Hideaway Islands Riparian Restoration Project

ENVIRONMENTAL ASSESSMENT

Kootenai River and Hideaway Islands in Boundary County, Idaho

DOI-BLM-ID-C010-2011-0005-EA

June 2011

BLM

Coeur d Alene Field Office, Idaho

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Table of Contents

Attachments

1 -- Vicinity Map

2 -- Project Area Map

3 -- Kootenai River Restoration Project Reaches and Phase 1 Location Map

4 -- Preliminary Design Drawing BLM-1

1 INTRODUCTION

The BLM, Coeur d'Alene Field Office, is proposing to cooperate with the Kootenai Tribe of Idaho (Tribe) to improve riparian and aquatic habitat conditions of the Kootenai River in Boundary County, Idaho. The Hideaway Islands project is proposed to implement actions from the 2009 "Kootenai River Habitat Restoration Project Master Plan" that the Tribe completed to address large-scale, ecosystem changes that have occurred over the past century in the basin. The first phase of the project proposes to restore braided reaches of the river upstream of Bonners Ferry that includes the BLM Hideaway Islands Research Natural Area (RNA), Section 21, T. 62 N., R. 2 E, Boise Meridian. (see Map 1, Vicinity Map; and Map 2, Project Area Map).

BLM has prepared this environmental assessment (EA) for compliance with the National Environmental Policy Act of 1969 (NEPA) to address effects of the proposed restoration actions on the Hideaway Islands RNA. Funding for development of the Tribe's master plan and implementation of this proposed restoration project is by the Bonneville Power Administration (BPA), which sells electricity generated by Libby Dam on the Kootenai River. The BLM has coordinated with the Tribe and BPA in preparation of this EA. This EA refers to the 2003 Fish and Wildlife Implementation Plan (FWIP) Environmental Impact Statement (EIS) and Record of Decision (ROD) (BPA, 2003), and incorporates by reference information from the Kootenai River Habitat Restoration Project Master Plan (Kootenai Tribe, 2009).

Background

In 1972, Libby Dam became operational, effectively reducing annual peak flows by half, substantially disrupting the hydrograph. These modifications resulted in unnatural flow fluctuations in the Kootenai River and its floodplain, which no longer provide suitable habitat to support the complete life cycles of some aquatic species. As a result, the ecosystem could not support many aspects of the traditional Tribal lifestyles it sustained historically. Although alterations such as levee construction and the regulation of the natural flood regime by Libby Dam benefited agriculture, the developments in the basin also reduced the Kootenai Tribe's access to traditional resources previously relied upon for long-term subsistence and cultural uses. Native fish stocks, such as Kootenai River white sturgeon (*Acipenser transmontanus*), burbot (*Lota lota*), kokanee (*Oncorhynchus nerka*), redband trout (*Oncorhynchus mykiss garideini*), westslope cutthroat trout (*O. clarki lewisii*) and bull trout (*Salvelinus confluentus*), as well as local wildlife populations, began to decline.

In 2009, the Kootenai Tribe, with funding from BPA, completed an ecosystem-based restoration project plan entitled, "Kootenai River Habitat Restoration Project Master Plan" to address habitat conditions in a 55-mile stretch of the Kootenai River in northern Idaho, from the confluence of the Moyie and Kootenai Rivers, downstream to the U.S.-Canada border. The Restoration Plan provides a detailed analysis of the factors limiting

ecosystem function and management and infrastructure constraints within the Tribe's project area. The plan also defines three different Kootenai River reaches according to their unique geomorphic properties: The Braided Reaches; the Straight Reach; and the Meander Reach (See Map 3, Kootenai River Restoration Project Reaches and Phase 1 Location). Braided Reach 1 extends from the Moyie River confluence downstream to the upstream extent of the backwater influence from Kootenay Lake (River Mile (RM) 160.9 to RM 156.2). Braided Reach 2 extends from the upstream extent of the backwater downstream to the U.S. Highway 95 Bridge (RM 156.2 to RM 152.7). The Straight Reach extends from the U.S. Highway 95 Bridge downstream to Ambush Rock (RM 152.7 to RM 151.7). The Meander Reach extends from the downstream end of Ambush Rock to the international border with Canada (RM 151.7 to RM 141.8) (Kootenai Tribe of Idaho 2009) (While the Tribe's restoration plan subdivides the Meander Reach into two secondary reaches, this EA will simply refer to one overall Meander Reach.) Based upon this analysis, the plan presents specific restoration strategies for each river reach that are designed to address those limiting factors and then identifies a suite of actions that could be combined to implement the restoration strategy for each reach.

The Tribe's Master Plan characterized the need for the Kootenai River Habitat Restoration Project as follows. During the last century, the Kootenai subbasin was modified by agriculture, logging, mining, flood control and impoundment in the forms of Libby Dam (Koocanusa Reservoir) upstream and Corra Linn Dam (Kootenay Lake) downstream. Conversion of more than 50,000 acres of floodplain to agricultural fields has resulted in loss of riparian and wetland plant and animal species, and related functions that normally support a healthy ecosystem. Constructed levees were built on top of natural sand levees for flood control, limiting the hydrologic connection between the Kootenai River and its floodplain.

A timeline for implementation of the Tribe's Kootenai River Habitat Restoration Project is identified in the 2006 Libby Dam Biological Opinion (USFWS 2006), as clarified in a 2008 Settlement Agreement entered into by the Tribe, BPA, U. S. Army Corps of Engineers, U. S. Fish and Wildlife Service (USFWS), State of Montana and the lawsuit plaintiffs, the Center for Biological Diversity. The Settlement Agreement requires the Tribe to initiate construction on the Project by December 2012. The Tribe would oversee construction of the Phase 1 actions, as planned to begin in 2011.

1.1 Purpose and Need

The Tribe's 2009 Master Plan provides detailed information of the factors limiting ecosystem function and management and infrastructure constraints within the Kootenai River Project area. The plan defines strategies for three different Kootenai River reaches according to their unique geomorphic properties: The Braided Reaches, Straight Reach, and Meander Reach. For each reach, a suite of actions is proposed to address the limiting factors and implement the restoration strategy. Phase 1 of the Tribe's project proposes actions designed to address significant bank erosion in Braided Reach 1, upstream from Bonners Ferry. Project actions would occur at two distinct sites: Phase 1a (between RM 158 and 159) and Phase 1b (between RM 156 and 157) (**Figure 1**). Phase 1a includes

restoration of about 0.69 acres of eroding river bank on public (BLM) lands above the Ordinary High Watermark in the Hideaway Islands RNA.

Figure 1: Kootenai River Habitat Restoration Project Braided Reach 1, Phase 1 overview photo. The work at Hideaway Islands would occur in the left side of the oval labeled "Phase 1a Right Side Channel". (Figure from Draft Biological Assessment-Restoration Project Phase 1, Braided Reach 1 Implementation; BPA 2010)

Action is needed because Kootenai River side channel characteristics and bank erosion along the upstream end of the Hideaway Islands RNA are contributing to sediment loading and degradation of aquatic and riparian habitat downstream, including critical habitat for two federally listed fish species, Kootenai River white sturgeon (endangered) and Columbia River bull trout (threatened).

Purposes of the currently proposed Hideaway Islands Riparian Restoration Project are the same as those of the Tribe's Kootenai River Habitat Restoration Project:

- Restore and enhance Kootenai River habitat by addressing ecological limiting factors and constraints related to river morphology, riparian vegetation, aquatic habitat and river stewardship. The desired result is a more resilient ecosystem, capable of sustaining diverse native plant and animal populations, and tolerant of natural disturbances.

- Restore and maintain Kootenai River habitat conditions that support all life stages of (i.e., migration, occupancy, spawning, incubation, recruitment and early rearing) endangered Kootenai River white sturgeon and other aquatic focal species; and

- Restore the Kootenai River landscape in a way that sustains Tribal and local culture and economy and contributes to the health of the Kootenai subbasin as both an ecological and socio-economic region.

Project design objectives include: Increase floodplain roughness, facilitate fine sediment storage, and promote passive development of floodplain surfaces that would support recruitment of native riparian vegetation.

The BLM decision to be made is whether or not to cooperate with the Kootenai Tribe to restore riparian and aquatic habitat in Braided Reach 1 of the Kootenai River, along the Hideaway Islands RNA, including the direct disturbance of 0.69 acres above the Ordinary High Watermark.

1.2 Relationship to Laws, Policies and Land Use Plans

The Federal Land Policy and Management Act of 1976 (FLPMA) requires an action under consideration be in conformance with the applicable BLM land use plan, and be consistent with other federal, state, local and tribal policies to the maximum extent possible.

1.2.1 Land Use Plan Conformance

The proposed action, as described in Chapter 2 of this EA, is in conformance with the Coeur d'Alene Resource Management Plan (RMP), as it was approved on June 29, 2007 (BLM, 2007). The RMP designated the Hideaway Islands RNA. The goal of the Special Designations (SD) is to preserve the existing plant communities in an unmodified condition, as a typical representation of a black cottonwood/red-osier dogwood habitat type for the primary purpose of research and education (**Allocation SD-1.1**). In addition, the RMP provides for BLM to manage the area in a nondestructive and nonmanipulative manner (**Action SD-1.1.1**).

The proposed action is further consistent with direction from the RMP for the management of aquatic resources and riparian habitat. Appendix A of the RMP is the Coeur d'Alene Native Fish Strategy (CNFISH). It provides direction for protecting native fish populations within the Coeur d'Alene Field Office area. Objectives and actions for the management of riparian vegetation (VR), fish and wildlife habitat (FW), and special status (SS) species (including bull trout and white sturgeon) that would be met by the project include:

Action VR-1.1.3 – Improve degraded riparian and wetland vegetation by implementing CNFISH guidance.

Objective FW-1.1 – Promote recovery of aquatic, riparian, and wetland habitats, including maintaining/improving watersheds.

Action SS-1.1.2 and SS-1.1.3 – In cooperation with the Idaho Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Forest Service, and other partners, implement conservation measures for bull trout and white sturgeon to include determination of the distribution of known populations and suitable habitats.

The RMP also designated Conservation and Restoration Watersheds (RMP Appendix D). These two categories include subwatersheds in which current watershed processes and conditions have resulted in natural landscape patterns (Conservation) or where biological and physical processes and conditions do not reflect natural patterns because of past and long-term land disturbances (Restoration). The Kootenai River was not specifically designated in the RMP as a Conservation or Restoration Watershed, primarily because BLM ownership is relatively minor and isolated. The RMP does provide flexibility for the BLM to participate in restoration work, especially where there are partnership opportunities.

