http://www.fws.gov/idaho/species/IdahoSpeciesList.pdf

17.1. Matrix of Pathways and Indicators (MPI)

Table 13 Checklist for Documenting Environmental Baseline and Effects of Proposed Action on Relevant Anadromous Salmonid Habitat Indicators

PATHWAYS	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION		
Indicators	Properly Functioning	At Risk	Not Properly Functioning	Restore	Maintain	Degrade
Water Quality: Temperature			X		X	
Sediment			X		X	
Chem. Contam./Nut.			X		X	
Habitat Access: Physical Barriers			X		X	
Habitat Elements: Substrate			X		X	
Large Woody Debris	X				X	
Pool Frequency			X		X	
Pool Quality			X		X	
Off-Channel Habitat			X		X	
Refugia			X		X	
Channel Cond. & Dyn.: Width/Depth Ratio			X		X	
Streambank Cond.			X		X	
Floodplain Connectivity			X		X	
Flow/Hydrology: Peak/Base Flows			X		X	
Drainage Network Increase			X		X	
Watershed Conditions: Road Dens. & Loc.		X			X	
Disturbance History			X		X	
Riparian Reserves			X		X	
Watershed Name: Lower North Fork Clearwater subbasin (HUC 17060308)			Location: Dworshak Reservoir, Clearwater County, Idaho			

17.2. Baseline Conditions Justification

All habitat indicators are not properly functioning in Dworshak Reservoir, except for the large woody debris and road density indicators. Baseline conditions improve in streams once out of the influence of the reservoir and its elevation fluctuations, but the overall condition at a watershed scale is as shown in Table 7 (above).

Large woody debris. There are adequate sources of woody debris in riparian areas throughout the reservoir. Density and diameter of woody pieces in every area of the reservoir is more than enough to justify properly functioning.

Road density. Dworshak encompasses approximately 45,697 acres, or 71.4 square miles. There are 139.2 miles of roads, so the road density at Dworshak is 1.95 miles per square mile, which is

less than the 2 miles per square mile that qualifies as properly functioning in the MPI (NMFS 1996). The addition of 53.7 miles of trails would bring the density up to 2.7 miles per square mile. However, many of the proposed roads already exist in one form or another, and, as described in the BA, some roads will be decommissioned or demolished. Therefore, although it is extremely difficult to quantify at this point, the Corps anticipates a negligible net increase in the actual road density, and the density should remain at or around 2 miles per square mile.

18. Effects of the Action

The proposed action will generate effects on listed species and critical habitat in the same manner, frequency, and magnitude (due to BMPs) as Road and Recreation Management activities described in the BA. An analysis of the effects of the proposed action was captured in section 6.1.5 on p. 76 (Road Management) in the BA, and in sections 6.2 (Effects on Listed Species) (p. 78-80) and 6.3 (Effects on Critical Habitat) (p. 80-81).

The Corps does not anticipate any project-related effects from the proposed action that have not been previously considered (USACE 2011a; USFWS 2011a).

18.1. Effects Determination

The Corps determined that the effects of the proposed action have already been considered in previous consultation with USFWS, and that the proposed action **may affect, but is not likely to adversely affect** bull trout and bull trout designated critical habitat, as described in the BA (USACE 2011a).

The proposed action will have **no effect** on Canada lynx, and there is no designated or proposed Canada lynx critical habitat in the area.

19. Conclusions

This document was prepared as an amendment to the BA developed for the Dworshak Natural Resources Land Management Program Activities. The proposed project is designed to programmatically manage forest and wildlife resources within Corps-managed lands at Dworshak Dam and Reservoir, with the addition of the new (draft) Dworshak Trail Management Plan.

20. References

NMFS (National Marine Fisheries Service). 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. The National Marine Fisheries Service Environmental and Technical Services Division, Habitat Conservation Branch, Seattle, WA. Available at: http://www.nwr.noaa.gov/Publications/Reference-Documents/upload/matrix_1996.pdf

USACE (U.S. Army Corps of Engineers). 2011. Dworshak Reservoir Public Use Plan: Ahsahka, Idaho. Supplement to Design Memorandum No. 10. Public Use Plan for the development and management of public access at Dworshak Reservoir. February. Available at: http://www.nww.usace.army.mil/planning/er/dworshak/pub-use-plan.pdf

USACE (U.S. Army Corps of Engineers). 2011a. Dworshak Natural Resources Land Management Program Activities Biological Assessment. November.

