ALBENI FALLS DAM, STRONG’S ISLAND HISTORIC PROPERTIES SHORELINE STABILIZATION PROJECT, BONNER COUNTY, IDAHO

FINDING OF NO SIGNIFICANT IMPACT (FONSI) AND
CLEAN WATER ACT SECTION 404 STATEMENT OF FINDINGS

The U.S. Army Corps of Engineers, Seattle District (Corps) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The final Environmental Assessment (EA) dated 31 August 2020, for the Albeni Falls Dam, Strong’s Island Historic Properties Shoreline Stabilization Project addresses mitigation of adverse effects to archaeological site 10BR91 and stopping erosion and loss of land at Strong’s Island.

The Final EA, incorporated herein by reference, evaluated various alternatives that would mitigate adverse effects to archaeological site 10BR91 and stopping erosion and loss of land in the study area. The selected action is listed as Alternative 2 - Bank Stabilization in the Final EA and includes:

- Construction of a rock riprap revetment that would be approximately 50 to 65 feet wide ranging from approximately 2,055 feet above mean sea level (MSL) to grade at the top of the existing bank for a total length of approximately 1,000 linear feet. The structure would be finished at a two (horizontal) to one (vertical) slope. Albeni Cove recreation area.

- Construction materials would consist of approximately 145,748 cubic yards (CY) of Class III riprap and 67,285 CY of two to four-inch quarry spills. The revetment would incorporate willows placed vertically against the natural bank and below the revetment material. Four to six-foot willow stakes and one 1-gallon rooted willow stock per foot would be installed, buried 2/3 under the surface with 1/3 above surface at no more than 6 to 12 inches above summer high pool (2,062.5 feet MSL). The top of the revetment would be seeded with a native plant mix and covered in mulch.

In addition to a “no action” alternative (Alternative 1), two alternatives were evaluated. The alternatives included the proposed action (Alternative 2) and archaeological data recovery (Alternative 3). The “no action” alternative was rejected because it will not meet the project purpose and need to protect the National Register of Historic Places eligible archeological site and to stop the erosion of the island tip. The Corps rejected Alternative 3, the data recovery option, because once the shoreline erosion intersects areas where sediments have been disturbed from archaeological excavation, erosion in that area will likely accelerate.

SUMMARY OF POTENTIAL EFFECTS:
For all alternatives, the potential effects were evaluated, as appropriate. A summary

---

1 40 CFR 1505.2(b) requires a summary of the alternatives considered.
assessment of the potential effects of the selected action are listed in Table 1:

<table>
<thead>
<tr>
<th>Impact Area</th>
<th>Insignificant effects</th>
<th>Insignificant effects as a result of mitigation</th>
<th>Resource unaffected by action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoreline Erosion</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Climate</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Water Quality</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Vegetation and Wetlands</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Fish and Wildlife</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Threatened and Endangered Species</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Invasive Species</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Land Use</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Aesthetics and Visual Resources</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Air Quality and Noise</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Utilities and Infrastructure</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Recreation</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Socioeconomic</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices as detailed in Section 2.5 of the EA will be implemented, if appropriate, to minimize impacts.

COMPENSATORY MITIGATION:
No compensatory mitigation measures are planned other than incorporating native plantings into the stabilization to enhance fish and wildlife habitat.

PUBLIC REVIEW:
Public review of the Draft EA, 404(b)(1), and Draft FONSI began on 8 July 2020 and was completed on 7 August 2020. The Corps did not receive any comments from the public. One letter was received from the Kalispel Tribe of Indians that stated support for the data recovery alternative and objected to bank stabilization because it would be more cost effective and provide significant benefits. The Corps and the Kalispel Tribe of Indians held a meeting to discuss the comments. A summary of the comments and the Corps response are in Appendix F of the Final EA.
OTHER ENVIRONMENTAL AND CULTURAL COMPLIANCE REQUIREMENTS:
Endangered Species Act
Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the Corps
determined that the selected action may affect but is not likely to adversely affect the
following federally listed species or their designated critical habitat:

- Bull Trout: The U.S. Fish and Wildlife Service concurred with the Corps’
determination on 14 July 2020

National Historic Preservation Act
The Corps has determined that the proposed work is within the scope of the
Systemwide Programmatic Agreement for the Management of Historic Properties
Affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia
River Power System for Compliance with Section 106 of the National Historic
Preservation Act (SWPA). In accordance with the SWPA requires the Lead Federal
Agencies to prepare written documentation of determinations of National Register
eligibility, determinations of the undertaking’s effect on the historic property and
proposed treatment measures to resolve for adverse effects. A memorandum of
agreement is not required to resolve adverse effects under the SWPA rather, a
Treatment Plan Form (TPF) is prepared and serves as the documentation required by
the SWPA under Stipulation IX.G.

The Corps has consulted with the Idaho State Historic Preservation Office on this
undertaking. Additionally, the Corps is consulting with the Albeni Falls Dam
Cooperating Group (AFDCG) that oversees administration of cultural resource
management actions under the SWPA to develop a TPF to resolve adverse effects to
site 10BR91. The AFDCG includes representatives from the governments of affected
Indian tribes and other parties that includes representatives from the Idaho SHPO,
Bonneville Power Administration, the Idaho Panhandle National Forest, the Bureau of
Land Management, the Kalispel Tribe of Indians, the Coeur d’Alene Tribe, the
Confederated Salish and Kootenai Tribes, and the Kootenai Tribe of Idaho. A TPF was
signed by the SHPO on August 27, 2020.

Clean Water Act Section 404(b)(1) Compliance
Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill
material associated with the selected action has been found to be compliant with
Guidelines evaluation is found in Appendix A of the EA.

Clean Water Act Section 401 Compliance
A water quality certification pursuant to section 401 of the Clean Water Act will be
obtained from the Idaho Department of Environmental Quality prior to construction. All
conditions of the water quality certification will be implemented in order to minimize
adverse impacts to water quality.
FINDING:
All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

15 Sep 2020
Date

ALEXANDER “XANDER” L. BULLOCK
COL, EN
Commanding

---

2 40 CFR 1505.2(B) requires identification of relevant factors including any essential to national policy which were balanced in the agency decision.

3 40 CFR 1508.13 stated the FONSI shall include an EA or a summary of it and shall note any other environmental documents related to it. If an assessment is included, the FONSI need not repeat any of the discussion in the assessment but may incorporate by reference.
FINAL ENVIRONMENTAL ASSESSMENT AND CLEAN WATER ACT SECTION 404 PUBLIC INTEREST REVIEW

ALBENI FALLS DAM, STRONG’S ISLAND HISTORIC PROPERTIES SHORELINE STABILIZATION PROJECT, BONNER COUNTY, IDAHO

September 2020

Prepared by:

Seattle District
Corps of Engineers
6.2 Endangered Species Act ................................................................. 24
6.3 Clean Water Act ........................................................................ 24
6.4 Clean Air Act of 1972 ................................................................. 24
6.5 National Historic Preservation Act of 1966 .............................. 24
6.6 Federal Trust Responsibility ......................................................... 25
6.7 Migratory Bird Treaty act of 1918 and Executive Order 13186, Migratory Bird Habitat Protection ................................................................. 25
6.8 Executive Order 12898, Environmental Justice in Minority Populations and Low-Income Populations .............................. 26
6.9 Executive Order 11990 Protection of Wetlands ......................... 26
7 Public Involvement, Review, and Consultation .......................... 26
7.1 Public Involvement Process ....................................................... 26
7.2 Tribal Government Consultation and Coordination Process .... 27
7.3 Agencies and Persons Consulted ................................................. 27
8 Public Interest Evaluation Factors for Section 404 ................. 27
9 Summary / Conclusion ................................................................. 28
10 List of Preparers ......................................................................... 28
11 References ................................................................................. 29
12 Acronyms and Abbreviations .................................................. 30
13 Appendices .................................................................................. 31
   Appendix A – Final Clean Water Act Section 404 (b)(1) Analysis ... A
   Appendix B – ESA Coordination ................................................ B
   Appendix C – Alternative 2 – Bank Stabilization Construction Designs .................. C
   Appendix D – Example Tribal Notification Letter ........................... D
   Appendix E – NHPA Coordination ............................................... E
   Appendix F – Notice of Availability and Response to Comments .......... F

Figures
Figure 1. Project vicinity map showing the location of Albeni Falls Dam (yellow dot) and Strong’s Island (green star) .................................................. 2
Figure 2. Map of Strong’s Island, part of the Pend Oreille WMA ................ 3
Figure 3. View of the erosion along the northwest side of Strong’s Island .......... 4
Figure 4. Map showing the proposed revetment area, and the staging and access areas at Albeni Cove Recreation Area .............................................. 6
Figure 5. Design plan for the proposed revetment and typical cross section .......... 7
Figure 6. Strong’s Island (orange ellipse) as seen in an August 1944 aerial photo ........ 14
Tables
Table 1. Materials and Quantities ................................................................................................... 5
Table 2. Seed mix species proposed for the Strong’s Island bank protection project. ............... 7
Table 3. List of resources considered for detailed effects analysis and rationale for inclusion or exclusion. ...................................................................................................................................... 11
Table 4. Species listed under the Endangered Species Act with their status, critical habitat, and potential for occurrence within the project area. ................................................................................................. 19
Table 5. Albeni Cove Recreation Area Annual Visitation ........................................................... 21
1 INTRODUCTION
Under the Council on Environmental Quality (CEQ) regulations, 40 CFR § 1500.1(c) and 40 CFR § 1508.9(a)(1), implementing the National Environmental Policy Act (NEPA) of 1969 (as amended), the purpose of an Environmental Assessment (EA) is to “provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact” on actions authorized, funded, or carried out by the Federal government, and to assist agency officials to make decisions that are based on understanding of “environmental consequences, and take actions that protect, restore, and enhance the environment.”

This EA evaluates the environmental effects of the proposed shoreline stabilization project at the U.S. Army Corps of Engineers (Corps) Strong’s Island. Erosion from wave action has caused incremental bank failure along the western bank of Strong’s Island, located within the Pend Oreille River, and has affected an archaeological site eligible for the National Register of Historic Places (NRHP), located along the shoreline. The Corps is proposing to stabilize approximately 1,000 linear feet of the stream bank adjacent to the Pend Oreille River.

This document also integrates a review of factors underlying a determination of whether executing the project would be in the public interest, pursuant to Clean Water Act Section 404 and rules and regulations published as 33 CFR Part 335, “Operation and Maintenance of Army Corps of Engineers Civil Works Projects Involving the Discharge of Dredged or Fill Material into Waters of the U.S. or Ocean Waters”; 33 CFR Part 336, “Factors to be Considered in Evaluation of Army Corps of Engineers Dredging Projects Involving the Discharge of Dredged Material into Waters of the U.S. and Ocean Waters”; 33 CFR Part 337, “Practice and Procedure”; and 33 CFR Part 338, “Other Corps Activities Involving the Discharge of Dredged Material or Fill into Waters of the U.S.”

1.1 BACKGROUND
Strong’s Island is one of several parcels owned by the Corps designated as part of the Pend Oreille Wildlife Management Area (WMA). The designation occurred in 1956, after construction of the Albeni Falls Dam (AFD) was completed and operations began. The island provides habitat for fish and wildlife resources and recreation for the public. The Idaho Department of Fish and Game (IDFG) manages the island under a 25-year license agreement that extends to September 30, 2033.