1.2.2 Consistency with Non-BLM Authorities

The proposed action would implement the Kootenai Tribe's restoration strategy for Braided Reach 1 of the Kootenai River in the vicinity of the Hideaway Islands RNA, consistent with the Tribe's 2009 Master Plan. As described and analyzed in this EA, the project is further consistent with other Federal, Tribal, State policies and plans to the maximum extent possible.

The following table identifies elements of the human environment that are regulated by a statutory or regulatory authority that would be affected and are analyzed in chapter 3 of this EA, as well as those that BLM determined would not be affected and so are not discussed further in this EA.

Table 1: Review of Statutory Authorities

ELEMENT/RESOURCE	Affected?	Comment
Air Quality	No	Any emissions from restoration activities would be minor.
Area of Critical Environmental Concern	Yes	See sections 1.2.1 (Land Use Plan Conformance), 3.2.2 (Soil and Water Resources) and 3.2.3 (Riparian and Wetland Zones). Riparian and aquatic habitat restoration actions are proposed to meet BLM resource management objectives of the Hideaway Islands RNA.
Cultural Resources	No	See section 3.2.8, Cultural Resources
Environmental Justice	No	See section 3.2.1, Native American Concerns. Cooperating with the Kootenai Tribe would help to sustain Tribal culture and contribute to the ecological, social and economic health of the Kootenai subbasin.
Farm Land -Prime/Unique	No	No prime or unique farm land is in the project area.
Floodplains	Yes	See section 3.2.2, Soil and Water Resources.
Human Health & Safety	No	The proposed project does not involve any actions that pose a risk.
Migratory Birds	Yes	See section 3.2.7, Wildlife/Habitat.

ELEMENT/RESOURCE	Affected?	Comment
Native American Concerns	Yes	See section 3.2.1, Native American Concerns
Non-Native Invasive and Noxious Species	Yes	See section 3.2.5, Invasive Non-Native Species
Threatened/Endangered Species	Yes	See discussion below for BPA's Endangered Species Act compliance activities, and Special Status Species discussions in sections 3.2.4 (Plants), 3.2.6 (Fisheries), and 3.2.7 (Wildlife).
Water Quality (Surface/Ground)	Yes	See section 3.2.2, Soil and Water Resources.
Wastes, Hazardous/Solid	No	The project area does not contain any wastes identified as hazardous or solid.
Wetlands, Riparian Zones	Yes	See sections 3.2.2 (Soil and Water), 3.2.3 (Wetland and Riparian Zones), 3.2.6 (Fisheries), and 3.2.7 (Wildlife)
Wild & Scenic Rivers	No	The project area does not include streams or rivers designated as Wild and Scenic.
Wilderness	No	No Wilderness/Study Areas are in the vicinity.

BPA Fish and Wildlife Program and Endangered Species Act Compliance

BPA's responsibilities for protecting, mitigating and enhancing fish and wildlife resources in the Columbia Basin are defined by a collection of laws, treaties and executive orders. The Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) requires that BPA use the Act and BPA's pre-Act legal authorities to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of the Columbia River Basin hydroelectric dams from which BPA markets power. Under the Northwest Power Act, the Northwest Power and Conservation Council (Council), which is a four-state compact entity (with representatives from Oregon, Washington, Idaho, and Montana), develops the Columbia Basin Fish and Wildlife Program. The Program is intended in part to help guide BPA's fish and wildlife mitigation actions. Accordingly, BPA's fish and wildlife mitigation under the Northwest Power Act must be undertaken in a manner consistent with the purposes of the Act, the Fish and Wildlife Program adopted by the Council, and other laws as prescribed.

In addition, BPA must avoid jeopardizing federally-listed species pursuant to the Endangered Species Act of 1973 (ESA), as amended, and must avoid destroying or adversely modifying designated critical habitat. The ESA also requires that BPA use its authorities for the conservation and recovery of listed species. BPA must implement actions pursuant to Biological Opinions (BiOps) issued pursuant to the ESA in order to avoid jeopardizing listed species through the operation of the Federal Columbia River Power System (FCRPS). (USFWS 2000; USFWS 2006; USFWS 2007; NOAA Fisheries

2008; USFWS 2008b) BPA seeks to integrate these BiOp activities with its on-going Northwest Power Act mitigation efforts. As noted by BPA as they coordinate in preparation of this EA, the proposed actions would restore habitat in accordance with FCRPS BiOps for the basin.

The Tribe's Kootenai River Habitat Restoration Project is also identified in a settlement agreement negotiated among parties to a lawsuit over how to protect federally-listed endangered white sturgeon, which inhabit the Kootenai River. In addition to the Tribe, other parties to the settlement agreement include BPA; the U.S. Army Corps of Engineers, which operates Libby Dam in Montana; the state of Montana; and the lawsuit plaintiffs, the Center for Biological Diversity. The BPA has initiated formal consultation with USFWS for impacts to Kootenai River white sturgeon and Columbia River bull trout, and their designated critical habitat associated with the Kootenai River Habitat Restoration Project, Phase 1, Braided Reach 1 (Bonneville Power Administration, 2010). Conclusions from this biological assessment are summarized in section 3.2.6 of this EA.

Tribal Trust Responsibilities

All Federal agencies must uphold tribal treaty and trust responsibilities to Columbia River Basin Indian tribes (e.g., Kootenai Tribe of Idaho). Under the Northwest Power Act, the Northwest Power and Conservation Council develops the Columbia Basin Fish and Wildlife Program, intended in part to help guide BPA's fish and wildlife mitigation actions. Accordingly, BPA's fish and wildlife mitigation under the Northwest Power Act must be undertaken in a manner consistent with the purposes of the Act, the Fish and Wildlife Program adopted by the Council, and other laws as prescribed.

The Tribe's completion of their 2009 "Kootenai River Habitat Restoration Project Master Plan" was funded by BPA, and BPA is also funding this current phase of the project. Therefore, BLM's participation in this project helps BLM and other agencies to meet Federal trust responsibilities to the Kootenai Tribe.

Restoration Project Partners

Partners for the Tribe's project include BPA; Northwest Power and Conservation Council; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; U.S. Geological Survey; British Columbia Ministry of Natural Resource Operations; the States of Idaho and Montana including Idaho Department of Fish and Game, Idaho Department of Lands, Idaho Department of Environmental Quality, Idaho Department of Water Resources, and Montana Department of Fish and Wildlife; and the University of Idaho. The Tribe and BPA have coordinated with the BLM in preparation of this EA, and comments on the analysis will be solicited from the partnering agencies.

<u>Section 106 of the National Historic Preservation Act</u>
Pursuant to its responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR 800, BPA has determined that the proposed action is a federal undertaking that has the potential to cause effects on historic properties and has initiated

consultation with the Kootenai Tribe of Idaho and the Idaho State Historic Preservation Office (SHPO). This ongoing consultation is summarized in this EA.

BPA's NEPA Compliance Activities

BPA will evaluate the Kootenai Tribe's proposed project consistent with their Fish and Wildlife Implementation Plan (FWIP) Environmental Impact Statement (EIS) and associated Record of Decision (ROD) (BPA 2003) and related analyses. In these programmatic statements and their associated RODs, BPA adopted a set of prescriptions to standardize the planning and implementation of projects. In accordance with these prescriptions, BPA is enabled to implement numerous watershed and wildlife projects with greater efficiency and consistency. The FWIP EIS was intended to support a number of decisions, including implementing BPA's share of the Council's Fish and Wildlife Program and funding and implementing other fish and wildlife mitigation and recovery efforts that support the selected alternative. In the years since BPA's 2003 EIS was completed, BPA has prepared well over 300 Supplement Analyses for projects under their Watershed Management and Wildlife Mitigation Program that apply the prescriptions. These analyses have confirmed that the environmental consequences of routine activities are predictable. Although there are short term adverse effects from fish and wildlife mitigation activities, they continue to have net positive and, therefore, increasingly beneficial impacts to fish and wildlife across the basin.

Clean Water Act

Under Sections 404 and 401 of the Clean Water Act, the Kootenai Tribe is responsible for obtaining restoration project permits. Section 401 water quality certification, and other state permits, are obtained from the Idaho Department of Water Resources. A 404 permit from the Army Corps of Engineers (COE) is required for any discharge of dredged or fill material into waterways of the United States. As a part of this permitting process, in 2010, the COE made an Ordinary High Watermark (OHW) determination at the BLM's Hideaway Islands RNA. The Tribe's project will include work below this designated OHW elevation, but, by Idaho state law, this is not BLM land. In addition, 0.34 acres of BLM land (located above the OHW) would be included in the Tribe's Restoration Project. During subsequent discussions between the Tribe and the BLM regarding restoration project logistical considerations, this 0.34 acre area was expanded to 0.69 acres of potential project disturbance, giving the Tribe flexibility to successfully implement the project while minimizing water quality impacts.

2 ALTERNATIVES

This chapter describes the Proposed Action and No Action alternatives.

2.1 Proposed Action

The BLM portion of the Tribe's overall project area that would be directly affected by restoration activities is approximately 0.69 acres of the Hideaway Islands RNA, along a side channel of the Kootenai River between river miles 158 and 159, upstream of Bonners Ferry (see **Map 1**, Vicinity Map; **Map 2**, Project Area Map; **Figure 2**; and **Figure 4**).

Figure 2: View of Upstream End of Hideaway Islands RNA; direction of water flow is from left to right. Project area (0.69 acres) is partially submerged by May 2010 high water flow (Photo by Mike Stevenson, BLM)

The restoration work at Hideaway Islands RNA would include the following components, as shown on the Tribe's Phase 1 Preliminary Design drawing for the Kootenai River Habitat Restoration Project (see **Attachment 4**) as discussed in more detail below:

1. Construct Floodplain Surfaces
2. Revegetate the Floodplain
3. Enhance Side Channels

Concurrent restoration work is also planned for the north bank of the Kootenai River (private land), which is just across the side channel from the RNA.

The Tribe plans to begin restoration activities in the vicinity of Hideaway Islands RNA in approximately August 2011. Work is expected to be completed by April 2012.

2.1.1 Construct Floodplain Surfaces

Construction of floodplain surfaces includes lower bank restoration treatments, and microtopography grading and instream placement of fill material, both above the OHW in the RNA and below the OHW at the upstream end and along the north side of the RNA. Private land on the north side of the side channel would also receive this treatment.

Lower bank restoration treatments would involve placement of buried, large woody debris (logs, root wads) to increase floodplain roughness, facilitate fine sediment storage, and promote passive development of floodplain surfaces that would support natural recruitment of native riparian vegetation.