USACE (U.S. Army Corps of Engineers). 2013. Draft Dworshak Trail Management Plan. Draft date February 11, 2013.

USFWS (U.S. Fish and Wildlife Service). 2011a. Dworshak Natural Resources Land Management Program-Clearwater County, Idaho—Concurrence (0IEIFWOO-2012-I-0039). December.

APPENDIX G
Dworshak Project Maps

Figure 1. Dworshak Project Location Maps

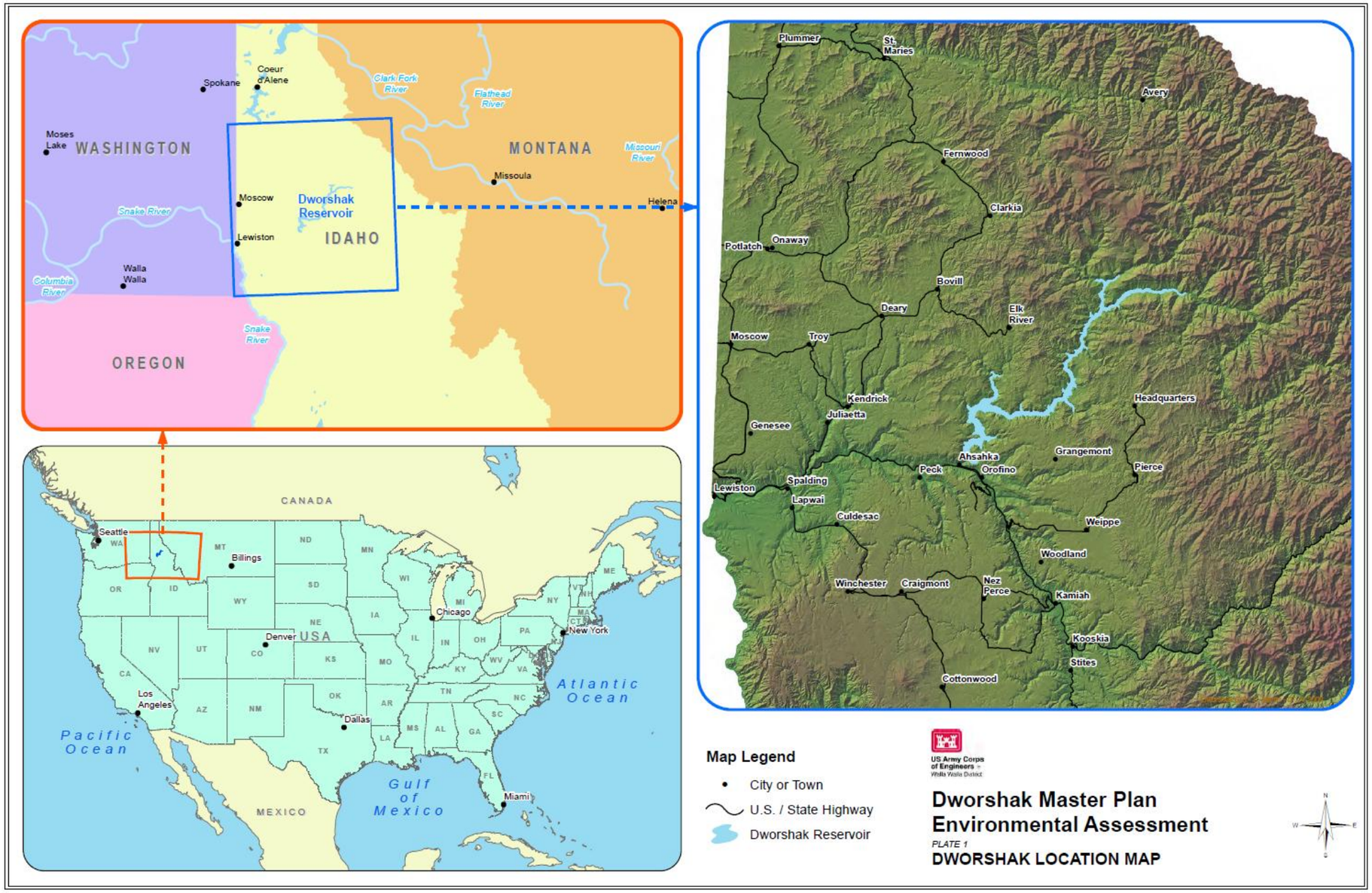
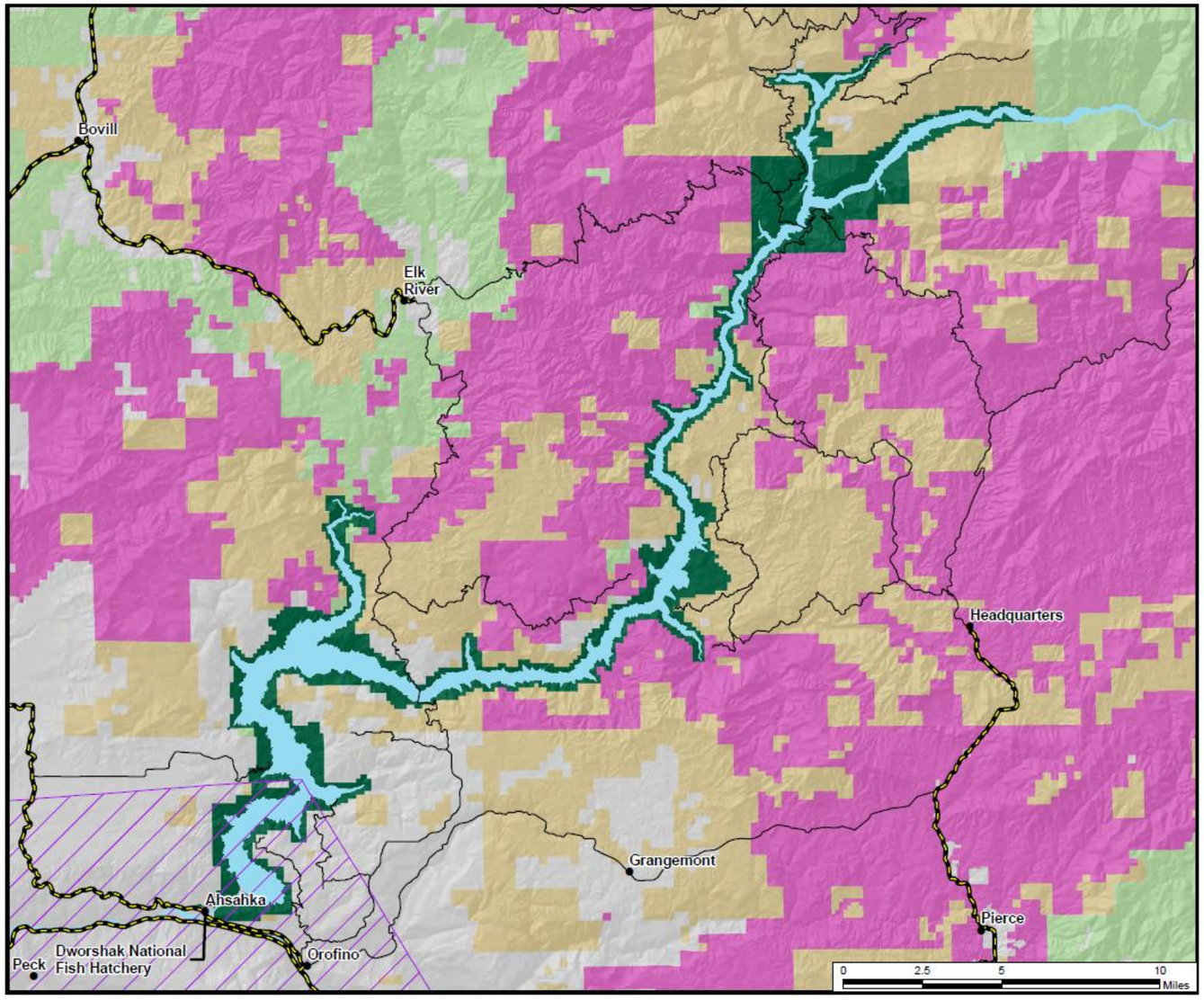


Figure 2. Dworshak Vicinity Surface Land Status



Map Legend

- City or Town
- Federal / State Highway
- Secondary Road
- Dworshak Reservoir
- Nez Perce Reservation 1863 Treaty

Surface Land Owner

- U.S. Forest Service
- U.S. Army Corps of Engineers
- State of Idaho Dept. of Lands
- Potlatch Forest Holdings
- Other

US Army Corps of Engineers
Walla Walla District

N
W
E
S

Dworshak Master Plan Environmental Assessment

PLATE 2

DWORSHAK VICINITY SURFACE LAND STATUS