Erosion from wave action and season sloughing continues to be a problem on the downstream tip (western end) of the island. The erosion is adversely affecting an archaeological site located near the island’s western shoreline. The island was 33.56 acres in size when first designated for the conservation of fish and wildlife resources in 1956. This acreage measurement was determined for all land above 2,051 feet elevation. Of the 33.56 total acres, approximately 21.5 acres was above 2,062 feet elevation. Over time, the downstream tip of the island has been eroding back, changing the island from having a pointed tip to having a rounded tip today. Currently, Strong’s Island has 18.4 acres above 2,062 elevation, and 15.16 acres inundated acres during the summer full pool.
1.2 Authority
The Albeni Falls Dam project was authorized under the Flood Control Act of 1950 (Public Law 516, 81st Congress, 2nd Session) in accordance with Senate Document 9, 81st Congress, 1st Session, as part of a comprehensive plan for the development of the Columbia River System. Section 4 of the Flood Control Act of 1944 (Public Law 78-534), as amended, authorized the Corps to construct, maintain, and operate public parks and recreational facilities in reservoir areas under Corps control, and to permit the construction, maintenance, and operation of such facilities. The Flood Control Act of 1962 amended the 1944 authority to include all water resources projects.

1.3 Project Location
Strong’s Island encompasses a mid-channel island of the Pend Oreille River in Bonner County, Idaho (Figure 1). Strong’s Island is approximately three miles downstream from the community of Priest River and is approximately one mile upstream of AFD. At Strong’s Island (Figure 2), the erosion is occurring along the western end of the island.

Figure 1. Project vicinity map showing the location of Albeni Falls Dam (yellow dot) and Strong’s Island (green star).
1.4 PURPOSE AND NEED
The purpose of this project is to mitigate adverse effects to archaeological site 10BR91 and to stop erosion and loss of land. Stream bank erosion on the island has occurred due to bank slumping events during winter drawdowns of the reservoir by the AFD and wind driven waves and waves from recreational motor boats (Figure 3). A long-term solution that curtails the wave-caused erosion along the Strong’s Island shoreline is needed in order to protect the archaeological site.
This chapter describes the range of alternatives selected for detailed analysis, which address the purpose and need described above in Section 1.4. Alternatives considered include the No Action alternative, a proposed bank stabilization alternative, and archaeological data recovery project.

2.1 ALTERNATIVE 1 - NO ACTION ALTERNATIVE
Under the no action alternative, no effort would be made to mitigate the adverse effects to the archaeological site. Strong’s Island would continue to erode and the archaeological site would continue to be disturbed affecting its eligibility to the NRHP. In addition, valuable wildlife habitat would continue to be lost. Although this alternative does not meet the project goal of mitigating adverse effects, it would be carried forward in the analysis of project effects for comparison purposes, as required by NEPA.

2.2 ALTERNATIVE 2 - BANK STABILIZATION (SELECTED ACTION)
Alternative 2 consists of placing a riprap revetment along the western shoreline of Strong’s Island in order to stabilize the eroding bank. The completed structure would be approximately 50 to 65 feet wide ranging from approximately 2,055 feet elevation to grade at the top of the existing bank for a total length of approximately 1,000 linear feet. The structure would be finished at a two (horizontal) to one (vertical) slope. Construction materials would consist of rock spalls approximately 8 to 22 inches in diameter (Class III riprap) and 2 to 4 inch quarry spalls. The revetment would incorporate willow stakes and rooted plant stock placed vertically against the natural bank and below the structure. The top of the revetment would be seeded with

Figure 3. View of the erosion along the northwest side of Strong's Island.
a native plant mix and covered in mulch. Table 1 includes a summary of materials and approximate quantities to be used in the revetment. Specific existing conditions for the location(s) where the revetment material would be purchased are unknown as the materials would be purchased at the discretion of the contractor as part of the contract. The contract terms will specify the required conditions. Similarly, the quarry site(s) would be chosen through a contract bidding process prior to construction. However any borrow site, quarry, or gravel mine would be fully permitted by the state.

A 4.45 acre freshwater emergent wetland, which is identified as palustrine, emergent, persistent and seasonally flooded is mapped within the area of the proposed revetment (USFWS 2020). Alternative 2 would not adversely impact the wetland as the revetment would be constructed against the natural bank and not within any of the wetland area. This alternative would convert approximately 1.9 acres of muddy shoreline/lake bed to riprap. The stabilized bank could help retain wetland areas that may have otherwise continued to slough into the river.

Table 1. Materials and Quantities

<table>
<thead>
<tr>
<th>Site</th>
<th>Length (ft.)</th>
<th>Class III Riprap (cubic yards)</th>
<th>Quarry Spalls (cubic yards)</th>
<th>Mulch (cubic yards)</th>
<th>Willows (stakes)</th>
<th>Willows (1-gallon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong’s Island</td>
<td>1000</td>
<td>145,748</td>
<td>67,285</td>
<td>42</td>
<td>4000</td>
<td>1000</td>
</tr>
</tbody>
</table>

2.2.1 Construction Staging and Access
Primary access to the construction site would occur from the river during high pool between July 1 and September 30. The preferred staging and access site to the proposed stabilization area is at the Corps Albeni Cove Recreation Area, located approximately one mile downstream from the west end of Strong’s Island (Figure 4). The recreation area has approximately 1 acre of paved and/or gravel parking lots, roads, and other developed areas to use as staging.

The existing boat pier and boat launch would be used to load barges to transport personnel and materials. Two barges may be used to work from and to transport rock back and forth from the launch site to the stabilization area. Barges would anchor near the bank using spud anchors and rock would be placed by using heavy machinery, such as a barge-mounted crane or similar equipment, onto the bank to be protected. A tugboat would move the working barge and rock barges, as needed.

During construction, the Albeni Cove Recreation Area would be closed to the public for the entire normal operating season. The closure is for the safety of the public, as heavy equipment would be hauling, placing rock in the staging areas (parking lots), then moving the rock to barges during the following summer construction season. Rock staging is expected in the fall of 2020. During the summer 2021 construction season (i.e., July 1 through September 30), barges and construction boats would be using the boat ramp and docks. The recreation area would remain closed for post-construction site cleanup, and would reopen to the public for recreational use the summer of 2022.
Upon completion of all construction activities, areas disturbed by construction, staging activities, and access would be cleaned up. Damage to parking areas and roads would be repaired to pre-project conditions.

2.2.2 Construction Methods

Construction would begin with the removal of loose vegetative debris and fallen trees from the beach and existing bank. The revetment would incorporate willows placed vertically against the natural bank and below the filter layer. Four to six foot willow stakes and one 1-gallon rooted willow stock per foot would be installed, buried 2/3 under the surface with 1/3 above surface at no more than 6 to 12 inches above summer high pool (2,062.5 feet MSL). Above the willows, the filter layer of spall rock would be placed below the area intended for riprap. The filter layer would have a minimum one foot thickness. The filter layer prevents the fine-grained bank material from being carried through the riprap by wave action and to provide a bedding surface for riprap. A three-foot thick blanket of Class III riprap would be placed over the spalls and finished at a two (horizontal) to one (vertical) slope.

Figure 4. Map showing the proposed revetment area, and the staging and access areas at Albeni Cove Recreation Area.
2.2.3 Revegetation
Upon completion of all construction activities, bare soil areas would be reseeded with native vegetation and covered in certified weed-free straw or mulch to restrict the establishment of weeds. The seed varieties and approximate mix percentages are listed Table 2.

![Figure 5. Design plan for the proposed revetment and typical cross section](image)

**Table 2. Seed mix species proposed for the Strong’s Island bank protection project.**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain brome</td>
<td>Bromus marginatus</td>
<td>25%</td>
</tr>
<tr>
<td>Blue wildrye</td>
<td>Elymus glaucus</td>
<td>10%</td>
</tr>
<tr>
<td>Meadow barley</td>
<td>Hordeum brachyantherum</td>
<td>10%</td>
</tr>
<tr>
<td>Prairie junegrass</td>
<td>Koeleria macrantha</td>
<td>5%</td>
</tr>
<tr>
<td>Slender wheatgrass</td>
<td>Elymus trachycaulus</td>
<td>18%</td>
</tr>
<tr>
<td>Bluejoint</td>
<td>Calamagrostis canadensis</td>
<td>5%</td>
</tr>
<tr>
<td>Tufted hairgrass</td>
<td>Deschampsia caespitosa</td>
<td>10%</td>
</tr>
<tr>
<td>Northwestern mannagrass</td>
<td>Glyceria occidentalis</td>
<td>5%</td>
</tr>
<tr>
<td>Spike bentgrass</td>
<td>Agrositis exarata</td>
<td>10%</td>
</tr>
<tr>
<td>Showy milkweed</td>
<td>Asclepias speciosa</td>
<td>2%</td>
</tr>
</tbody>
</table>
2.3 ALTERNATIVE 3 – ARCHEOLOGICAL DATA RECOVERY
Under Alternative 3, a representative sample of archeological site 10BR91 would be carefully excavated with hand tools in order to preserve important information about the site before it is otherwise lost due to continued erosion. The Corps would prepare a data recovery plan with a research design, in consultation with the Idaho State Historic Preservation Office (Idaho SHPO) and other stakeholders. The plan that is consistent with the following documents and standards:

- Secretary of the Interior's *Standards for the Treatment of Historic Properties*,
- Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*,
- Idaho SHPO’s *Guidelines for Archeological Investigations*

The plan would include arrangements for curation of archeological materials and records, provide for reporting and dissemination of results, as well as interpretation of what has been learned so that it is understandable and accessible to the public.

2.3.1 Staging and Access
The preferred staging and access area is at Albeni Cove Recreation Area. Access to the site would be through daily boat trips between the Albeni Cove Recreation Area and Strong’s Island, between July 1 and September 30, 2021. Equipment, such as hand digging tools, archaeological sifting boxes, and items for record keeping (i.e., notebooks, stationary, tablets, plastic zip lock bags, etc.) would be held in the staging area.

2.3.2 Methods
Access to the island would be via small watercraft, staging and launching from Albeni Cove Recreation Area. Multiple sample plots would be dug with hand tools only to retrieve and preserve materials. Excavated area is anticipated to be approximately 540 square feet (40 square meters), to a depth of approximately 3.2 feet (1 meter). Excavation would be in the uplands areas; no in-water work is anticipated. All soils removed would be retained on site to back fill the holes. Data recovery activities would take place over one to four months during the summer of 2021.

2.3.3 Revegetation
Upon completion of all on-site data recovery activities, bare soil areas would be reseeded with native vegetation and covered in certified weed-free straw or mulch to restrict the establishment of weeds. The seed varieties and approximate mix percentages are listed Table 2.

2.4 ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

2.4.1 Log Revetments
In order to mimic a more natural shoreline, the use of log revetments with plantings was considered. A series of logs between 14 to 24 inches in diameter would be stacked and pinned together with rebar along the shoreline. The area behind the logs would be backfilled with soil and the top planted with native willows and other riparian vegetation. Earth anchors eight feet (or
longer) would be sunk into the ground to hold the logs in place. Although the use of logs would create a softer appearance in shoreline stabilization and would likely provide more habitat benefits, this construction method was removed from consideration, because the logs would break down and not provide long-term protection. However, the most important consideration is the adverse effects to the NRHP eligible archaeological site that would be caused by the earth anchors; therefore, this alternative is removed from further consideration.