Microtopography and placement of fill would include grading of furrows and ridges to create complex floodplain surfaces with enhanced roughness, topographic diversity, and widespread availability of protected planting niches for establishing native, riparian vegetation.

2.1.2 Revegetate the Floodplain

Revegetation of floodplain areas would involve using both natural recruitment and installed container-grown plants to re-establish a functioning riparian community. Areas to be revegetated are along the side channel bank above the Ordinary High Watermark, at the upstream end of the BLM Hideaway Islands RNA as well as on private land north of the side channel. To protect the revegetated sites from livestock use, the Tribe also proposes to construct a fence in cooperation with the private landowner.

2.1.3 Enhance Side Channels

The enhancement of the side channels would occur outside of the BLM RNA boundary, below the OHW along the south and north banks of the channel (see Figure 3). This work would involve construction of engineered large wood structures and vegetated soil lifts, with toe logs included in portions of the soil lifts. Vegetated soil lifts are a revegetation and bank construction technique that combines layers of dormant willow, alder and cottonwood cuttings with fabric-wrapped soil to revegetate and stabilize stream banks and slopes. As cuttings take root and mature, they provide a natural seed source for colonizing depositional surfaces. Vegetated soil lifts would be used in areas where bank vegetation is desired immediately, but natural recruitment and native shrub regeneration is not likely to occur naturally due to steep, unstable banks.

Figure 3: View of Side Channel, Looking Downstream. Hideaway Islands RNA on left, private land on right. (BPA 2010)

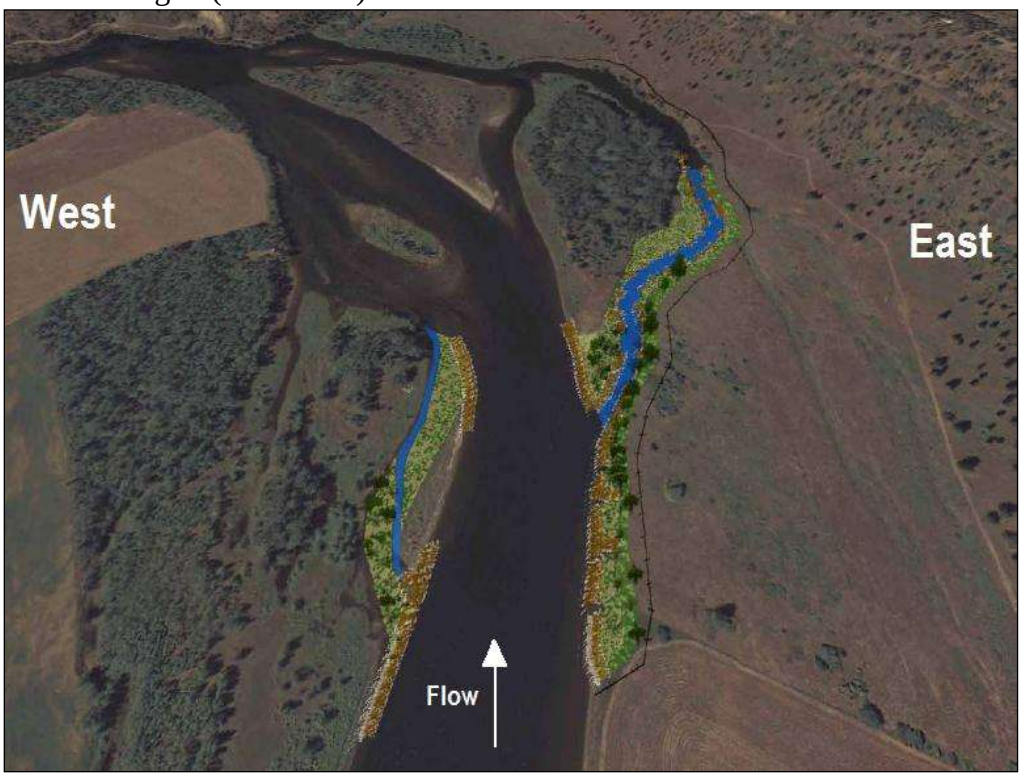

Figure 4: The Hideaway Islands RNA restoration work would occur on the right side of the photo, between the mainstem river and side channel. (BPA 2010)

2.1.4 Monitoring

In order to continually evaluate whether the Kootenai River Habitat Restoration Project is accomplishing the project purpose, goals and objectives described in the Master Plan, an adaptive management and monitoring program will be implemented by the Kootenai Tribe to support the restoration project (Kootenai Tribe of Idaho 2009). The purpose of the Kootenai River Habitat Restoration Project Adaptive Management and Monitoring Plan is to provide a framework to:

- Evaluate the effectiveness of the implemented habitat actions in terms of achieving the project goals;
- Identify project maintenance needs;
- Identify any potential unforeseen negative impacts on infrastructure;
- Support decisions to modify restoration treatments; and
- Refine or modify restoration treatments that might be implemented in later phases of the project.

The BLM would visit the project area during the construction phase to monitor activities at the RNA. Subsequent visits would be made to track vegetation conditions such as riparian plant community recovery and weed invasion or spread.

2.2 No Action Alternative

No work would be done by the Kootenai Tribe to restore Kootenai River side channel characteristics and limit bank erosion along the upstream end of the Hideaway Islands RNA.

3 AFFECTED ENVIRONMENT AND EFFECTS OF ALTERNATIVES

This chapter characterizes the resources and uses that have the potential to be affected by the proposed action, followed by a comparative analysis of the direct, indirect and cumulative impacts of the alternatives.

3.1 Scope of Analysis

Setting

The Hideaway Islands Riparian Restoration Project is proposed as part of the Tribe's three-phase master plan for the Kootenai River Restoration Project that addresses habitat conditions in a 55-mile stretch of the Kootenai River from the confluence of the Moyie and Kootenai Rivers, downstream to the U.S.-Canada border. Phase 1 proposes to restore Braided Reach 1 of the river that includes the Hideaway Islands, approximately six miles upstream of Bonners Ferry. The 76-acre Hideaway Islands RNA consists of two islands along the Kootenai River, and the Phase 1a project area includes a 0.69-acre eroding riverbank in the RNA (see **Map 2**, Project Area Map; and **Figure 1**, Kootenai River Habitat Restoration Project Braided Reach 1, Phase 1 overview photo).

3.1.1 Potentially Affected Resources and Uses

The geographic extent of resources and uses directly, indirectly and cumulatively affected by the proposed action varies by the type of resource and impact, as noted below.

Table 2 – Resource/Use Study Areas

Section #	Affected Resource/Use	Study Area Description	Area
3.2.1	Native American Concerns	Kootenai River Watershed (Idaho portion)	1,007 square miles
3.2.2	Soil and Water Resources	Kootenai River Braided Reach 1	4.7 river miles
3.2.3	Wetlands and Riparian Zones	Kootenai River Braided Reach 1	4.7 river miles
3.2.4	Special Status Plants	Hideaway Islands RNA	76 acres
3.2.5	Invasive, Nonnative Species	Hideaway Islands RNA	76 acres
3.2.6	Aquatic Species, including Special Status Fish	Kootenai River Braided Reach 1	4.7 river miles
3.2.7	Wildlife/Habitat	Kootenai River Watershed	19,420 square miles
3.2.8	Cultural Resources	Area disturbed in the Hideaway Islands RNA	0.69 acres

3.1.2 Related Past, Present and Reasonably Foreseeable Actions

As defined by NEPA regulations (40 CFR 1508.7), "Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

During the last century, the Kootenai subbasin was modified by agriculture, logging, mining, flood control and impoundment in the forms of Libby Dam (Koocanusa Reservoir) upstream and Corra Linn Dam (Kootenay Lake) downstream. Conversion of more than 50,000 acres of floodplain to agricultural fields has resulted in loss of riparian and wetland plant and animal species, and related functions that normally support a healthy ecosystem. Constructed levees were built on top of natural sand levees for flood control, limiting the hydrologic connection between the Kootenai River and its floodplain.

In the years since BPA's 2003 EIS was completed, BPA has prepared well over 300 supplemental analyses for projects under their Watershed Management and Wildlife Mitigation Program that continue to have net positive and, therefore, increasingly beneficial impacts to fish and wildlife across the Columbia Basin, including the Kootenai River in Idaho. Related habitat and aquaculture projects that are being, and have been, implemented by the Tribe and others include the Kootenai River Native Fish and Conservation Aquaculture Program, nutrient restoration, Libby Dam Operational Loss Assessment, wildlife mitigation, Kootenai River Valley Wetlands and Riparian Conservation Strategy, and tributary restoration efforts. (Kootenai Tribe of Idaho 2009)

In addition to the currently proposed Braided Reach 1, Phase 1a, actions, the 2009 Master Plan Kootenai Tribe proposes additional actions to provide suitable habitat to support the complete life cycles of some aquatic species, and support many aspects of the traditional Tribal lifestyles it sustained historically. They include further work in Braided Reaches 1 and 2, continuing to focus on establishing channel dimensions that are sustainable given the morphological setting and governing flow and sediment regimes; gradually reducing sediment supply and transport downstream; promoting deposition of sediment on the floodplain; constructing a new floodplain that is connected to the channel during average annual peak flows; and revegetating the floodplain in a way that results in a complex, multi-structured native plant community with a mosaic of age classes and hydrologic regimes.

Restoration work in the Straight Reach would focus on improving aquatic habitat by increasing cover, pool habitat and hydraulic complexity, and establishing a riparian buffer along the channel margins. This strategy would be accomplished by installing instream structures and these would allow the river to form pools and move sediment to channel margins, forming a narrow floodplain. Where possible, the riparian area width would be increased by planting woody vegetation. The Straight Reach and Braided Reaches strategies are linked, so they would be implemented together to most effectively address habitat limiting factors.

In the Meander Reach, restoration would focus on improving interaction between the river and floodplain. The Meander Reach strategy includes placement of instream and bank structures to improve habitat conditions and reduce bank erosion. Known Kootenai sturgeon spawning areas are located near Shorty's Island, so these are areas where suitable spawning substrate could be placed. Outer meander bends could be supplemented with woody debris structures to create hiding cover for some aquatic focal species. Additional woody debris could be placed near tributary mouths to improve instream habitat at these confluences. (Kootenai Tribe of Idaho 2009)

3.2 Effects of the Alternatives

The degree to which resources/uses may be affected by the proposed activities are discussed in the following subsections. Each subsection includes discussion of:

(1) Affected Environment (current condition) of the resource or use
(2) Direct and Indirect Effects of the Proposed Action and No Action alternatives
(3) Cumulative Impacts

Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

3.2.1 Native American Concerns

Affected Environment

As noted by the Tribe's 2009 master plan, the Kootenai Tribe historically relied upon use of traditional native fish, wildlife and plants for long-term subsistence and cultural uses. Operation of the Libby Dam since 1972 effectively reduced annual peak flows by half and resulted in unnatural flow fluctuations in the Kootenai River and its floodplain. Along with other major habitat alterations such as levee construction, regulation of the natural flood regime by Libby Dam reduced the Kootenai Tribe's access to traditional resources.