2.4.2 Coir Log Revetment
Similar in design concept would be the use of coir logs. These manufactured logs from coconut fiber provide natural support until vegetation can take root. The logs biodegrade, so provide only temporary (i.e., two to five years) support. Use of these logs is ideal in areas where only temporary support is required until vegetation can take root. Unfortunately, with the annual fluctuation between winter low pool and summer high pool and wind and boat driven waves at high pool, vegetation along the shoreline has not been able to protect the shoreline and erosion would be expected to recur. In addition, as with log revetments, the seasonal water fluctuation precludes long-term establishment of vegetation within the fluctuation zone. In 2005/2006, this technology was used approximately 11 miles upstream of Hoodoo Creek WMA a on the southern bank of the Pend Oreille River. At that site, the coir log protective works did not withstand the first season of normal summer pool, and was destroyed when the lake was drawn down the following winter. Bank stabilization with coir logs would provide short-term benefits, but would not provide a long-term solution; therefore, this alternative is removed from further consideration.

2.5 BEST MANAGEMENT PRACTICES AND MITIGATION
To minimize environmental impacts during construction and maintenance activities the following Best Management Practices (BMPs) would be implemented:

- All construction impacts will be confined to the minimum area necessary to complete the project and boundaries of clearing limits associated with site access and construction will be clearly marked to avoid or minimize disturbance of riparian vegetation, wetlands and other sensitive sites.
- All in-water work will be conducted during the period of high water between July 1 and September 30 in order to avoid or minimize impacts to Endangered Species Act (ESA)-listed bull trout.
- The design includes planting of native vegetation, including willows, which will replace natural values lost from the erosion and the placement of the stabilization structure. Vegetation would be monitored by the Corps for up to three years to ensure at least an 80% coverage rate through one growing season. If there is 80% coverage in year one or year two, subsequent monitoring would not be required. If coverage is less than 80%, replacement planting of native species would be conducted.
- The largest riprap or rock material must be keyed into the toe of the bank.
- Riprap/rock material must be placed into position and will not be end-dumped.
• Woody debris generated by the action will be used in the structure or placed into the river or setback area for habitat. Rootwads will remain attached to the tree, to the extent feasible.
• At least one biologist will remain available for oversight during construction.
• An onsite visit with the Corps biologist and the U.S. Fish and Wildlife Service (USFWS) can be arranged upon request.
• No excavation of soils will occur during construction to avoid adverse effects to the archeological site.
• An archaeologist, that meets Secretary of Interior’s Standards, shall be on-site and would monitor construction activities to ensure no inadvertent adverse effects to the site would occur.
• All construction personnel on site will be briefed prior to construction on actions to be taken if archaeological materials are discovered.
• If any additional archaeological materials are found anytime during construction activities, all construction would cease in that location. Any construction activities that may affect the archaeological site would not occur until approved by the Project Manager and Cultural Resources Coordinator.
• Sediment barriers must be placed around potentially disturbed sites to prevent sediment from entering the river directly or indirectly.
• A supply of erosion control materials (e.g. silt fence and certified weed-free straw bales) must be kept on hand to respond to sediment emergencies.
• Develop and implement a spill prevention control and countermeasure plan.
• Equipment used near the water must be cleaned prior to construction.
• Construction equipment must be regularly checked for drips or leaks.
• Biodegradable hydraulic fluids must be used in machinery where appropriate.
• At least one fuel spill kit with absorbent pads must be onsite at all times, and construction crews must be trained on its proper use.
• Drive trains of equipment must not operate in the water with the exception of boat motors.
• Rocks will be hauled during the summer to avoid damaging local roads during the winter/spring load (weight) restrictions.
• Disturbed soils will be revegetated.
• All site access routes and staging areas will be repaired and hydoseeded to restore the project to existing condition or better.
• All trash and unauthorized fill will be removed from the project and staging area, including concrete blocks or pieces, bricks, asphalt, metal, treated wood, glass, floating
debris, and paper that is waterward of the ordinary high water line and dispose of properly after work is completed.

- On the island, temporary fencing or stakes with ribbon will be utilized to establish the construction zone in order to avoid off-site impacts.

3 \textbf{ISSUES FOR COMPARISON OF THE ALTERNATIVES}

This section provides information on the issues relevant to the decision process for selecting the preferred alternative. This analysis investigates the potential for activities associated with the considered alternatives to affect (either adversely or beneficially) the various issues of concerns, and provides a comparative assessment of each alternative’s effects to the environment. Factors for selecting the recommended plan include finding the plan that is the most cost effective and least environmentally damaging.

3.1 \textbf{RESOURCES ANALYZED AND SCREENED OUT FROM FURTHER ANALYSIS}

The environmental analysis conducted in the NEPA process should provide the decision maker with relevant and timely information about the environmental effects of his or her decision and reasonable alternatives to mitigate those impacts. Table 3 identifies the resources evaluated for detailed analysis with a rationale for inclusion or exclusion. Resources were excluded from detailed analysis if they are not potentially affected by the alternatives or have no material bearing on the decision-making process.

\textbf{Table 3. List of resources considered for detailed effects analysis and rationale for inclusion or exclusion.}

<table>
<thead>
<tr>
<th>Resource</th>
<th>Included in Detailed Analysis (Y/N)</th>
<th>Rationale for inclusion or exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoreline Erosion</td>
<td>Y</td>
<td>The shoreline is actively eroding; therefore, analysis is required to determine the intensity of potential effects of the alternatives.</td>
</tr>
<tr>
<td>Climate</td>
<td>N</td>
<td>The area has a typical Pacific Northwest climate consisting of cool, wet springs and autumns; dry moderate summers; and cool, relatively long winters with alternating periods of severe and moderate temperatures. Climate would not be affected by this project.</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Y</td>
<td>Analysis is required to determine the intensity of potential changes to turbidity.</td>
</tr>
<tr>
<td>Vegetation and Wetlands</td>
<td>Y</td>
<td>Analysis is required to determine the intensity of potential impacts to vegetation and wetlands.</td>
</tr>
<tr>
<td>Fish and Wildlife</td>
<td>Y</td>
<td>Many different fish and wildlife species may be present. Analysis is required to determine which species would be present, the intensity of effects, and how to avoid or minimize impacts.</td>
</tr>
<tr>
<td>Resource</td>
<td>Included in Detailed Analysis (Y/N)</td>
<td>Rationale for inclusion or exclusion</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Threatened and Endangered Species</td>
<td>Y</td>
<td>The preferred alternative may affect ESA-listed bull trout in the study area. Analysis is required to determine potential effects to the species and their designated critical habitat.</td>
</tr>
<tr>
<td>Invasive Species</td>
<td>N</td>
<td>The shoreline is actively eroding; therefore invasive plant species such as Eurasian water milfoil, reed canary grass, and/or yellow flag iris have not been able to become established. BMPs will utilized to prevent introduction or spread of invasive species.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Y</td>
<td>Analysis is required to investigate cultural resources and to determine the extent of any potential effects of the alternatives.</td>
</tr>
<tr>
<td>Land Use</td>
<td>N</td>
<td>The Corps owns and manages Strong`s Island through IDFG for wildlife and game management. Land use would not be affected.</td>
</tr>
<tr>
<td>Aesthetics and Visual Resources</td>
<td>Y</td>
<td>Analysis is required to determine the intensity of potential impacts to aesthetics and visual resources.</td>
</tr>
<tr>
<td>Air Quality and Noise</td>
<td>N</td>
<td>Bonner County, Idaho is currently in attainment for Air Quality standards set forth by Idaho Department of Environmental Quality (IDEQ, 2019). No known noise problems exist in the area. The preferred alternative would temporarily increase air emissions, including greenhouse gases, and noise in the immediate project vicinity; however these increases would be minor in scope, temporary in duration, and are not expected to result in significant impacts.</td>
</tr>
<tr>
<td>Utilities and Infrastructure</td>
<td>N</td>
<td>There are no utilities or infrastructure in place at Strong`s Island. Temporary closure of Albeni Cove Recreation Area will not affect utilities or infrastructure.</td>
</tr>
<tr>
<td>Recreation</td>
<td>Y</td>
<td>Recreation within the study area may be temporarily effected by the construction of the riprap revetment. Analysis is required to determine the intensity of effects for the proposed alternatives.</td>
</tr>
<tr>
<td>Socioeconomic</td>
<td>N</td>
<td>The temporary closure of the Albeni Cove Recreation Area and relatively minor waterway congestion are balanced by the limited temporary positive economic effect that construction investment can have regionally. Contract equipment would be hired to perform the work, materials could be purchased from local suppliers, and services and facilities in the area will be utilized in support of the effort.</td>
</tr>
</tbody>
</table>
### 3.2 Resources Analyzed for the Effects of the Alternatives

#### 3.2.1 Shoreline Erosion
AFD has altered the hydrograph of Lake Pend Oreille and the Pend Oreille River, thereby affecting shoreline vegetation. By maintaining high lake levels throughout the summer, vegetation around the reservoir at points below this elevation has decreased substantially. This has resulted in relatively barren shorelines during lower winter lake elevations, increasing susceptibility of the shoreline to erosion relative to the pre-dam condition. Shoreline erosion in the Pend Oreille River is caused by a combination of erosion from wind-generated waves and boat wakes when the lake is held at its summer elevation by the AFD (Gatto and Doe 1987).

Erosion from wave action and season sloughing continues to be a problem on the downstream tip (western end) of the island. The erosion is adversely affecting an archaeological site located near the island’s western shoreline. The island was 33.56 acres in size when first designated for the conservation of fish and wildlife resources in 1956. This acreage measurement was determined for all land above 2051 feet elevation. Of the 33.56 total acres, approximately 21.5 acres was above 2062 feet elevation. Over time, the downstream tip of the island has been eroding back, changing the island from having a vegetated pointed tip, as seen in the 1944 image (Figure 6), to having a rounded tip today. Currently, Strong’s Island has 18.4 acres above 2062 elevation, and 15.16 acres inundated acres during the summer full pool. Over time, trees and shrubs have colonized more of the island; however, 3.1 acres of land is lost due to erosion.
3.2.1.1 Alternative 1 - No Action
Under the no-action alternative, shoreline erosion would continue due to the ongoing lake level fluctuations, wind fetch, and wave wash from recreational motor boats. As a result, adverse effects to the NRHP eligible archaeological site would continue.

3.2.1.2 Alternative 2 – Bank Stabilization
With Alternative 2, the bank would be stabilized with a riprap revetment. The placement of riprap along the shoreline at approximately 2,055 feet elevation to grade at the shoreline would bury some of the existing substrate protecting the existing bank and prevent further erosion of the shoreline from the current intensity of wind driven waves and waves from recreational motor boats. The roots of the willows would also aid in stabilizing the shoreline behind the revetment and will provide some wildlife habitat. The substrate would change from fine clay sediment that suspends easily with wind and wave action to rock, so suspended clay particles in the vicinity should decrease.

3.2.1.3 Alternative 3 – Archeological Data Recovery
Under Alternative 3, shoreline erosion would continue due to the ongoing operations of AFD, wind driven waves and waves from recreational motor boats. However, once the shoreline

Figure 6. Strong's Island (orange ellipse) as seen in an August 1944 aerial photo.
erosion intersects areas where sediments have been disturbed from archaeological excavation, erosion may accelerate at those locations.

3.2.2 Water Quality

Conditions in Pend Oreille River, such as the stage of the reservoir and timing of the inflow, are influenced not only by AFD, but also by the operation of upstream projects and basin hydrologic factors. Current Lake Pend Oreille regulating procedures are briefly described below. After the spring runoff period is completed (usually late May to early July), Lake Pend Oreille is maintained in a 0.5-foot summer operation range between elevations 2,062.0 and 2,062.5 feet above mean sea level until the end of the summer recreation season. A fall drawdown generally begins the 3rd Sunday in September and the lake is stabilized at a minimum control elevation of 2,051.0 feet for the winter typically by December 1. The lake is held at this minimum control elevation until April 1, after which spring runoff typically occurs and the lake is refilled during May and June. The current operation of Lake Pend Oreille maintains the lake at a summer elevation of about 2,062.0 to 2,062.5 feet.