Direct and Indirect Effects of Alternatives

Proposed Action
Restoration of 0.69 acres at Hideaway Islands RNA would contribute to the overall recovery of Tribal traditional resources such as white sturgeon, bull trout, and riparian vegetation and habitat.

No Action
Erosion of riverbanks at Hideaway Islands RNA would continue to impact traditional Tribal aquatic and riparian resources.

Cumulative Impacts

The analysis area is the Kootenai River basin within Idaho (1,007 square miles), which encompasses socio-economic/benefits (Kootenai Tribe of Idaho et al. 2006).

This habitat restoration project would complement and enhance the benefits derived from other related habitat and aquaculture projects that are being, and have been, implemented by the Tribe and others (e.g., Kootenai River Native Fish and Conservation Aquaculture Program, nutrient restoration, Libby Dam Operational Loss Assessment, wildlife mitigation, Kootenai River Valley Wetlands and Riparian Conservation Strategy, tributary restoration efforts, etc.) (Kootenai Tribe of Idaho 2009) Therefore, the restoration work at Hideaway Islands RNA would likely contribute a positive cumulative effect to Native American concerns.

Under the No Action alternative, zero acres would be disturbed at Hideaway Islands RNA. The Kootenai Tribe would still proceed with implementation of restoration work in the various reaches of the Kootenai River, which would likewise complement and enhance benefits resulting from other related projects in the analysis area.

3.2.2 Soil and Water Resources

Affected Environment

BLM is analyzing the portion of Phase 1 of the Tribe's three-phase restoration project in the Braided Reach upstream from Bonners Ferry, which contains the BLM's Hideaway Islands RNA that is contributing to sediment loading and degradation of habitat downstream. The BLM area is located between river mile (RM) 158 and 159.

The overall Kootenai River Habitat Restoration Project, as described in the Master Plan (Kootenai Tribe of Idaho 2009), consists of a 55-mile reach of the Kootenai River that extends from the confluence of the Moyie and Kootenai rivers, downstream to the international border. For the purposes of the Master Plan, the project area is divided into three major river reaches based on their unique geomorphic properties: the Braided Reaches, Straight Reach and Meander Reach.

The Master Plan provides a thorough discussion of the project goals and objectives; environmental compliance and consultation; and the limiting factors for morphology, riparian vegetation and aquatic habitat.

A draft biological assessment (BA) for the Braided Reach (BPA 2010) supplements the master plan and describes the proposed work in detail. The draft BA also provides specific information on the existing condition, project designs, and construction BMPs.

An additional, useful source of information for the soil and water section of this EA was the Assessment of Water Quality in the Kootenai River and Moyie River Subbasins (Kootenai Tribe of Idaho et al. 2006).

Soils

The Schnoorson-Ritz-Farnhamton Association includes somewhat poorly drained to poorly drained soils on floodplains and low stream terraces mainly along the Kootenai River. They are level to gently sloping, very deep, silt loams, silty clay loams, and mucky silt loams. Soils of minor extent are DeVoignes, Pywell, and Seelovers. Most of this unit is drained and protected from flooding. It is used for cropland, hay and pasture, or wildlife habitat. The main limitations are a seasonal high water table, hazard of flooding, or hazard of soil piping – a type of subsurface erosion that can result in unstable ground and stream bank erosion. (Kootenai Tribe of Idaho et al. 2006)

Water Resources

The Kootenai River in Idaho can be divided into three major reaches with different characteristics. The first 20 km downstream of the Montana state line is primarily a single channel located in a narrow canyon with limited floodplain. This reach is characterized by long runs, with uniform-sized substrate ranging from large gravel to large rubble. There are a few deep pools created by bedrock formations. Aquatic vegetation is rare. The next 10 km of river, immediately above Bonners Ferry, is braided, with several small islands and exposed gravel bars at low flows. This is the project reach that includes the Hideaway Islands RNA. Substrates in this reach are generally gravels. The average gradient from Montana to Bonners Ferry is about 0.6 m/km. Below Bonners Ferry, the river flattens to an average gradient of about 0.02 m/km, and begins meandering through the Kootenai Valley, crossing the international border near Porthill. This portion of the river is relatively flat and slow moving, with holes up to 30 m deep. The water level in this reach is affected by operation of the Corra Linn dam on the outlet of Kootenay Lake. (Kootenai Tribe of Idaho et al. 2006)

Direct and Indirect Effects of Alternatives

Proposed Action

As described on page 23-25 for the Braided Reach strategy in the draft Biological Assessment (BPA 2010), the restoration plan for the right side channel (located on BLM) proposes installing bank structures, constructing floodplain surfaces, revegetating floodplain surfaces and modifying side channel geometry by controlling the inlet flow capacity from the mainstem Kootenai River channel. There would be short- term soil disturbance associated with construction of the proposed bank and floodplain restoration; however, this would be more than offset by a substantial net reduction in chronic and elevated sediment delivery from the existing raw banks. These proposed improvements would benefit water and soil resources by decreasing bank and channel erosion.

No Action
Kootenai River flows would continue to erode the upstream end of Hideaway Islands RNA and cause a loss of additional, existing riparian vegetation as well as prevent its re-establishment. Livestock would continue to impact riverbanks and vegetation in the vicinity of Hideaway Islands.

Cumulative Impacts

This habitat restoration project would complement and enhance the benefits derived from other related habitat and aquaculture projects that are being, and have been, implemented by the Tribe and others throughout the Kootenai River basin, and thus contribute to a positive cumulative effect on soil and water resources.

3.2.3 Wetland and Riparian Zones

Affected Environment

The 76-acre Hideaway Islands RNA consists of two islands along the Kootenai River (**Map 2**, Project Area Map). The east island has greater topographic relief and supports mid-successional cottonwood (*Populus* spp.) stands with a significant amount of red-osier dogwood (*Cornus stolonifera*) in the understory. Three species of cottonwood occur in the RNA: black cottonwood (*P. trichocarpa*), narrowleaf cottonwood *(P. angustifolia)*, and eastern cottonwood *(P. deltoides).* Eastern cottonwood is an eastern US disjunct that is uncommon in Idaho. The west island is younger (geomorphically) and of lower relief, supporting early successional cottonwood and willow stands, with the exception of a band of 20- to 30-year-old cottonwoods on the south side of the island. Sand and cobble bars on both islands are vegetated by pioneer species, such as coyote willow *(Salix exigua)*, and cottonwood. The east- to northeast-facing riverbank of the east island, which borders a side channel of the Kootenai River, is being actively eroded and is almost vertical in some spots.

Direct and Indirect Effects of Alternatives

Proposed Action
Riparian (riverine wetland) vegetation would begin to re-establish naturally along the upstream end of Hideaway Islands RNA once floodplain surfaces are reconstructed. This re-growth would be accelerated through use of containerized plant materials. The proposed fence on private land to the north of Hideaway Islands would protect and allow adequate time for this vegetation community to recover since livestock use in this area would be reduced.

Floodplain revegetation would increase roughness, adding a sediment filtering function that would promote long-term sediment storage as part of natural floodplain building processes. Other anticipated beneficial effects of the proposed action include reduced sediment supply to downstream reaches; restoration of natural floodplain processes; and improved riparian and floodplain vegetation. Possible drawbacks include the length of

time necessary for plant communities to establish to maximize floodplain function, and potential long-term maintenance such as watering. (Kootenai Tribe of Idaho 2009)

No Action
Kootenai River side channel characteristics and bank erosion along the upstream end of the Hideaway Islands RNA would cause loss of additional, existing riparian vegetation as well as prevent its re-establishment. Livestock would continue to impact riverbanks and vegetation in the vicinity of Hideaway Islands.

Cumulative Impacts

The analysis area is the Kootenai River Braided Reach 1 project area, approximately 4.7 river miles. While the following discussion addresses basin-wide conditions, impacts and trends in the analysis area are expected to have been similar. Before European settlement, the Kootenai River basin within Idaho experienced frequent floods, which formed tens of thousands of acres of wetlands and associated riparian habitats. Control of Kootenai River flows by Libby Dam has altered the timing and magnitude of runoff events that historically influenced and sustained these wetland and riparian plant communities. Development, removal of riparian buffers, and installation of bank armoring have affected the assemblage of riparian bank vegetation, reduced channel and floodplain complexity, and altered sediment delivery to the river. Land use practices such as grazing, agriculture, tilling, groundwater pumping and vegetation clearing have altered the character of thousands of acres of wetland and riparian vegetation and distribution of sediment, nutrients, and debris to the Kootenai River. Other resource management practices such as forestry and mining also have impacted floodplain plant communities. (Kootenai Tribe of Idaho 2009)

Related habitat and aquaculture projects that are being, and have been, implemented by the Tribe and others, which may overlap with the analysis area, include Kootenai River Native Fish and Conservation Aquaculture Program, nutrient restoration, Libby Dam Operational Loss Assessment, wildlife mitigation, Kootenai River Valley Wetlands and Riparian Conservation Strategy, and tributary restoration efforts. (Kootenai Tribe of Idaho 2009). Other present activities and natural disturbances in the analysis area include continued control of Kootenai River flows by Libby Dam; riverbank erosion and vegetation loss; grazing; agriculture; rural development; and fire activity.

Reasonably foreseeable future activities and natural disturbances include continued control of Kootenai River flows by Libby Dam; grazing; agriculture; rural development; fire activity; and decreased riverbank erosion and vegetation loss in Braided Reach 1 where additional restoration project work is implemented by the Tribe.

This habitat restoration project at Hideaway Islands would complement and enhance the benefits to riparian and wetland vegetation derived from other related projects in the analysis area, especially the overall Tribal restoration project. Due to the small size of disturbance on BLM land and the staggered timing of the Tribe's overall project

implementation, this restoration work is likely to contribute small-scale, beneficial cumulative effects to riparian or wetland vegetation.

3.2.4 Special Status Plants

Affected Environment

As discussed in Section 3.2.3, the vegetation associated with the 0.69 acres of project disturbance is riparian (riverine wetland). The Idaho Natural Heritage Program database was searched for known occurrences of rare plants in the project area. Field work was done in the project area during the past two years.