Erosion at Strong’s Island occurs during periods of high water in summer months. During this time of year, river currents are assumed small in magnitude due to the relatively high pool elevation and limited discharge from the dam. Therefore, wave action from wind and locally generated vessels are the primary erosion mechanisms (Gatto and Doe 1987).

The Idaho section of the Pend Oreille River was included in the 2002 and 2008 Section 303(d) list as impaired for temperature, and total phosphorus. A Total Maximum Daily Load (TMDL) for nutrients in the Idaho portion of the Pend Oreille River is currently being studied but none has been implemented yet. The Pend Oreille River has been identified as exceeding Idaho’s Total Dissolved Gas (TDG) water quality standard and high water temperatures (IDEQ, 2016).

3.2.2.1 Alternative 1 – No Action

With this alternative, the shoreline would continue to erode into the reservoir, dispersing sediment outward and resulting in the continued loss of bank area. With the continued erosion, there would be a continue suspension of solids and turbid conditions. Water temperatures are not expected to change as there is limited riparian cover and the river is too wide for overhead cover. TDG is not expected to change.

3.2.2.2 Alternative 2– Bank Stabilization

Construction would take place during the summer months when the lake level is at high pool, 2,062 feet elevation. Although bank sediments would not be excavated, the soils would be slightly disturbed with the placement of Class III riprap, which would generate turbidity in the river. Impacts to water quality would be short-term. All applicable BMPs would be implemented throughout the construction process to avoid or minimize impacts to water quality (see Section 2.5).

The revetment would result in the reduction of sediment from decreased erosion, the area immediately in front of the bank stabilization structure may deepen over time. As waves and wind exert effects on this area after construction, there is potential for the sediment that has settled in the shallow area to disperse into the deeper portions of the river. This sediment should not pose problems with water quality at this location. Additionally, no significant adverse water
quality impacts are expected to result from the proposed construction activities nor the long-term presence of the completed project.

The project is not expected to add any nutrients to the water that could affect the clarity, color, odor, or aesthetic value of the water, or that could reduce the suitability of the Pend Oreille River for aquatic organisms or recreation. There should be minimal residual sediment that could be suspended at a later date, since winter precipitation will wash away residual loose soils on the riprap. The substrate would change from fine clay sediment that suspends easily with wind and wave action to rock, so suspended clay particles in the vicinity should decrease.

Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) evaluation is attached (Appendix A). The proposed project complies with Section 404 based on the 404(b)(1) evaluation. As the work will be on the lakebed, and will be partially submerged during summer high pool, the Corps is coordinating with IDEQ for a water quality certificate pursuant to the Clean Water Act (CWA) Section 401.

Beneficial impacts to water quality from Alternative 2 include the curtailment of sediment plumes and turbidity associated with the sloughing bank, based on sediment plume reduction at other shoreline stabilization projects such as the nearby Priest River, Hoodoo Creek, and Carey Creek WMAs, and the Riley Creek Recreation Area project sites.

3.2.2.3 Alternative 3 – Archaeological Data Recovery

With Alternative 3, the river bank would continue to erode into the reservoir, dispersing sediment outward and resulting in the continued suspension of solids and turbid conditions. Archeological recovery activities would not take place below the ordinary high water (OHW) / summer high pool level or on the sides of the cut bank. No change in water temperature is expected as there is limited riparian cover and the river is too wide for overhead cover. In addition, archaeological excavations would have the potential to inadvertently disperse sediments and increase turbidity in into the water; however, this would be temporary

3.2.3 Vegetation and Wetlands

Strong’s Island is long and narrow with a wide variety of vegetative cover growing in zones arranged lineally from east to west. Bordering the meadow located at the western and downstream end of the island are low shrubs, isolated pine trees, and fruit trees that remain from a former orchard. East of the meadow is a mixed forest composed primarily of ponderosa pine that extends eastward in varying densities. The ponderosa pine graduates into a fir/red cedar type and birch/red cedar type. A 4.45 acre freshwater emergent wetland, which is identified as palustrine, emergent, persistent and seasonally flooded is mapped within the western end of Strong’s Island (USFWS 2020).

3.2.3.1 No Action

Under the no action alternative, continued erosion of the shoreline will result in loss of wetlands and vegetation along the banks as they are undercut from the of wind/wave action. Once the western island tip is lost, the palustrine emergent wetland on the southwestern end of the island would quickly be lost as erosion continues.
3.2.3.2 Alternative 2 – Bank Stabilization
Care would be taken to minimize impacts on the shoreline where the riprap would be placed, as well as incorporating willows into the revetment. In addition, areas that are disturbed during construction would be seeded with native plant species and vegetation would be monitored by the Corps for at least three years to ensure at least an 80 percent coverage rate through one growing season. The stabilized bank could help retain vegetated areas that may have otherwise continued to slough into the river.

The effects to vegetation from staging materials and equipment within the Albeni Cove Recreation Area would be minimal since the areas that would be utilized are already paved with gravel and asphalt. Areas that are inadvertently disturbed would be seeded with native plant species.

As described in Section 2.2, Alternative 2 would not adversely impact the wetland as the revetment would be constructed against the natural bank and not within any of the wetland area. Approximately 1.9 acres of muddy shoreline/lake bottom would be converted to riprap. The stabilized bank could help retain wetland areas that may have otherwise continued to slough into the river.

3.2.3.3 Alternative 3 – Archeological Data Recovery
Under Alternative 3, continued erosion of the shoreline would result in loss of vegetation and wetland along the bank. In addition, archaeological excavation would permanently impact a small area of the wetland, less than 0.01 acres.

3.2.4 Fish and Wildlife
Lake Pend Oreille and the Pend Oreille River are home to a variety of native and nonnative fish and support a significant recreational fishery. Native species include bull trout, westslope cutthroat trout, northern pikeminnow, peamouth, largescale sucker, longnose sucker, and mountain whitefish. Nonnative/introduced fish commonly found in the Pend Oreille River or Lake Pend Oreille includes: lake trout, rainbow trout, kokanee, brown bullhead, bass, yellow perch and sunfish. Coldwater dependent species such as trout and kokanee tend to occupy the deeper waters of the main lake while the warm water species (i.e., pikeminnow, sucker, bullhead and bass) are more prevalent in the lake’s near shore areas and the Pend Oreille River between Sandpoint and the AFD. The project area provides some habitat value, especially to the warm-water species, although drawdowns of the reservoir in winter may negatively affect warm-water fish habitat.

The wildlife habitat of this area supports waterfowl, ungulates, bear, small mammals, raptors, songbirds, osprey and bald eagles. Most of the 23 species of waterfowl recorded in the area are migrants or winter residents, but Canada geese and several resident species of ducks nest and rear their young on and around the shorelines of the Pend Oreille River. Mallards, three species of teal, American widgeons, coots, and pied-billed grebes are among the many species reported to nest along the shoreline and/or in adjacent marshes. Strong’s Island is used by deer and a variety of small mammals including muskrat and beaver. Wet areas are also frequented by great blue herons, and some areas are potential osprey nesting sites. Strong’s Island has a few resident ruffed grouse.
Birds of prey such as hawks, owls, and bald eagles are associated with the Pend Oreille riparian areas. Ospreys are found in the area from mid-March through October. Bald eagles have been nesting in this area throughout recorded history. There is an active eagle nest within the environs of the project site. The eagle nest is within approximately 1 mile of the staging area and is within 2.3 miles of the revetment site. The area from the bald eagle nest to the staging area and the work site is hilly and forested; therefore, the entire project site is not within view of the bald eagles. The area between the nest and the access route is level and not forested and bald eagles would be able to see haul trucks on the county road for a short period of time. The nest is outside the range of concern.

The habitat of this area supports waterfowl, white-tailed deer, bear, small mammals and songbirds, osprey and bald eagles. State and Federal agencies intensively monitor waterfowl for numerous reasons, one being their importance to hunting as a recreational activity.

3.2.4.1 Alternative 1 – No Action
The riparian vegetation along the shoreline will continue to erode, resulting in loss of vegetation and affecting wildlife habitat. Perching and nesting habitat for birds might decrease over time.

3.2.4.2 Alternative 2 – Bank Stabilization
Several bird species are present in the project area. However, proposed activities should not have a significant effect on the local bird community. There will be temporary noise-related disturbance to any overwintering birds, as well as to mammals in the area. As indicated above, a bald eagle nest is located within approximately 1 mile of the staging and access location and 2.3 miles of Strong’s Island. The breeding season for bald eagles in Idaho is from approximately January to August (USFWS, 2007). The construction activities would likely not disrupt eagles from utilizing the nest this upcoming breeding season due to the distance to the nest from the noise of the construction. Effects to roosting habitat would be limited, since no trees are involved in the construction at the project site. Upon completion of the project, the project area remains a wildlife management area. Therefore, the project would have less than significant effect on bald eagles.

Migratory birds would be minimally impacted due to short duration of activity, no removal of vegetation, and availability of similar habitat adjacent to the site. Bird loafing, nesting, and foraging habitat loss may be offset by re-establishment of riparian vegetation along the shoreline.

3.2.4.3 Alternative 3 – Archeological Data Recovery
The riparian vegetation along the shoreline will continue to erode, resulting in loss of vegetation and affecting wildlife habitat. Perching and nesting habitat for birds might decrease over time.

3.2.5 Threatened and Endangered Species
Five species listed under the 1973 Endangered Species Act (ESA), as amended, may occur within the project area (Table 4). The USFWS Information for Planning and Consultation (IPaC) web site was consulted in February 2020, to determine which species under their respective jurisdictions potentially occur in the project area. In accordance with ESA Section 7(a)(2) federally funded, constructed, permitted, or licensed project must take into consideration impacts to federally listed and proposed threatened or endangered species.
Of all the species shown in Table 4, only bull trout are potentially present in the study area. No records of yellow-billed cuckoo occurring in the project area exist and the alternatives will not affect their preferred habitat. As such, no effect to yellow-billed cuckoo is expected and this species will not be discussed further. The three mammalian species listed under the ESA in Table 2 all lack tolerance for the human activity that occurs around and at the project site. Thus, the USACE has determined the proposed action will have no effect on the Canada lynx, grizzly bear, and wolverine, and therefore will not be discussed further.

Table 4. Species listed under the Endangered Species Act with their status, critical habitat, and potential for occurrence within the project area.