Threatened or Endangered Species
No water howellia (*Howellia aquatilis*) (threatened) or Spalding's catchfly (*Silene spaldingii*) (threatened) individuals, populations, or potential habitat occurs in the project area.

BLM Sensitive Species and Other Rare Vegetation
No bristly sedge (*Carex comosa*), bulb-bearing water hemlock (*Cicuta bulbifera*), hoary willow (*Salix candida*), large Canadian St. John's-wort (*Hypericum majus*), purple meadow rue (*Thalictrum dasycarpum*), rare moonworts (*Botrychium* spp.), short-spored jelly lichen (*Collema curtisporum*), swamp willow herb (*Epilobium palustre*), or sweet grass (*Hierchloe odorata*) (all BLM Sensitive) individuals or populations were found during inventory of the project area, though potential habitat for these species is present at and above the OHW throughout the RNA. (Idaho Natural Heritage Program 2011)

The Idaho Natural Heritage Program, part of the Idaho Department of Fish and Game, ranks the black cottonwood/red-osier dogwood community type as "S1" in Idaho. An S1 rank is assigned to plant species or communities that are critically imperiled statewide (typically 5 or fewer occurrences or less than five percent of native range currently occupied by high quality examples of type) or especially vulnerable to extirpation from the state. (Idaho Natural Heritage Program 2011)

Direct and Indirect Effects of Alternatives

Proposed Action
The proposed action would not affect the ESA-listed water howellia or Spalding's catchfly individuals, populations or potential habitat. For BLM-Sensitive species, the proposed action would not affect bristly sedge, bulb-bearing water hemlock, hoary willow, large Canadian St. John's-wort, purple meadow rue, rare moonworts, short-spored jelly lichen, swamp willow herb, or sweet grass individuals or populations. The proposed action would encourage re-establishment of riparian vegetation and site characteristics that represent potential habitat for these rare herbaceous species, and decrease habitat loss where riverbanks are currently eroding.

Restoration of the upstream end of Hideaway Islands would reduce the erosion threats to downstream portions of the RNA, which would protect the rare cottonwood and red-osier dogwood community.

No Action
Potential habitat for several rare plant species, and a rare riparian community may be negatively affected as riverbanks continue to erode and riparian vegetation is lost at Hideaway Islands RNA.

Cumulative Effects

The analysis area is the RNA (76 acres). Hideaway Islands were originally designated as an RNA in 1985, and re-designated in 2007, by the BLM to preserve the existing native plant communities in an unmodified condition for the primary purpose of research and education. Although flooding historically determined the islands' vegetative cover, the completion of Libby Dam in 1972 and subsequent flood control have led to a change in hydrologic conditions that once influenced the plant communities on the islands. As a result, RNA vegetation may advance toward a climax condition rather than maintaining the earlier stages of ecological succession associated with free-flowing systems. Weedy, invasive species have gained a foothold in the RNA, outcompeting native shrubs and herbs. Some evidence of livestock trespass has been observed on the islands, apparently occurring during periods of low flow. (BLM 2007)

Reasonably foreseeable future activities and natural disturbances include Tribal restoration work on the adjacent side channel and the associated decrease in riverbank erosion and vegetation loss; weedy species invasion; and continued control of Kootenai River flows by Libby Dam.

Therefore, a positive cumulative effect would be realized through restoration of 0.69 acres, because as riparian plant communities re-develop at the upstream end of Hideaway Islands and along the side channel, soil and vegetation losses from the overall RNA would decrease, benefitting both the rare cottonwood/dogwood plant community and potential habitat for several rare species.

3.2.5 Invasive Non-Native Species

Affected Environment

Historic and ongoing activities in the project area have created disturbances allowing the invasion of noxious weeds. Seasonal flooding and livestock and wildlife activities have contributed to regular disturbances in the project area. Each of these have likely provided transportation of invasive plant propagules into the project area leading to establishment of various weed species. Ongoing disturbances have likely led to the spread of weed species throughout the area. The project area has a limited number of weeds due to the small size, but the Hideaway Islands RNA has substantial populations of invasive plant species (see **Table 3** below).

Table 3: Invasive Species in the Analysis Area

Invasive plant species identified in the project area	
Spotted knapweed	*Centaurea maculosa*
Common tansy	*Tanacetum vulgare*
Dalmatian toadflax	*Linaria dalmatica ssp. dalmatica*
Additional weed species identified in the Hideaway Islands RNA	
Houndstongue	*Cynoglossum officinale*
Bull thistle	*Cirsium vulgare*
Common mullein	*Verbascum thapsus*
Canada thistle	*Cirsium arvense*
Additional weed species identified in the surrounding area	
Oxeye daisy	*Chrysanthemum leucanthemum*
Meadow hawkweed	*Hieracium caespitosum*

Direct and Indirect Effects of Alternatives

Proposed Action

The Proposed Action would likely have a direct effect by increasing the localized risk of weed invasion into construction areas. Short term results would likely be an increase in invasive plants following construction. Long term results would likely be a decrease in invasive species due to the stabilization of the bank area and establishment of riparian species. Minimizing the disturbance and removal of native vegetation during construction would reduce the risk of invasion. Establishment of native riparian species following construction would likely dominate the project area and prevent weed establishment. Disturbed areas would be monitored for post-project vegetation recovery, and areas that do not re-vegetate quickly treated to remove invasive species, and re-planted with native and/or desirable non-native species.

No Action

The continued riverbank disturbance would likely enable invasive species such as common tansy to establish and persist. Invasive species in riparian areas are often more difficult to treat because of concerns with herbicide use around water or difficulty accessing the infestation for manual removal. Established invasive weeds would continue to provide a seed source into downstream areas.

Cumulative Impacts

There are many factors in the analysis area that have and will continue to contribute to the spread of noxious weeds including: floods, recreation, transportation, wildlife, logging, wildland fires and other uses. Where left untreated, weeds may persist and

continue to threaten native plant communities. In areas where native plant communities are established, weeds may be prevented from establishing and/or persisting. Where effective treatment has occurred, weeds have been either eradicated or their spread into native vegetation was curtailed. Ongoing and reasonably foreseeable actions on non-BLM land which would increase the threat of weed invasion into native plant communities include recreation activities; flooding; road-building and use; logging; fire; wildlife; and OHV activity.

Noxious weed control efforts in the analysis area are conducted as part of the Selkirk Cooperative Weed Management Area (SCWMA). These cooperators have noxious weed control responsibilities and interests on adjacent and co-mingled lands in the area. Uncontrolled weed populations in one jurisdiction greatly affect the ability of other land managers to control weeds on lands they administer. The SCWMA promotes an integrated weed management program throughout the area that includes public relations, education and training in the noxious weed arena, along with coordination of weed control efforts and methods, and sharing of resources.

The short term effects of the proposed action may result in increased weed establishment and spread in areas of ground disturbance. However, over the long term, stabilization of the banks in the overall project and establishing native riparian vegetation in these areas, along with weed control activities undertaken by BLM on public lands and the SCWMA on adjacent lands, would contribute positive cumulative effects on noxious weeds.

3.2.6 Fisheries, including Special Status Species

Affected Environment

As noted in the purpose and need statement for this project, native fish stocks, including Kootenai River white sturgeon, burbot, kokanee, redband trout, westslope cutthroat trout and bull trout, began to decline as a result of historic development throughout the Kootenai River basin. Habitat alteration from mining, timber harvest, road development, dam construction, water diversions and cattle grazing has been attributed to the decline of native fish stocks. In addition, introduction of non-native fish species has also contributed to the decline of native species through competition for resources, predation and hybridization. See **Table 4** below for a list of native and introduced fish species found in the Kootenai River watershed and their status. The six aquatic focal species for the restoration project, which included the species that are federally listed or BLM sensitive, are discussed in further detail below.

Table 4: Fish Species in the Kootenai River Watershed

Native Species			Introduced Species	
Common Name	***Genus species***	***Status***	***Common Name***	***Genus species***
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*	BLM Sensitive	Rainbow trout	*Oncorhynchus mykiss*
Redband trout	*Oncorhynchus mykiss subspecies*	BLM Sensitive	Brown trout	*Salmo trutta*

Native Species			Introduced Species	
Bull trout	*Salvelinus confluentus*	Federally Listed as Threatened	Brook trout	*Salvelinus fontinalis*
Kokanee salmon	*Oncorhynchus nerka*		Bluegill	*Lepomis macrochirus*
Mountain whitefish	*Prosopium williamsoni*		Pumpkinseed	*Lepomis gibbosus*
Burbot	*Lota lota*	BLM Sensitive	Smallmouth bass	*Micropterus dolomieu*
White sturgeon	*Acipenser transmontanus*	Federally Listed as Endangered	Largemouth bass	*Micropterus salmonides*
Redside shiner	*Richardsonius balteatus*		Northern pike	*Esox lucius*
Peamouth chub	*Mylocheilus caurinus*		Yellow perch	*Perca flavescens*
Northern pikeminnow	*Ptychocheilus oregonensis*		Black bullhead	*Amerius melas*
Largescale sucker	*Catostomus macrocheilus*			
Longnose sucker	*Catostomus catostomus*			
Torrent sculpin	*Cottus rhotheus*			
Slimy sculpin	*Cottus cognatus*			
Longnose dace	*Rhinichthys cataractae*			

Kootenai River White Sturgeon

The Kootenai River white sturgeon is one of 18 landlocked populations of white sturgeon known to occur in western North America and is genetically distinct from all other sturgeon populations (USFWS 2006). Kootenai sturgeon currently occupy waters of the Kootenai River in Idaho and Montana and the Kootenay River and Kootenay Lake in British Columbia. Juvenile (nearly all hatchery-produced) and adult Kootenai sturgeon forage in and migrate freely throughout the Kootenai River, predominantly downstream from Bonners Ferry (RM 152) and in Kootenay Lake.

The Kootenai sturgeon population has been declining for at least four decades and recruitment has been largely insignificant since the 1950s (Paragamian et al. 2005). Due to the population decline and ongoing lack of juvenile recruitment, the Kootenai River white sturgeon Distinct Population Segment (DPS) was federally listed as endangered on September 6, 1994 (59 FR 45989) and a recovery plan was completed in 1999 (UWFWS 1999). The remaining wild population is declining by about 9 percent per year as fish die naturally and are not replaced. Based on projected population declines, fewer than 50 wild adult Kootenai sturgeon are projected to exist after the year 2030 (Paragamian et al. 2005).