<table>
<thead>
<tr>
<th>Common Name (Scientific Name)</th>
<th>ESA Status; Year Listed</th>
<th>Status at Action Area</th>
<th>Critical Habitat Present</th>
<th>Recovery Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fish</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bull trout (<em>Salvelinus confluentus</em>)</td>
<td>Threatened; 1999 (64 FR 58910-58933)</td>
<td>Present</td>
<td>Yes</td>
<td>USFWS 2015</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow-billed cuckoo (<em>Coccyzus americanus</em>)</td>
<td>Threatened; 2014 (79 FR 59992-60038)</td>
<td>Not known to be present</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada lynx (<em>Lynx canadensis</em>)</td>
<td>Threatened; 2000 (65 FR 16052-06086)</td>
<td>Not known to be present</td>
<td>No</td>
<td>No, USFWS outline (2000)</td>
</tr>
<tr>
<td>North American wolverine (<em>Gulo gulo luscus</em>)</td>
<td>Proposed Threatened</td>
<td>Not known to be present</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Grizzly bear (<em>Ursus arctos horribilis</em>)</td>
<td>Threatened; 1975 (40 FR 31734-31736)</td>
<td>Not known to be present</td>
<td>No</td>
<td>Proposed USFWS 2019</td>
</tr>
</tbody>
</table>

Bull Trout spawning and rearing habitat below Lake Pend Oreille is extremely limited due to high summer temperatures that are above the thermal tolerance for the fish. However, bull trout from the Priest River do use it as a migration corridor in the fall and spring to migrate to and from Lake Pend Oreille. Therefore, there is a probability that bull trout could utilize the areas that surround the project. Due to the clay substrate in the project area, they are not expected to utilize the area for spawning or creating redds.

### 3.2.5.1 No Action

Under the no action alternative, existing conditions for protected species are expected to continue. Bull trout will continue to be stressed from increased turbidity due to continued erosion of the river bank.
3.2.5.2 Alternative 2 – Bank Stabilization
Potential impacts of the proposed project to threatened and endangered species are addressed in a separate Biological Assessment (BA). The Corps has determined that this alternative may affect, but will not adversely affect bull trout or their designated critical habitat. This determination is based on the construction timing during the summer months when the water temperature in the Pend Oreille River is warm and bull trout will have migrated to colder waters in their spawning tributaries by May or June or to deeper waters in Lake Pend Oreille. In addition, bull trout do not spawn in the Pend Oreille River and juveniles do not rear in the mainstem so there would be no effects to spawning and rearing habitat, however adult and sub-adult bull trout use the river for foraging, migration, and overwintering. Potential effects of any disruptions to resting and feeding would be discountable. The substrate would change from fine clay sediment that suspends easily with wind and wave action to rock, so suspended clay particles in the vicinity should decrease.

3.2.5.3 Alternative 3 – Archeological Data Recovery
Under Alternative 3, existing conditions for protected species are expected to continue. Bull trout would continue to be stressed from increased turbidity due to continued erosion of the river bank.

3.2.6 Cultural Resources
Cultural resources are locations on the physical landscape of past human activity, occupation, or use and typically include archaeological sites such as lithic scatters, villages, procurement areas, resource extraction sites, rock shelters, rock art, shell middens; and historic era sites such as trash scatters, homesteads, railroads, ranches, logging camps, and any structures or buildings that are over 50 years old. Cultural resources include traditional cultural properties, which are aspects of the landscape that are a part of traditional lifeways and practices, and are considered important to the community.

There are a total of three archaeological sites located on Strong’s Island. One of the sites, 10BR91, is currently threatened by the eroding bank of Strong’s Island. The Corps has determined that site 10BR91 is eligible for the NRHP as a contributing archaeological site to the Pend Oreille River Archaeological District under Criterion D based on its potential to yield information about local and regional questions of technology, subsistence, and seasonality. The erosion is causing portions of the site to become destroyed and is adversely affecting its eligibility to the NRHP.

3.2.6.1 Alternative 1 – No Action
Under the no action alternative, the shoreline would continue to actively erode adversely affecting the NRHP eligible archaeological site could potentially lose the site, which would be a significant loss. Erosion would continue to the point that eventually the site would be no longer eligible for the NRHP or completely lost.

3.2.6.2 Alternative 2 – Bank Stabilization
The Corps has determined that the proposed bank stabilization would not have an adverse effect to the eligibility of the site. The bank stabilization would be constructed from the water using barges without any excavation of existing sediments, and no contouring of the bank face would occur. The shoreline would be walked prior to construction to collect any diagnostic artifacts that may have eroded out of the bank. In addition, an archaeological monitor, that meets Secretary of the Interior Standards, would be present during construction of the bank stabilization project.
3.2.6.3 Alternative 3 – Archeological Data Recovery
Under Alternative 3, the site would be excavated by archaeologists that meet Secretary of the Interior Standards in order to recover data about the site before it is eroded away. All data recovery efforts would meet Federal standards as outlined in Secretary of the Interior’s Standards and Guidelines: Archaeology and Historic Preservation (as amended and annotated), Federal Register, Volume 48, No. 190, 1983 and Guidelines for Archeological Investigations prepared by the (Idaho) State Historic Preservation Office.

3.2.7 Recreation
Prior to 1982, the island supported limited recreational development as a picnic and primitive camping area for boaters. In 1982, the facilities were removed and the island is now managed for wildlife considerations under license to IDFG as part of the Pend Oreille WMA. The island does not have any maintained facilities such as a boat dock, picnic tables, or vault toilets. IDFG continues their management strategy for the Pend Oreille WMA “to protect wildlife habitat and provide public access for hunting, fishing, and other outdoor recreational pursuits.” This is in concert with the Corp’s objective to provide non-consumptive recreational uses such as hiking, wildlife viewing, photography, and sightseeing.

Strong’s Island is located within Pend Oreille River approximately one mile upstream of AFD and Albeni Cove Recreation Area. The section of river between the staging area at the recreation area and Strong’s Island is used for small craft navigation, especially for recreation. Lake Pend Oreille and the Pend Oreille River are recreation destinations for boaters, fishers, hunters, and other recreationists on a year-round basis. Warm weather options include a variety of activities such as boating, fishing, swimming, water skiing, and kayaking. Cold weather activities include ice fishing, ice skating, and various hunting activities.

The preferred staging area is at Albeni Cove Recreation Area. Albeni Cove is a small campground across the river from Albeni Falls Dam. The recreation area offers 14 campsites, a boat-launch with parking, a swimming beach, picnic areas with grills, and restroom facilities with showers. Typical activities at the recreation area include wildlife viewing, water sports, fishing, camping, boating, picnicking, and swimming. The operating season for Albeni Cove Recreation Area is usually from mid-May through mid-September. The area is closed to the public the rest of the year. Table 5 summarizes visitation by Fiscal Year at Albeni Cove.

Table 5. Albeni Cove Recreation Area Annual Visitation

<table>
<thead>
<tr>
<th>Fiscal Year (FY)</th>
<th>Annual Visitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY15</td>
<td>20,268</td>
</tr>
<tr>
<td>FY16</td>
<td>18,409</td>
</tr>
<tr>
<td>FY17</td>
<td>18,110</td>
</tr>
<tr>
<td>FY18</td>
<td>16,759</td>
</tr>
<tr>
<td>FY19</td>
<td>14,614</td>
</tr>
</tbody>
</table>

3.2.7.1 Alternative 1 – No Action
Under the no action alternative, the recreation area would remain open during its normally scheduled season.
3.2.7.2 Alternative 2 – Bank Stabilization
Under Alternative 2, Albeni Cove Recreation Area would be closed to the public during the summer construction season. The closure is for the safety of the public, as heavy equipment will be hauling, placing rock in the staging areas (parking lots), then moving the rock to barges during the following summer construction season. Rock staging is expected in the fall of 2020. During the summer 2021 construction season (i.e., July 1 through September 30), barges and construction boats would be using the boat ramp and docks. The recreation area would remain closed for post-construction site cleanup, and would reopen to the public for recreational use the summer of 2022.

3.2.7.3 Alternative 3 – Archeological Data Recovery
Under Alternative 3, Albeni Cove Recreation Area would remain open to the public for normal seasonal recreation activities. One or two campsites may be closed for recreational use and would be used for staging by the archaeological team. Access to the western end of Strong’s Island, near the work zone, would be restricted; however, day-use access to the rest of the island would be allowed.

4 UNAVOIDABLE AND ADVERSE EFFECTS
Unavoidable adverse effects associated with the Preferred Alternative would be: (1) a possible temporary and localized increase in turbidity in Pend Oreille River which could disrupt fish use of the area; (2) temporary and localized disruption to local birds and other wildlife due to noise of construction activities; (3) temporary and localized increase in noise, vibration, air pollutant emissions, and human activity which may disturb nearby residents and fish and wildlife in the area; and (4) permanent impacts to 0.1 acres of wetland. Mitigation measures, as described in Section 2.4, would be implemented during construction to minimize adverse project effects to the surrounding natural and built environment.

5 CUMULATIVE IMPACTS
CEQ regulations implementing NEPA require that the cumulative effects of a proposed action be assessed (40 CFR Parts 1500-1508). A cumulative effect is an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place (40 CFR § 1508.7). CEQ’s guidance for considering cumulative effects states that NEPA documents “should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant” (CEQ 1997).

The Pend Oreille River upstream of Albeni Falls Dam has approximately 115 miles of shoreline (USACE 2018). It is estimated that about 10 percent of the river’s shoreline consists of boulders and riprap (IDEQ 2001), and recent annual placement represents less than one percent. Examples of armoring include the following: In 2006, 2007, and 2016, the Corps placed approximately, 4,970 linear feet of riprap along the shoreline at Priest River WMA in order to protect historic properties in the vicinity. In 2008, 1,600 linear feet of shoreline was stabilized at Albeni Cove, and in 2012, 600 linear feet of shoreline was stabilized at Hoodoo Creek WMA. A project in
2017 and 2018, stabilized approximately 1,980 feet of shoreline at Riley Creek Recreation Area. In 2019, approximately 2,000 linear feet of shoreline was stabilized at Carey Creek WMA.

Cumulative hydrological impacts of using riprap for bank protection along the Pend Oreille River will most likely affect morphological evolution, sediment processes, and habitat. They are least likely to affect the stream’s hydrological character and the chemical processes and pathways. Stabilizing stream channels with riprap can reduce sediment loads, improve water quality, and allow reestablishment of riparian vegetation (Fischenich 2003), but it can also lead to less contact with the floodplain and reduced bioproduction in terms of less detritus in the water providing food for aquatic insects.

Other cumulative impacts of this project would include the loss of approximately 1.9 acres of muddy lakebed/shoreline habitats. The impact area largely includes high ground recently exposed by bank erosion. Although not in-kind, compensation will be provided by enhancing the shallow water habitat by establishing overhanging riparian vegetation along the top of the bank.

Short-term disruptions would be increased barge traffic, increased noise during construction hours, and change of appearance of the immediate area. The long-term benefits are maintenance of habitat used by avian species, protection of cultural resources, and maintenance of riparian habitat that currently exists at the project sites with additional riparian plantings of native vegetation.

The acute cumulative impacts from the stabilization work, such as increased noise, emissions, and traffic disruptions that may occur if other local construction is done simultaneously are expected to be temporary and insignificant.

Cumulative impacts from increasing the total length of armored shoreline would be minimized by plantings of native vegetation above the OHW line along the edge of the revetment and its interface with the existing bank. Overall, with mitigation, this project does not add significantly to the cumulative impact of bank arming along the entire Pend Oreille River upstream of the dam.

6 ENVIRONMENTAL COMPLIANCE
This EA is being prepared pursuant to Sec. 102(C) of the NEPA, and includes compliance with other laws, regulations and Executive Orders as discussed below.

6.1 NATIONAL ENVIRONMENTAL POLICY ACT
NEPA (42 U.S.C. §4321 et seq.) commits federal agencies to considering, documenting, and publicly disclosing the environmental effects of their actions. This Final Environmental Assessment, prepared August 2020, is intended to achieve NEPA compliance for the proposed project. As required by NEPA, this Final EA describes existing environmental conditions at the project site, the proposed action and alternatives, potential environmental impacts of the proposed project, and measures to minimize environmental impacts. Alternative 2 is the agency preferred alternative. The purpose of this document is to solicit public comment and fulfill
Corps’ documentation requirements under NEPA. A 30-day public comment period was held from July 8 through August 7, 2020.

6.2 **ENDANGERED SPECIES ACT**
In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species and their critical habitats. As a part of the coordination, a Biologic Assessment was sent to the USFWS on June 4, 2020, requesting their concurrence that the proposed shoreline stabilization project may affect but is not likely to adversely affect bull trout and their designated critical habitat. USFWS concurred with our determination on July 14, 2020 (Appendix B).

6.3 **CLEAN WATER ACT**
The CWA is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the United States. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

The Corps does not issue permits for its own civil works activities. Nevertheless, the Corps has accepted responsibility for the compliance of its civil works projects with Section 404, as well as the obligation to seek water quality certification under Section 401. A 404(b)(1) evaluation, which demonstrates compliance with the substantive requirements of the CWA has been completed and is available for review (Appendix A). The Corps has submitted a request for a water quality certificate pursuant to Section 401 of the CWA from IDEQ prior to in-water work beginning.

Prior to starting construction, a Construction General / Stormwater permit will be acquired from the Environmental Protection Agency (EPA). As this project encompasses

6.4 **CLEAN AIR ACT OF 1972**
The Clean Air Act as Amended (42 U.S.C. §7401, et seq.) prohibits federal agencies from approving any action that does not conform to an approved State or federal implementation plan. Construction will result in increased vehicle emissions and a slight increase in fugitive dust. These effects will be localized and temporary. Emissions will not exceed Environmental Protections Acts’ (EPA) de minimis threshold levels (i.e., 100 tons/year for carbon monoxide and 50 ton/year for ozone) or affect implementation of Idaho’s Clean Air Act implementation plan. Therefore, effects will be insignificant. Once completed, the project will not have a mechanism to change existing air quality.

6.5 **NATIONAL HISTORIC PRESERVATION ACT OF 1966**
Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR §800 provides a regulatory framework for the identification, documentation, and evaluation of cultural resources that may be affected by federal undertakings. Under the Act, Federal agencies may also pursue a Programmatic Agreement (36 CFR § 800.14(b)(2)) when it wants to create a Section 106 process that differs from the standard review process and that will
apply to all undertakings under a particular program. The Corps has determined that the proposed work is within the scope of the *Systemwide Programmatic Agreement for the Management of Historic Properties Affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia River Power System for Compliance with Section 106 of the National Historic Preservation Act* (SWPA). Stipulation IX.G.2 of the SWPA requires the Lead Federal Agencies to prepare written documentation of determinations of National Register eligibility, determinations of the undertaking’s effect on the historic property and proposed treatment measures to resolve for adverse effects. A memorandum of agreement is not required to resolve adverse effects under the SWPA rather, a Treatment Plan Form (TPF) is prepared and serves as the documentation required by the SWPA under Stipulation IX.G.

The Corps has consulted with the Idaho SHPO on this undertaking. In addition the Corps is consulting with the Albeni Falls Dam Cooperating Group (AFDCG) that oversees administration of cultural resource management actions under the SWPA to develop a TPF to resolve adverse effects to site 10BR91. The AFDCG includes representatives from the governments of affected Indian tribes and other parties that includes representatives from the Idaho SHPO, Bonneville Power Administration, the Idaho Panhandle National Forest, the Bureau of Land Management, the Kalispel Tribe of Indians, the Coeur d’Alene Tribe, the Confederated Salish and Kootenai Tribes, and the Kootenai Tribe of Idaho. A TPF was signed by the SHPO on August 27, 2020.

### 6.6 Federal Trust Responsibility

The Federal trust responsibility to Native American Tribes arises from the treaties and other legal instruments signed between the Tribes and the U.S. Government. Trust responsibilities ensuring the Corps is fulfilling its Federal responsibilities and addressing tribal concerns related to protected tribal resources, tribal rights or Indian lands are outlined in several documents:

- USACE Tribal Consultation Policy, November 2012;
- USACE Tribal Policy Principles, May 2010;
- Department of Army American Indian and Alaska Native Policy, October 2012; and
- Department of Defense American Indian and Alaska Native Policy, January 2012.

Four Indian tribes in particular have significant historic and current interests in the resources in the project area: the Kalispel Tribe of Indians, Confederated Salish and Kootenai Tribes, Kootenai Tribe of Idaho, and Coeur d’Alene Tribe. Each tribe has been notified of this project.

### 6.7 Migratory Bird Treaty Act of 1918 and Executive Order 13186, Migratory Bird Habitat Protection

The Migratory Bird Treaty Act (16 U.S.C. §703-712) as amended protects over 800 bird species and their habitat, and commits that the U.S. will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. EO 13186 directs federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative effects to migratory birds.

The proposed construction of shoreline revetment would be constructed during the Summer months when lake levels are the highest, as well as outside of the regional nesting season for
migratory birds (April 1 through July 15). The construction noise may temporarily disturb birds loafing, or feeding in the work area; however, mitigation measures for noise will minimize or negate these effects. No trees or removal of shrubs will be necessary for the construction work.

6.8 **EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS**

Executive Order 12898 directs federal agencies to take the appropriate steps to identify and address any disproportionately high and adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. The nearest communities, Bonner County, and Pend Oreille County all have minority populations approximately equal to or less than 12 percent of the total population.

The proposed action would not disproportionately affect minority or low-income populations nor have any adverse human health impacts. No interaction with other projects would result in any such disproportionate impacts. No cumulative impacts to Environmental Justice is expected from interaction of the proposed action with other past, present, and reasonably foreseeable projects.

6.9 **EXECUTIVE ORDER 11990 PROTECTION OF WETLANDS**

The purpose of Executive Order 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands". To meet these objectives, the order requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Stabilizing the shoreline, which is exposed in the winter months, would convert approximately 1.9 acres of muddy lakebed to riprap. However, the bank stabilization alternative would protect the island tip from future erosion, thus would protect the freshwater emergent wetland on the southwestern end of the island.

7 **PUBLIC INVOLVEMENT, REVIEW, AND CONSULTATION**

Public involvement activities and agency coordination are summarized below.

7.1 **PUBLIC INVOLVEMENT PROCESS**

Corps Planning Policy and NEPA emphasize public involvement government actions affecting the environment by requiring the benefits and risks associated with the proposed actions are assessed and publicly disclosed. In accordance with NEPA public involvement requirements (40 CFR. § 1506.6) and Corps Planning Policy (ER 1105-2-100), opportunities were presented for the public to provide oral or written comments on potentially affected resources, environmental issues to be considered, and the agency’s approach to the analysis. Efforts to involve the public included a Notice of Availability and comment period.

A 30 day public review and comment period was held from July 8, 2020 through August 7, 2020. No comments were received from the public. Comments were received from the Kalispel Tribe
The Corps and the Kalispel Tribe of Indians held a meeting on August 25, 2020 to discuss the comments. In addition, the Corps responded to the comments in a letter. A summary of the comments and the responses is in Appendix F.

### 7.2 Tribal Government Consultation and Coordination Process

In accordance with Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, the Corps identified affected tribes of the project area and provided information regarding the feasibility study, proposed Federal action, and opportunities for the tribes to provide information and comment on the project. Consultation began with meetings with cultural resources cooperating group to discuss the proposed project with all stakeholders.

The following list provides information regarding the Corps’ efforts to coordinate with the tribes:

1. Ongoing cultural resources cooperating group quarterly meetings discuss this project.
2. Section 106 of NHPA consultation (see Section 6.5 for specifics)

Tribal coordination will continue throughout planning and construction.

### 7.3 Agencies and Persons Consulted

The following agencies and entities have been involved with the environmental coordination of the proposed project:

- Bonneville Power Administration
- USFWS
- IDFG
- IDEQ
- Idaho SHPO
- Kalispel Tribe of Indians
- Confederated Salish and Kootenai Tribes
- Kootenai Tribe of Idaho
- Coeur d’Alene Tribe

### 8 Public Interest Evaluation Factors for Section 404

An evaluation of the dredging and disposal activity was conducted in light of the public interest factors prescribed in 33 CFR 336.1(c). These factors include: navigation and the Federal standard for dredged material disposal; water quality; coastal zone consistency; wetlands; endangered species; historic resources; scenic and recreation values; fish and wildlife; marine sanctuaries; and applicable state/regional/local land use classifications, determinations, and/or policies. Of these, water quality, wetlands, endangered species, historic resources, scenic values, recreational values, and fish and wildlife have been evaluated in this Final EA. The factor of
marine sanctuaries established under the Ocean Dumping Act is not applicable, as there are no sanctuary effects of dredging or disposal. No additional impacts to state/regional/local land use classifications, determinations, and/or policies are anticipated as the project provides bank stabilization on federal lands.

In accordance with 33 CFR 337.1(a)(14) and 325.3(c)(1), the following additional relevant factors were also considered:

- **Conservation**: This action entails bank stabilization to protect cultural resources. No new channel construction or channel depths would be conducted. The effects on fish and wildlife, including listed species, have been fully evaluated.

- **Economics**: As reflected in this Final EA, construction activities associated with this project would not adversely affect the economy, including tourism and recreation. Continual protection and maintenance of the Strong’s Island provides a minor benefit to tourism and recreation as well as benefiting the quality of life of area residents. The temporary closure of the Albeni Cove Recreation Area and relatively minor waterway congestion are balanced by the limited temporary positive economic effect that construction investment can have regionally. Contract equipment would be hired to perform the work, materials could be purchased from local suppliers, and services and facilities in the area would be utilized in support of the effort. The proposed project would not add any new long-term jobs to the local economy.

- **Historic properties**: This action entails bank stabilization of one National Register archaeological site to protect it from on-going erosion.

As provided in 33 CFR sections 335.4, 336.1(c)(1) and 337.6, the Corps has fully considered, on an equal basis, all alternatives that are both reasonable and practicable, i.e., available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The necessary budget resources are available and adequate to fully support the action. The preferred alternative represents the least costly alternative, constituting the discharge of dredged or fill material into waters of the United States in the least costly manner and at the least costly and most practicable location, is consistent with sound engineering practices, and meets the environmental standards established by the CWA Section 404(b)(1) evaluation process. Execution of the preferred alternative, following consideration of all applicable evaluation factors, would be in the public interest.

**9 SUMMARY / CONCLUSION**

Based on the above analysis, this project is not a major Federal action significantly affecting the quality of the human or natural environment, and therefore does not require preparation of an environmental impact statement. The Corps has pursued compliance with all environmental laws including ESA, CWA, NHPA, and expecting completion prior to the finalization of the EA and FONSI.