Adult Kootenai sturgeon spawn in the Kootenai River from May through July (Apperson and Anders 1991; Marcuson 1994; Paragamian et al. 2001). Intensive field monitoring has shown that nearly all eggs do not survive; intensive surveys over many years have only found one hatching embryo, and no free-swimming larvae or young-of-the-year have been captured (USFWS 2006). Recruitment failure may be caused by numerous factors, including fish currently spawning at sites where conditions appear unsuitable for successful incubation and early rearing (Anders et al. 2002). Research to date suggests

that recruitment failure is caused by egg or larval suffocation, predation and/or other mortality factors affecting these early life stages (Anders 1991; Duke et al. 1999; USFWS 1999; Paragamian et al. 2001; Anders et al. 2002; Koch 2004; Koch et al. 2006). Further research, based on monitoring releases of very small young-of-the-year Kootenai sturgeon, suggest a potential second density-dependent bottleneck to recruitment that may be associated with competition or predation, lack of food, and rearing habitat capacity (Justice et al. 2009).

Nearly all Kootenai sturgeon spawning occurs in the Kootenai River over sand substrate available downstream of Bonners Ferry (below RM 152). As river flows increase, a few Kootenai sturgeon migrate further upstream to the gravel substrates available at and upstream of Bonners Ferry (Paragamian et al. 1997). Despite many years of augmented flow releases from Libby Dam intended to attract spawning Kootenai sturgeon, the vast majority of tagged fish have been located downstream of Braided Reach 1 (Rust and Wakkinen 2009).

The lateral extent of Kootenai sturgeon critical habitat at the Phase 1 project sites includes the river channel up to the ordinary high-water line on each bank of the Kootenai River. The entire Phase 1 project reach of the Kootenai River is within designated Kootenai sturgeon critical habitat. The project sites potentially could be used for sturgeon spawning, rearing, and migration if habitat conditions were conducive; sturgeon do not heavily use the project area under current conditions.

Bull Trout

The Columbia River bull trout DPS was federally listed as threatened in the Columbia Basin on June 10, 1998 by the USFWS (63 FR 31647). This designation includes bull trout in the Kootenai River subbasin within the United States. The USFWS issued a final rule for bull trout critical habitat for the coterminous United States on September 26, 2005, and, on October 18, 2010, the USFWS issued a revised designation of bull trout critical habitat. The revised critical habitat rule includes the Kootenai River.

Bull trout are currently widely distributed through the lower Kootenai River, from Libby Dam downstream to Kootenay Lake in British Columbia (KTOI and MFWP 2004). Spawning and rearing by migratory adults occur in tributaries draining portions of British Columbia, Idaho, and Montana. Bull trout spawning in the mainstem Kootenai River has not been documented, and spawning probably does not occur due to lack of suitable habitat and water temperatures outside the suitable spawning and incubation ranges (USFWS 2002). These migratory fish spend their adult lives in Kootenay Lake or the Kootenai River (KTOI and MFWP 2004). Libby Dam is currently a barrier blocking upstream migration as there are no fish ladders at the dam. Little quantitative information exists regarding historical bull trout abundance downstream from Kootenai Falls in Montana or Idaho (KTOI and MFWP 2004). The valleys of the lower Kootenai were developed for agriculture during the late 19th and early 20th century, and the habitat for bull trout was negatively impacted prior to the collection of substantive fishery data.

Habitat components that have been associated with bull trout include cool water temperature, high degree of instream cover, complex and stable channel form, clean and

unembedded spawning and rearing substrate, and unobstructed migratory corridors (Howell and Buchanan 1992; Rieman and McIntyre 1993). Water temperature above 15°C (59°F) is believed to generally limit bull trout distribution, although migratory bull trout have been documented in migratory corridors with temperatures well over 16°C for varying time periods (Howell et al. 2009, Goetz et al. 2004, Baxter 2002, Dunham et al. 2003).

Some adult bull trout likely use the mainstem Kootenai River for a transient migratory corridor between Kootenay Lake and spawning tributaries upstream. Transient migrations most likely occur immediately post-spawn in late fall when adults move downstream out of spawning tributaries to Kootenay Lake to forage and overwinter. Adult bull trout could use the mainstem Kootenai River for extended foraging during overwintering periods between spawning migrations. Upstream migration likely occurs in the late spring to summer, as adults return to the spawning tributaries.

Bull trout are fall spawners, typically migrating to spawning areas during August and early September, primarily in third and fourth-order streams. Eggs hatch after 100 to 145 days of incubation (Heimer 1965; Allan 1980; Weaver and White 1984). Fry emerge from gravels in early spring (Shepard et al. 1984). Juvenile bull trout live near the stream bottom for the first two years of life using pockets of slow water within swift stream reaches (Pratt 1984b; Shepard et al. 1984). Unembedded cobble and boulders, and dispersed woody debris are commonly used forms of cover. After migrating out of upstream spawning tributaries, "subadult" bull trout may rear in the mainstem Kootenai River for extended periods through early summer or may migrate through the reach to Kootenay Lake.

Bull trout in the Kootenai River have been impacted by habitat degradation, altered hydrology and river hydraulics related to flow ramping, habitat fragmentation and degradation, gas supersaturation due to reservoir spill, and a diminished prey base related to suppressed kokanee production caused by nutrient depletion.

Westslope Cutthroat Trout

The westslope cutthroat trout is one of fourteen subspecies of cutthroat trout native to interior regions of western North America. In the Idaho portion of the Lower Kootenai watershed, stocks of westslope cutthroat trout are known to occur in 33 stream reaches. Twenty-five years of population estimates reveal a population decline for westslope cutthroat trout in the Kootenai subbasin (Hoffman et al. 2002). Severe declines in westslope cutthroat trout abundance in Koocanusa Reservoir tributaries have been measured since the early eighties (Marotz et al. 1998).

Westslope cutthroat trout usually mature at 4 or 5 years of age and spawn entirely in streams, primarily small tributaries. Spawning occurs between March and July, when water temperatures warm to about 10º C (50º F) (Trotter 1987; Behnke 1992). Three westslope cutthroat trout life-history types (resident, fluvial, and adfluvial) are recognized (Trotter 1987; Behnke 1992). Resident fish spend their lives entirely in the natal tributaries; fluvial fish spawn in small tributaries but their resulting young migrate downstream to larger rivers where they grow and mature; and adfluvial fish spawn in

streams but their young migrate downstream to mature in lakes. After spawning in tributaries, adult fluvial and adfluvial westslope cutthroat trout return to the rivers or lakes (Behnke 1992). All three life-history types occur within the Kootenai subbasin (Marotz et al. 1998). Westslope cutthroat trout feed primarily on macroinvertebrates, particularly immature and mature forms of aquatic insects, terrestrial insects, and, in lakes, zooplankton (Liknes and Graham 1988).

Westslope cutthroat trout are often considered an indicator of the health of the aquatic ecosystem. They require high quality, cold water and clean gravel for spawning, and so do best in complex habitats, much of which is created by large woody debris. Proximity to cover is an important component of spawning habitat. Adult westslope cutthroat trout are strongly associated with pools and cover (McIntyre and Riemen 1995). Historically, habitats of westslope cutthroat trout ranged from cold headwater streams to warmer, mainstem rivers (Behnke 1992). Today, remaining stocks of westslope cutthroat trout occur primarily in colder, headwater streams (Liknes and Graham 1988). Westslope cutthroat trout may exist in these streams not because the thermal conditions there are optimal for them, but because nonnative salmonid competitors like brook trout cannot exploit these cold, high gradient waters (Griffith 1988; Fausch 1989). Habitat factors considered to be most limiting to westslope cutthroat trout populations in the US portion of the Kootenai subbasin include degraded riparian condition, fine sediment, channel instability and lack of habitat diversity (KTOI and MFWP 2004).

Redband Trout

Redband trout of the Columbia River basin are a subspecies of the rainbow trout evolutionary line native to Kootenay Lake, British Columbia and the Kootenai River in Idaho and Montana (Allendorf et al. 1980; Behnke 1992). Genetic surveys also indicate that Columbia River redband trout were not just found in headwater reaches as they are now, but were native to low-gradient valley-bottom streams throughout the Kootenai River drainage (Muhlfeld 1999). Concern has arisen in recent years that Columbia River redband trout in the Kootenai River basin are at high risk of extinction (Muhlfeld 1999). In Idaho, genetics studies have documented Columbia River redband trout in the Boulder, Boundary, and Deep creek drainages, and North and South Callahan Creeks (Sage 1993, 1995; Leary 1997; Knudsen et al. 2002). Spawning and rearing habitat in several Idaho tributaries has been lost or is now inaccessible to fluvial Columbia River redband trout due to anthropogenic factors (Partridge 1983).

A variety of life history strategies can be found among Columbia River redband trout. Anadromous stocks (which are known commonly as steelhead) historically migrated to the middle and upper Columbia River drainage, but this range probably became more restricted when barriers formed during the last (Tahoe stage) glacial advance (Behnke 1992). There are presently redband trout populations isolated from anadromous influence, such as in Kootenay Lake and the Kootenai River upstream. An adfluvial form, the Kamloops redband trout of Kootenay Lake, British Columbia, has a piscivorous diet and therefore grows quite large and exhibits an advanced size at sexual maturity. Kamloops redband trout spawn in Kootenai River tributaries in Montana and Idaho but do not migrate upstream from Kootenai Falls (Huston 1995). Fluvial stocks occupy large rivers

and spawn in smaller tributaries. Resident forms complete their entire life cycles in smaller tributaries and headwater areas. The Kootenai River drainage supports all three life histories (Downs 1999, 2000; Muhlfeld et al. 2001b; Walters and Downs 2001; Knudsen et al. 2002).

Seasonal habitat requirements of Columbia River redband trout in the Kootenai River drainage in Montana were investigated during 1997 and 1998 (Muhlfeld 1999; Hensler and Muhlfeld 1999; Muhlfeld et al. 2001a; Muhlfeld et al. 2001b). Summer results demonstrated that juvenile and adult Columbia River redband trout preferred deep microhabitats with low to moderate velocities. Conversely, age-0 Columbia River redband trout selected slow water and shallow depths located in lateral areas of the channel. All ages of redband trout strongly selected pools and avoided riffles. Low-gradient, mid-elevation reaches with an abundance of complex pools were critical areas for the production of Columbia River redband trout. During fall and winter, adult Columbia River redband trout occupied small home ranges and found suitable overwintering habitat in deep pools with extensive amounts of cover in headwater streams. In Basin Creek, adult Columbia River redband trout began spawning during June as spring flows subsided following peak runoff. Columbia River redband trout generally selected redd sites in shallow pool tailout areas with moderate water velocities dominated by gravel substrate.