**10 LIST OF PREPARERS**

The following people contributed directly to preparation of this document:
• Daniel Bernal – Geotechnical Engineer
• Scott Brown – Hydrology and Hydraulics Engineer
• Katherine Cousins – Fisheries Biologist
• Anthony Doersam – Civil Engineer / Construction Supervisor
• Betsy Hull – Ecologist/Park Ranger, Albeni Falls Dam
• Taylor Johnson – Natural Resources Manager, Albeni Falls Dam
• Jaclyn Miller – Project Manager
• Beth McCasland – Biologist, NEPA Reviewer
• Amanda Ogden – Biologist, Sr. NEPA Reviewer
• Jeremy Ripin – Archaeologist, NEPA Lead

11 REFERENCES


# ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFD</td>
<td>Albeni Falls Dam</td>
</tr>
<tr>
<td>BA</td>
<td>Biological Assessment</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>cm</td>
<td>Centimeter(s)</td>
</tr>
<tr>
<td>Corps</td>
<td>United States Army Corps of Engineers</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>cy or CY</td>
<td>cubic yard</td>
</tr>
<tr>
<td>DoD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>ER</td>
<td>Engineering Regulation</td>
</tr>
<tr>
<td>ESA</td>
<td>Endangered Species Act</td>
</tr>
<tr>
<td>FONSI</td>
<td>Finding of No Significant Impact</td>
</tr>
<tr>
<td>ft or FT</td>
<td>Foot/feet</td>
</tr>
<tr>
<td>FWCA</td>
<td>Fish and Wildlife Coordination Act</td>
</tr>
<tr>
<td>IDEQ</td>
<td>Idaho Department of Environmental Quality</td>
</tr>
<tr>
<td>IDFG</td>
<td>Idaho Department of Fish and Game</td>
</tr>
<tr>
<td>IPaC</td>
<td>Information for Planning and Consultation</td>
</tr>
<tr>
<td>M, sq m</td>
<td>Meter, square meter(s)</td>
</tr>
<tr>
<td>MSL</td>
<td>Mean Sea Level</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NHPA</td>
<td>National Historic Preservation Act</td>
</tr>
<tr>
<td>OHW</td>
<td>Ordinary High Water</td>
</tr>
<tr>
<td>pcf or PCF</td>
<td>per cubic foot</td>
</tr>
<tr>
<td>PM</td>
<td>Project Manager</td>
</tr>
<tr>
<td>SHPO</td>
<td>State Historic Preservation Office (Officer)</td>
</tr>
<tr>
<td>SOF</td>
<td>Statement of Findings</td>
</tr>
<tr>
<td>sq ft</td>
<td>square foot/feet</td>
</tr>
<tr>
<td>TDG</td>
<td>Total dissolved gas</td>
</tr>
<tr>
<td>TMDL</td>
<td>Total Maximum Daily Load</td>
</tr>
<tr>
<td>USACE</td>
<td>United States Army Corps of Engineers</td>
</tr>
<tr>
<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
</tr>
<tr>
<td>WMA</td>
<td>Wildlife Management Area</td>
</tr>
</tbody>
</table>
13 APPENDICES
APPENDIX A – FINAL CLEAN WATER ACT SECTION 404 (B)(1) ANALYSIS
**CLEAN WATER ACT**

**SECTION 404 (B)(1) ANALYSIS**

**Strong’s Island**  
**Shoreline Stabilization Project**  
**Albeni Falls Dam,**  
**Bonner County, Idaho**

## 1.0 INTRODUCTION

The purpose of this document is to record the U.S. Army Corps of Engineers, Seattle District (Corps) compliance evaluation and findings regarding the Strong’s Island Pend Oreille River Bank Stabilization project pursuant to Section 404 of the Clean Water Act (CWA), the Rivers and Harbors Act, and the General Regulatory Policies of USACE. Specifically, this document addresses substantive compliance issues, including where Clean Water Act 404(b)(1) Guidelines require an evaluation of impacts for work involving discharge of fill material into the waters of the U.S. [40 CFR §230.12(a)], Section 10 of the Rivers and Harbors Act [33 USC §403] prohibit modification to or creation of an obstruction within a navigable water of the U.S. unless recommended by the Secretary of the Army and authorized by the Chief of Engineers, and the U.S. Army Corps of Engineers (USACE) General Regulatory Policies [33 CFR §320.4(a)] provide measures for evaluating permit applications for activities undertaken in navigable waters.

The main body of this document summarizes the information presented in Attachment A and includes relevant information from the Environmental Assessment for the project that was collected pursuant to the National Environmental Policy Act (NEPA) of 1969 [42 USC §4321 et seq.]. Attachment A provides the Corps’ specific analysis of compliance with the CWA 404(b)(1) and the General Regulatory Policy requirements.

Strong’s Island is one of several parcels owned by the Corps designated as part of the Pend Oreille Wildlife Management Area (WMA). The designation occurred in 1956, after construction of the Albeni Falls Dam (AFD) was completed and operations began. The island provides habitat for fish and wildlife resources and recreation for the public. The Idaho Department of Fish and Game (IDFG) manages the island under a 25-year license agreement that extends to September 30, 2033.

The island is long and narrow with a wide variety of vegetative cover growing in zones arranged lineally from east to west (Figure 1). Prior to 1982, the island supported limited recreational

---

1 The jurisdictional line for both the Clean Water Act and the Rivers and Harbors Act is the Ordinary High Water Line (OHW) located at 2,062.5 feet mean sea level (MSL) National Geodetic Vertical Datum 1929 (NGVD 29). On newer maps, land elevations have been corrected to North American Vertical Datum 1988 (NAVD 88). In Idaho, the conversion is elevation in NGVD 29 + 3.88 feet equals elevation in NAVD 88. Therefore, OHW of 2062.5 feet NGVD 29 is 2066.4 feet NAVD 88. To lessen confusion, elevations in the body of this document are in NGVD 29.
development as a picnic and primitive camping area for boaters. In 1982, the facilities were removed and the island is managed for wildlife considerations. Bordering the meadow located at the western and downstream end of the island are low shrubs, isolated pine trees, and fruit trees that remain from a former orchard. East of the meadow is a mixed forest composed primarily of ponderosa pine (*Pinus ponderosa*) that extends eastward in varying densities. The ponderosa pine graduates into a fir/red cedar type and birch/red cedar type. A 4.45-acre palustrine, persistent, emergent wetland occurs in the peat/muck soil area on the southwestern side of the island (can be seen in Figure 1).

Erosion from wave action and seasonal sloughing continues to be a problem on the downstream tip (i.e., western end) of the island. The erosion is adversely affecting an archaeological site located near the island’s western shoreline. The island was 33.56 acres in size when first designated for the conservation of fish and wildlife resources in 1956. This acreage measurement was determined for all land above 2,051 feet mean sea level (MSL). Of the 33.56 total acres, approximately 21.5 acres was above 2,062 feet MSL. Over time, the downstream tip of the island has been eroding back, changing the island from having a pointed tip to having a rounded tip today. Currently, Strong’s Island has 18.4 acres above 2,062 feet MSL, and 15.16 acres inundated acres during the summer full pool.

![Figure 1. Site Plan for the proposed Strong's Island bank protection project. Yellow arrow points to wetland area.](image-url)
1.1 Proposed Project Description

The proposed project consists of placing a riprap revetment along the western riverbank of Strong’s Island in order to stabilize the eroding bank (Figure 1). The riprap will be placed along approximately 1,000 linear feet of the bank in the inundation zone during the summer high pool reservoir levels (i.e., between July and September), which is the recommended work window for bull trout under the SLOPES Biological Opinion (USFWS 2020). Construction materials will consist of rock spalls approximately 8 to 22 inches in diameter (Class III riprap), 2 to 4 inch spalls, granular fill, top soil, and willow stakes and rooted stock. Specific existing conditions for the location(s) where the revetment material will be purchased are unknown as the materials will be purchased from local, privately owned companies. The quarry site(s) will be chosen through a contract bidding process prior to construction. However any borrow site, quarry, or gravel mine will be fully permitted by the state.

No excavation of soils will occur during any construction as the area of repair on Strong’s Island contains archeological site that is eligible for a National Register of Historic Places (NRHP). Additionally, disturbance of the native soils shall be limited to the extent practicable, and any disturbed areas will be seeded with a native riparian seed mix. Willow stakes and one-gallon rooted stock will be installed on the bankside of the riprap armor. As the work site is only accessible by water, construction will occur in the summer months at high pool, to allow for the safe transport of personnel, materials, and supplies to the island. A summary of construction actions is summarized in Table 1 and quantities of materials in Table 2.

Table 1. Summary of Proposed Construction Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staging</td>
<td>Use existing developed areas at USACE Albeni Cove Recreation Area to stage equipment and materials. During construction, the Albeni Cove Recreation Area will be closed to the public for the entire summer operating season (i.e., mid-May through mid-September).</td>
</tr>
<tr>
<td>Construction Access</td>
<td>Personnel, equipment, and materials will be transferred from the staging area and loaded on to barges. Two barges may be used: one barge to work from and another barge to transport rock back and forth from the staging area to the stabilization area. Barges will anchor nearshore using spud anchors and rock will be placed using heavy machinery, such as a barge-mounted crane or similar equipment, onto the bank to be protected. The tugboat will move the working barge and rock barges, as needed.</td>
</tr>
<tr>
<td>Construction Methods</td>
<td>Construction will begin with placement of a filter layer of spall rock. This rock will be placed against the existing bank and below the area intended for riprap. The filter layer will have a minimum one-foot thickness. A three-foot thick blanket of riprap will be placed over the spalls and finished at a two (horizontal) to one (vertical) slope and will incorporate a willows placed vertically against the natural bank and below the revetment.</td>
</tr>
<tr>
<td>Revegetation</td>
<td>The willows will be placed at no more than 6 to 12 inches above summer high pool (2,062.5 feet MSL). The willows area will consist of four to six foot willow stakes, placed against the natural bank and below the filter</td>
</tr>
</tbody>
</table>
Construction of shoreline protection will begin with placement of a filter layer of spall rock to be placed against the existing bank and below the area intended for riprap (Figure 2). The filter layer will have a minimum one-foot thickness. The filter layer prevents the fine-grained bank material from being carried through the riprap by wave action and to provide a bedding surface for riprap. A three-foot thick blanket of riprap be placed over the spalls and finished at a two (horizontal) to one (vertical) slope and will incorporate a willow lift at no more than 6 to 12 inches above summer high pool (2,062.5 feet MSL). Willows will be a mix of Mackenzie (Salix prolixa), Drummond (S. drummondiana), Coyote (S. exigua), and Bebb (S. bebbiana). Upon completion of all construction activities, areas disturbed by construction, staging activities, and access will be cleaned up and reseeded with native grasses (Table 3) to restrict the establishment of invasive non-native weeds like reed canarygrass (Phalaris arundinacea) and common tansy (Tanacetum vulgare). The broadcasted seed will then be covered with certified weed-free mulch.
Table 3. Seed mix for the proposed Strong's Island bank stabilization project

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Percentage of seed in Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain brome</td>
<td>Bromus marginatus</td>
<td>25</td>
</tr>
<tr>
<td>Blue wildrye</td>
<td>Elymus glaucus</td>
<td>10</td>
</tr>
<tr>
<td>Meadow barley</td>
<td>Hordeum brachyantherum</td>
<td>10</td>
</tr>
<tr>
<td>Prairie junegrass</td>
<td>Koeleria macrantha</td>
<td>5</td>
</tr>
<tr>
<td>Slender wheatgrass</td>
<td>Elymus trachycaulus</td>
<td>18</td>
</tr>
<tr>
<td>Bluejoint</td>
<td>Calamagrostis canadensis</td>
<td>5</td>
</tr>
<tr>
<td>Tufted hairgrass</td>
<td>Deschampsia caespitosa</td>
<td>10</td>
</tr>
<tr>
<td>Northwestern managrass</td>
<td>Glyceria occidentalis</td>
<td>5</td>
</tr>
<tr>
<td>Spike bentgrass</td>
<td>Agrositis exarata</td>
<td>10</td>
</tr>
<tr>
<td>Showy milkweed</td>
<td>Asclepias speciosa</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 2. Typical cross-section of the proposed bank protection project.