Columbia River redband trout populations have been impacted by degraded riparian condition, fine sediment, high water temperatures, and channel instability in tributary habitat to the Kootenai River (KTOI and MFWP 2004). In the mainstem Kootenai River, limiting factors include altered hydrograph and thermograph due to Libby Dam, degraded riparian condition, and fine sediment. Fish passage barriers that restrict Columbia River redband trout spawning migrations are also considered to be a limiting factor. Recently there has been concern that Kootenai River Basin Columbia River redband trout populations are at a high risk of extinction due to hybridization with non-native coastal rainbow trout, habitat fragmentation, and stream habitat degradation (Perkinson 1993; Muhlfeld 1999).

Burbot

Historically, burbot were distributed throughout the Kootenai subbasin. The largest burbot concentrations were believed to have inhabited the Balfour area near the inlet to Kootenay Lake's West Arm, and to a lesser extent seasonally inhabited the Kootenai River from Kootenay Lake to Kootenai Falls. In 1993, IDFG, in coordination with other partners, implemented a program to assess burbot abundance, distribution, size, reproductive success, and movement, and to identify factors limiting burbot in the Kootenai River in Idaho and British Columbia. A total of only 17 burbot were caught in 1993 and 8 in 1994. Only one burbot was captured between Bonners Ferry and the Montana border, with no evidence of reproduction in Idaho. Since they began monitoring the movement, habitat use, and spawning behavior of burbot in 1993, IDFG has not found evidence of successful spawning or recruitment in Idaho.

The burbot is the only true freshwater representative of the cod family, Gadidae (McPhail and Paragamian 2000). Burbot that occur in the Kootenai River basin exhibit several life history strategies in several isolated groups. The one life history strategy is represented by the lower Kootenai River burbot population, which spends a portion of its life in the South Arm of Kootenay Lake, British Columbia, and then migrates up the Kootenai River during the winter months to spawn in the mainstem river or tributary streams in British Columbia or Idaho (adfluvial life form) (KTOI and MFWP 2004). Another life history strategy is represented by burbot occurring further upstream in the Kootenai River above Kootenai Falls, which migrate within the river and to tributary streams for spawning (Paragamian et al. 1999). Burbot are cold water spawners during highly synchronized communal spawning periods, with reported optimal spawning and incubation temperatures from 0 to 4º C (Bjorn 1940; Andersson 1942; Clemens 1951b; McCrimmon and Devitt 1954; Lawler 1963; Meshkov 1967; Chen 1969; Johnson 1981; Kouril et al. 1985; Sandlund et al. 1985; Breeser et al. 1988; Boag 1989; Arndt and Hutchison 2000; Evenson 2000). Eggs are thought to drift in the water column and lodge in interstitial spaces in the substrate.

The Kootenai Subbasin Plan (2004) states that it seems likely that the existing post-development, post-dam environmental conditions can provide little restorative value to these remnant stocks or populations; and that restoration of native burbot populations to include natural recruitment and stable size and age class structures is unlikely to occur without improvement of current ecological conditions and restoration of ecological functions.

At this point, no single factor appears responsible for the collapse of the Kootenai River burbot population. Rather, a combination of overharvest, habitat loss and alteration due to levee constructions, impoundment, river regulation, and additive ecosystem degradation appears have contributed to burbot population loss through recruitment limitation and failure (KVRI 2005). Conservation strategies for burbot identified in the KVRI burbot Conservation Strategy (2005) and the Kootenai Subbasin Plan include: habitat restoration, flow and temperature manipulation, spring management of Kootenay Lake levels, nutrient restoration, and use of donor stocks, captive broodstock and conservation aquaculture.

Kokanee

Kokanee are the non-anadromous or land locked form of sockeye salmon found in the large lake systems throughout the entire Columbia River Basin (McPhail and Carveth 1992). Pre-dam population levels of kokanee are unknown. There are currently six populations of kokanee in the Kootenai River Subbasin in Idaho, Montana, and British Columbia. Native kokanee in the Kootenai subbasin are found downstream from Kootenai Falls in Montana. They overlap the distribution of sockeye salmon in British Columbia, but are also found in lakes that are now cut off to sockeye as a result of human interventions, the best example being the upper Columbia River system. Kokanee in the Kootenai subbasin have been isolated for at least 10,000 years due to a natural barrier located on the lower Kootenay River at Bonnington Falls approximately 20 km upstream from the confluence with the Columbia River (Northcote 1973).

Native kokanee salmon runs in lower Kootenai River tributaries in Idaho have experienced dramatic population declines during the past several decades (Ashley and Thompson 1993; Partridge 1983). The kokanee that historically spawned in these tributaries inhabited the South Arm of Kootenay Lake in British Columbia. Native kokanee are considered an important prey item for white sturgeon and also provided an important fishery in the tributaries of the lower Kootenai River (Partridge 1983; Hammond, J., B.C. MELP, per. comm. 2000 from KTOI and MFWP 2004). Kokanee runs into North Idaho tributaries of the Kootenai River that numbered into the thousands of fish as recently as the early 1980s have now become "functionally extinct" (Anders 1993; Kootenai Tribe of Idaho, unpublished data). Since 1996, visual observations and redd counts in five tributaries found no spawners returning to Trout, Smith, and Parker Creeks, while Long Canyon and Boundary Creeks had very few kokanee returns.

Most kokanee populations found in the large lakes of British Columbia migrate up tributary streams to spawn, usually in September. Information and documentation of shore spawning kokanee in British Columbia has been quite limited, but recent investigations have identified several shore spawning populations that were previously unknown. Kokanee prefer low gradient streams for spawning. Spawning occurs in the fall, generally from August - October (KTOI and MFWP 2004). Kokanee fry move immediately to open waters after emergence from spawning areas, where they feed primarily on zooplankton (KTOI and MFWP 2004).

Kokanee likely provided forage for much of the historically present lower Kootenai River fish assemblage. Adfluvial rainbow trout, bull trout, sturgeon and burbot that occupied Kootenay Lake certainly relied on kokanee as a food source (KTOI and MFWP 2004). It is most likely that Kootenai burbot and sturgeon also targeted on spawning kokanee when they migrated into tributary streams in the Kootenai Basin. Loss of these spawning migrations as a potential food source very likely had significant impacts on these two species.

The magnitude of the effects of Duncan Dam and Libby Dam on kokanee populations is substantial. These impacts included: changes in physical habitat; spawning, incubation and early rearing success; and nutrient and food availability for later rearing and maturation (KTOI and MFWP 2004; Ericksen et al. 2009). In the regulated Kootenai River mainstem the habitat attributes causing the greatest impact on kokanee are altered hydrograph, altered thermal regime, fine sediment, and channel stability (KTOI and MFWP 2004).

Direct and Indirect Effects of Alternatives

Proposed Action

The proposed actions would restore habitat in accordance with Biological Opinions for the Columbia River Basin (USFWS 2000; USFWS 2006; USFWS 2007; NOAA Fisheries 2008; USFWS 2008a and b). To further meet federal agency responsibilities under the Endangered Species Act, BPA has initiated formal consultation with USFWS

for impacts to Kootenai River white sturgeon and Columbia River bull trout, and their designated critical habitat associated with the Kootenai River Habitat Restoration Project, Phase 1, Braided Reach 1 (Bonneville Power Administration 2010). The biological assessment (BA) addresses impacts of the proposed activities in the Hideaway Islands study area. It concludes the proposed project is designed to benefit Kootenai sturgeon and bull trout. As described in the BA, sturgeon are not expected to be in the project area during construction. However, for the purposes of this consultation, under a worst case scenario, it is assumed that one adult sturgeon may be startled out of the project area, ten juvenile sturgeon may be captured by seining or electrofishing, and up to one juvenile sturgeon mortality could occur. Similarly, it is unlikely any bull trout will actually be present during construction, but for the purposes of this consultation under a worst case scenario, it is assumed that one adult bull trout may be startled out of the project area, two subadult bull trout may be captured by seining or electrofishing, and one subadult bull trout mortality at most could occur. Therefore, BPA has determined the project "may affect", and is "likely to adversely affect" Kootenai River white sturgeon and Columbia River bull trout. Designated sturgeon critical habitat and bull trout critical habitat would be improved over the long term, and the project would not hinder attainment of properly functioning habitat conditions for these species. Therefore, the proposed Phase 1 project would not destroy or adversely modify Kootenai River white sturgeon designated critical habitat or Columbia River bull trout critical habitat.

The analysis above from the BA addresses Phase 1, Braided Reach 1 of the Tribe's restoration project. The analysis below focuses on the potential effects of the work occurring on BLM land.

Adverse water quality effects on fish and their habitat potentially could occur during instream or near-stream work. For example, sediment may be introduced to the river and turbidity could increase during in-water activities, or heavy equipment could introduce fuel, hydraulic fluid, or other toxic substances into the river. Work could also cause disturbance of fish. Given the overall low abundance of bull trout and Kootenai sturgeon at the project site, it is very unlikely that either species would be disturbed due to the small work area and the large scale of alternative suitable habitat. Further, the habitat at the project site was selected for restoration, as existing conditions currently consist of low complexity and low function habitat, further suggesting that bull trout and Kootenai sturgeon are unlikely to be present. Other native fish species could possibly be disturbed; however, the small portion of the project on BLM land and no in-water work makes this unlikely.

The portion of the project occurring on the 0.69 acres of the Hideaway Island RNA would all be above the OHW. The work would mobilize some amount of sediment that could enter the water when the level of the river rises, possibly leading to indirect impacts to fish through turbidity or cobble embeddedness. The project would reduce the sediment moving into the stream channel from unstable and unvegetated banks, and the sediment input to the stream from implementation of the project is expected to be less than the current sediment input and would mainly occur during the first flow after project construction. In addition, the logs and boulders would provide cover and may help form pools, which would serve as habitat for some fish species, including westslope cutthroat

trout. Heavy equipment would not be working in the water. Any leaks of fuel, hydraulic fluid or other substances would likely be contained and cleaned up and are not expected to reach the water. Overall, the proposed action would improve aquatic habitat and be beneficial to fish species. Impacts to fish and aquatic habitat due to sediment mobilization as a result of project implementation would be negligible.

No Action
Whether or not BLM approves work on the 0.69 acres of the Hideaway Island RNA that is above the Ordinary High Watermark, it is reasonably foreseeable that Tribe will proceed with the other restoration work proposed by their restoration plan. Thus, the beneficial impacts of the Reach 1 habitat improvement to the native fish populations would still occur.

Cumulative Impacts

The area of cumulative effects analysis for fisheries resources is the Kootenai River Braided Reach 1. The proposed restoration activities, in combination with other phased activities proposed by the Tribe's 2009 master plan, are expected to reverse the decline of native fish stocks that began following levee construction and flood regulation by Libby Dam. Since the overall effect of the proposed project is expected to be beneficial to native fish species and aquatic habitat in the Kootenai River, and since negative impacts from sediment are expected to be negligible, the only anticipated cumulative effects are expected to be beneficial.

3.2.7 Wildlife, including Special Status Species

Affected Environment

The project area is largely river bank habitat. Sandy soils and vegetated banks characterize the site. Portions of the site have shrubby riparian vegetation, but in general the site is bare soil river banks and low growing grasses and forbs. The exposed soils could provide habitat for shorebirds like the spotted sandpiper and killdeer. Migrating shorebirds may also use the exposed soils as a stopover during their northward or southward migration. However, because these exposed soils are not very productive and do not have much food value compared to the managed wetlands of the nearby Kootenai National Wildlife Refuge, this small area should not be considered significant as habitat for shore birds.

The riparian cottonwood forest that is adjacent to the project site is the greatest contributor to the wildlife habitat values of the Hideaway Islands. Riparian habitat makes up than 1 percent of the western United States landscape (Skagen et al. 2005). Cottonwood forests have been declining for the last several decades as a result of river management and water development for urban and agricultural use, but the value of the ecosystem is disproportionate to its abundance. Cottonwood forests provide habitat to numerous wildlife species. The cottonwood forests in the Hideaway Islands RNA provide potential habitat to migratory and resident birds, bald eagles, owls, and other raptors, ungulates, reptiles and amphibians, and small mammals.

Table 5. BLM Special Status Species and Migratory Birds Occurrence on Island

Species	Likely to Inhabit	Uncommon-May Inhabit	Encountered on Site Visit
Bald Eagle*	X		X
Northern Goshawk*		X	
Northern pygmy owl*	X		
Upland sandpiper**[M]		X	
American Avocet**[M]		X	
Long-billed curlew**[M]		X	
Calliope hummingbird*[M]		X	
Lewis', woodpecker*		X	
Fringed Myotis		X	
Townsend's big-eared bat*		X	
Yuma myotis*	X		
Long-eared myotis*		X	
California myotis*		X	
Long-legged myotis*		X	
Western small-footed myotis*		X	
Common garter snake*	X		
Northern alligator lizard*		X	
Coeur d' Alene Salamander*		X	

*BLM Sensitive Species, ** IDFG Species of Greatest Conservation Need, [M] Migratory Bird

Direct and Indirect Effects of Alternatives

Proposed Action

The project would benefit the numerous wildlife species that utilize riparian habitat. In the long term the project would enhance the vegetation community and help to protect the islands from erosion. Vegetation plantings, as proposed, would also benefit wildlife species, particularly migratory birds that would use the plants as nesting habitat and food sources.

Implementation would begin in August of 2011. Activities are projected to conclude by December of 2011. This period of activity would prevent much of the impacts to migratory birds that may be nesting on the island. The proponent believes that work would be completed no later than April of 2012. If implementation could not be completed until the next spring, disturbance to any nesting birds may cause nest abandonment. Adult birds caring for young may be less attentive to their chicks, or incubation may be disrupted causing nest failure.

During project implementation, local wildlife using the project area and adjacent habitat would be disturbed. Most animals would be able to leave the area and would only be bothered temporarily. Once work is completed, they can return and use the site as they

normally would. Smaller animals such as alligator lizards, burrowing mammals, frogs, turtles, and salamanders may be unable to leave the site during implementation, and this may possibly result in mortality. Earth moving operations to re-contour the floodplain and the use of heavy equipment may have unavoidable impacts to these smaller, less mobile species. But instances of this nature would likely be uncommon and would not be significant at a population level.

If equipment or people spread noxious weeds to the site, degradation to wildlife habitat may occur. While weeds are already present on the island, additional degradation by other weed species would only further reduce the value of the habitat to wildlife. This potential impact would be mitigated by ensuring that equipment is properly inspected and washed prior to arrival on the island, and advising personnel to also inspect their clothing and footwear for weed seeds.

No Action

If the project is not implemented, no disturbance to aquatic or terrestrial wildlife would occur. Project related weed introduction to the site would not be a concern. There would be no mortality to burrowing animals or species with low mobility that could not escape heavy equipment.

Riparian habitat across the western United States continues to disappear as a result of human development, changes in water flow management, and invasive species. Without implementation of the project, the island would continue to erode and riparian habitat within the river corridor would continue to degrade and disappear. In the long term, this outcome is more detrimental to wildlife species than implementation of the project.

Cumulative Impacts

The Kootenai River Watershed is vast and includes 19,420 square miles of land. The 485 mile length of the river includes portions of Idaho, Montana, and British Columbia. Historically, this river was significantly impacted by the construction of Libby Dam in Montana. Impoundment of waters in Lake Koocanusa has resulted in reduction of sediment and nutrient flow downstream. As a result, river islands, like those in the Hideaway Islands RNA are eroding more quickly than sedimentation from the river can rebuild them. Projects to supplement the nutrients lost to Libby Dam and Kootenai Reservoir have been implemented by Idaho Fish and Game. The reduction in sediments is expected to continue. Water has been diverted from the river for agricultural uses, municipal uses, and for land management uses such as the Kootenai River National Wildlife Refuge. These uses are expected to continue into the future. Recreational uses include guided fishing, motorized boat use, rafting, and non-motorized boat use. These uses are also expected to continue over the long term. Implementation of the project would not contribute to any negative cumulative impacts to wildlife. Implementation would help to mitigate some of the ongoing impacts resulting from Libby Dam.

3.2.8 Cultural Resources

Affected Environment

A cultural resources inventory has been completed at Hideaway Islands, and no cultural resources were found on BLM. Consultation has been completed with the Idaho State Historic Preservation Office. BPA will be responsible for monitoring the construction work on the private parcel of land across the side channel from the BLM land.

Direct and Indirect Effects of Alternatives

Proposed Action and No Action
There would be no impacts to cultural resources on BLM administered land. Monitoring of work would help to protect any sites if discovered during construction.

Cumulative Impacts
None.

3.3 Mitigation and Monitoring Recommendations

Because work would be done in an RNA that was established because of its native vegetation attributes, site-appropriate, local-origin, source-identified plant materials should be used for the RNA portion of the side channel, in order to conserve species and genetic diversity. The BLM would comment on any species lists or selections that are suggested for the RNA portion of the project. Implementation of the measures described as part of the Proposed Action should suffice to reduce introduction of weeds and conserve wildlife habitat in the project area.

4 CONSULTATION AND COORDINATION

4.1 Persons, Groups or Agencies Consulted

4.1.1 Public Involvement

Public involvement for the Kootenai Tribe's Restoration Project has included BLM participation and coordination with their public outreach activities in Bonners Ferry since 2008. Activities include collaboration with Kootenai Valley Resource Initiative (KVRI), a community-based initiative to restore and enhance the resources of the Kootenai Valley. The mission of the KVRI is to improve coordination of local, state, federal and Tribal programs to restore and maintain social, cultural, economic and natural resources.

Table 6. Kootenai Tribe's Kootenai River Habitat Restoration Project Outreach

Date	**Venue**	**Type of Outreach**
April 21, 2008	Kootenai Valley Resource Initiative (KVRI)*	Presentation --- Sue Ireland (Kootenai Tribe)
May 11, 2009	KVRI	Update --- Patty Perry (Kootenai Tribe)
June 15, 2009	KVRI	Presentation --- Sue Ireland
October 19, 2009	KVRI	Presentation --- Sue Ireland
January 25, 2010	KVRI	Update --- Sue Ireland
February 22, 2010	KVRI	Update --- Patty Perry
March 1, 2010	Kootenai Valley Sportsman's Association	Presentation ---- Sue Ireland
May 13, 2010	Public Stakeholder Meeting	Presentation --- Sue Ireland, Sean Welch (Tribal Consultant), Patty Perry
May 17 2010	Army Corps of Engineers Annual Public meeting about the operation of Libby Dam	Presentation ----Sue Ireland
April 18, 2011	KVRI	Update --- Sue Ireland and Patty Perry

4.1.1 Coordination with the Tribe and Other Agencies

Sue Ireland of the Kootenai Tribe of Idaho has been BLM's primary contact since early 2010 regarding implementation of the Kootenai River Habitat Restoration Project Master Plan to include preparation of this Hideaway Islands EA.

Coordination with Bonneville Power Administration concerning the restoration work at Hideaway Islands RNA has been ongoing since October 2010, with John Barco being the main point of contact. BPA has the lead for Endangered Species Act (ESA) consultation, and preparation of a Biological Assessment (BA) to evaluate the effects of the project on Kootenai River white sturgeon and Columbia River bull trout, and their designated critical habitat. The BLM portion of the project is included in the ESA consultation, and the BLM will be a signatory to the Biological Assessment and request for consultation.

BPA also has the lead for National Historic Preservation Act consultation for private lands. BLM has completed cultural resources consultation for the Hideaway Islands RNA portion of the restoration project with the Idaho State Historic Preservation Office.

4.2 Preparers

Name	Role
LeAnn Abell	Project Lead; Vegetation, including Special Status Plants, Wetland and Riparian Zones
Doug Evans	Invasive, Non-native Species
Carrie Hugo	Wildlife, including Special Status Species and Migratory Birds
David Sisson	Cultural Resources; Native American Concerns
Mike Stevenson	Soil and Water Resources; Wetland and Riparian Zones
Lorrie West	NEPA Coordination
Cindy Weston	Aquatics, including Special Status Fish; Wetland and Riparian Zones

4.3 Distribution

This EA will be available from the Idaho BLM public internet site at:

http://www.blm.gov/id/st/en/info/nepa.html

Copies may be requested by visiting or calling the BLM Idaho Coeur d'Alene Field Office at 3815 Schreiber Way (208-769-5000).

A notice of availability or copy of this EA will be sent to the following interested entities that commented during scoping and/or requested one.

Bonneville Power Administration, Portland, OR
BLM Idaho State Office, Boise ID
Idaho Conservation League, Jonathan Oppenheimer, Boise, ID
Idaho Department of Fish and Game, Coeur d'Alene, ID
Idaho Department of Lands
Kootenai Tribe of Idaho, Bonners Ferry, ID
Kootenai Valley Resource Initiative, Bonners Ferry ID
U.S. Army Corps of Engineers, Coeur d'Alene, ID
U.S. Fish and Wildlife Service, Boise ID
U.S. Fish and Wildlife Service, Spokane, WA
U.S. Forest Service, Idaho Panhandle National Forests, Coeur d'Alene, ID

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