The Corps has developed a list of conservation measures and incorporated these into the revetment construction plan to reduce environmental impacts. For this project the measures are:

- The design includes planting of native vegetation, including willows, which will replace natural values lost from the erosion and the placement of the stabilization structure. Vegetation will be monitored by the Corps for up to three years to ensure at least an 80 percent coverage rate through one growing season. If there is 80 percent coverage in year one or year two, subsequent monitoring will not be required. If coverage is less than 80 percent, replacement planting of native species will be conducted.
• Woody debris generated by the action will be used in the structure or placed into the river or setback area for habitat. Root-wads will remain attached to the tree, to the extent feasible.
• Upon completion of all construction activities, areas disturbed by construction, staging activities, and access will be cleaned and reseeded with native grasses.

All in-water work will be conducted during the period of high water between July 1 and September 30 in order to avoid or minimize impacts to Endangered Species Act (ESA)-listed bull trout.

Best management practices will be employed to minimize project impacts. Project construction includes environmental enhancements to offset temporary construction impacts and long-term loss of vegetation on the island’s bank line and to protect water quality.

1.2 PROJECT PURPOSE AND NEED
The purpose of this project is to mitigate adverse effects to archaeological site 10BR91 and to stop erosion and loss of land by stabilizing 1,000 linear feet of shoreline along the western end of Strong’s Island. Stream bank erosion on the island has occurred due to bank slumping events during winter drawdowns of the reservoir by the AFD and wind driven waves and waves from recreational motor boats. The archaeological site is eligible for the National Register of Historic Places (NRHP). It is the intent of the project to provide a long-term solution that curtails the wave-caused erosion during the summer high pool (i.e., 2,062.5 feet MLS) along the Strong’s Island shoreline in order to protect the historic property.

1.3 AVAILABILITY OF ENVIRONMENTALLY ACCEPTABLE PRACTICABLE ALTERNATIVES TO MEET THE PROJECT PURPOSE
The alternatives evaluated for this project were as follows;

a) Alternative 1 – No Action Alternative. Under the no action alternative, no effort will be made to mitigate the adverse effects to the archaeological site. Strong’s Island will continue to erode and the archaeological site will continue to be disturbed affecting its eligibility to the NRHP. Wildlife habitat will continue to be lost. Although this alternative does not meet the project goal of mitigating adverse effects, it will be carried forward in the analysis of project effects for comparison purposes, as required by NEPA.

b) Alternative 3 – Archaeological Data Recovery. Under the Archaeological Data Recovery alternative, a representative sample of archeological site 10BR91 will be carefully excavated with hand tools in order to preserve important information about the site before it is otherwise lost due to continued erosion. The Corps will prepare a data recovery plan with a research design, in consultation with the Idaho State Historic Preservation Office (Idaho SHPO) and other stakeholders. The preferred staging and access area is at Albeni Cove Recreation Area. Access to the site will be through daily boat trips between the Albeni Cove Recreation Area and Strong’s Island, between July 1 and September 30. Equipment, such as hand-digging tools, archaeological sifting boxes, and items for record keeping (i.e., notebooks, stationary, tablets, plastic zip lock bags, etc.) will be held in the staging area. Multiple sample plots will be dug with hand tools only to retrieve and preserve materials. Excavated area is anticipated to be approximately 540 square feet (40
square meters), to a depth of approximately 3.2 feet (~one meter). Excavation will be in the uplands areas; no in-water work is anticipated. All soils removed will be retained on site to back fill the holes. Data recovery activities will take place over one to four months during the summer. Upon completion of all on-site data recovery activities, bare soil areas will be reseeded with native vegetation and covered in certified weed-free straw or mulch to restrict the establishment of weeds.

c) Alternative 4 – Log Revetments. In order to mimic a more natural shoreline, the use of log revetments with plantings was considered. A series of logs between 14 to 24 inches in diameter will be stacked and pinned together with rebar along the shoreline. The area behind the logs will be backfilled with soil and the top planted with native willows and other riparian vegetation. Earth anchors eight feet (or longer) will be sunk into the ground to hold the logs in place. Although the use of logs will create a softer appearance in shoreline stabilization and will likely provide more habitat benefits, this construction method was removed from consideration, because the logs will break down and not provide long-term protection. However, the most important consideration is the adverse effects to the NRHP eligible archaeological site that will be caused by the earth anchors; therefore, this alternative is removed from further consideration.

d) Alternative 5 – Coir Log Revetment. Similar in design concept will be the use of coir logs. These manufactured logs from coconut fiber provide natural support until vegetation can take root. The logs biodegrade, so provide only temporary (two to five years) support. Use of these logs is ideal in areas where only temporary support is required until vegetation can take root. However, with the annual fluctuation between winter low pool and summer high pool and wind and boat driven waves at high pool, vegetation along the shoreline has not been able to protect the shoreline and erosion will be expected to recur. In addition, as with log revetments, the seasonal water fluctuation precludes long-term establishment of vegetation within the fluctuation zone. In 2005/2006, this technology was used approximately 11 miles upstream of Hoodoo Creek WMA a on the southern bank of the Pend Oreille River. At that site, the coir log protective works did not withstand the first season of normal summer pool, and was destroyed when the lake was drawn down the following winter. Bank stabilization with coir logs will provide short-term benefits, but will not provide a long-term solution; therefore, this alternative is removed from further consideration.

Findings: The Corps rejected the above alternatives because they will not meet the project purpose and need to protect the NRHP eligible archeological site and to stop the erosion of the island tip. The Corps rejected Alternative 3, the data recovery option, because once the shoreline erosion intersects areas where sediments have been disturbed from archaeological excavation, erosion in that area will likely accelerate. Once the tip erodes back, a 4.45-acre emergent wetland on the southwestern end of the island will also be lost, and likely increase the erosion rate of the remaining island. Alternative 4 was rejected because anchoring in the logs will adversely affect the logs causing them to breakdown over time. As a result, Alternative 4 will not provide long-term protection of the NRHP eligible archaeological site, and the logs will not provide long-term bank protection benefits. Alternative 5, the Coir Log Revetment Alternative, was rejected because this alternative has not survived a full year when attempted in other locations on the
Pend Oreille River. Although the rock stabilization alternative constitutes fill in Waters of the United States, it includes a self-mitigation measure, it meets the project purpose and need and is authorized.

2.0 POTENTIALLY ADVERSE EFFECTS (INDIVIDUALLY OR CUMULATIVELY) ON THE AQUATIC ENVIRONMENT

a. Effects on Physical, Chemical, or Biological Characteristics of the Aquatic Ecosystem
The major impact to the ecosystem will include approximately 1.90 acres of reservoir bed (i.e., mudflat) habitat loss, which will occur when the riprap is placed. However, to mitigate this loss, native plantings will be incorporated into the rocky bank stabilization structure design. Without bank stabilization, erosion problems are expected to continue and could jeopardize not only public property and a historic property, but also the existing mature vegetation growing along the edge of the eroding bank, and further loss of the island and wildlife habitat. Therefore, the benefits of the structure are expected to outweigh the changes to the riverbed during and after construction. These short-term impacts will be reduced to the extent practicable or avoided through implementation of timing restrictions and Best Management Practices (BMPs).

b. Effects on Recreational, Aesthetic, Historical, and Economic Values
Strong’s Island is owned by the Corps and is managed by Idaho Department of Fish and Game (IDFG) under license to protect wildlife habitat and provide public access for hunting, fishing, and other outdoor recreational pursuits. Since Strong’s Island is managed for the conservation of fish and wildlife habitat, the island does not have active recreational program or services such as camping or picnicking facilities.

During construction, there will be some noise and visual disturbance from heavy equipment. Such disturbance is not expected to be significant. After construction is complete, the site will have a different appearance because the riprap bank stabilization structure will replace the eroding bank. In time, planted vegetation will mature at the top of the bank stabilization project. In addition, the structure will ensure the stability of the existing habitat.

Protection of archaeological site 10BR91 is the primary reason for this project. The site at Strong’s Island is part of a much larger cultural landscape that has been continuously utilized by the Kalispel Tribe of Indians, Confederated Salish and Kootenai Tribes, Kootenai Tribe of Idaho, and Coeur d’Alene Tribe. The Corps has determined that this project will have no adverse effects to site 10BR91.

c. Findings
There will be no significant adverse impacts to recreational, aesthetic, historical, and economic values.

2. ALL APPROPRIATE AND PRACTICABLE MEASURES TO MINIMIZE POTENTIAL HARM TO THE AQUATIC ECOSYSTEM
a. Impact Avoidance Measures
Three project action alternatives were evaluated in order to select the best alternative for minimizing cost and impact to the environment. The proposed project action was selected
because it will stabilize the shoreline, prevent loss to wildlife habitat and a historic property, will have the least negative impact on the environment, and is most cost-effective.

b. Impact Minimization Measures
The Corps will take all practicable steps during construction of the project to minimize impacts to aquatic and terrestrial resources. Contingencies will be in place if any of the water quality protection measures fail to achieve their intended function. The minimization measures will be as follows:

- All construction impacts will be confined to the minimum area necessary to complete the project and boundaries of clearing limits associated with site access and construction will be clearly marked to avoid or minimize disturbance of riparian vegetation, wetlands and other sensitive sites.
- All in-water work will be conducted during the period of high water between July 1 and September 30 in order to avoid or minimize impacts to ESA-listed bull trout.
- The design includes planting of native vegetation, including willows, which will replace natural values lost from the erosion and the placement of the stabilization structure. Vegetation will be monitored by the Corps for up to three years to ensure at least an 80 percent coverage rate through one growing season. If there is 80 percent coverage in year one or year two, subsequent monitoring will not be required. If coverage is less than 80 percent, replacement planting of native species will be conducted.
- The largest riprap or rock material must be keyed into the toe of the bank.
- Riprap/rock material must be placed into position and will not be end-dumped.
- Woody debris generated by the action will be used in the structure or placed into the river or setback area for habitat. Root-wads will remain attached to the tree, to the extent feasible.
- At least one biologist will remain available for oversight during construction.
- An onsite visit with the Corps biologist and the U.S. Fish and Wildlife Service (USFWS) can be arranged upon request.
- No excavation of soils will occur during construction to avoid adverse effects to the archeological site.
- An archaeologist, that meets Secretary of Interior’s Standards, shall be on-site and will monitor construction activities to ensure no inadvertent adverse effects to the site will occur.
- All construction personnel on site will be briefed prior to construction on actions to be taken if archaeological materials are discovered.
- If any additional archaeological materials are found anytime during construction activities, all construction will cease in that location. Any construction activities that may affect the archaeological site will not occur until approved by the Project Manager and Cultural Resources Coordinator.
- Sediment barriers must be placed around potentially disturbed sites to prevent sediment from entering the river directly or indirectly.
• A supply of erosion control materials (e.g. silt fence and certified weed-free straw bales) must be kept on hand to respond to sediment emergencies.
• Develop and implement a spill prevention control and countermeasure plan.
• Equipment used near the water must be cleaned prior to construction.
• Construction equipment must be regularly checked for drips or leaks.
• Biodegradable hydraulic fluids must be used in machinery where appropriate.
• At least one fuel spill kit with absorbent pads must be onsite at all times, and construction crews must be trained on its proper use.
• Drive trains of equipment must not operate in the water with the exception of boat motors.
• Rocks will be hauled during the summer to avoid damaging local roads during the winter/spring load (weight) restrictions.
• Disturbed soils will be revegetated.
• All site access routes and staging areas will be repaired and reseeded to restore the project to existing condition or better.
• All trash and unauthorized fill will be removed from the project and staging area, including concrete blocks or pieces, bricks, asphalt, metal, treated wood, glass, floating debris, and paper that is waterward of the ordinary high water line and dispose of properly after work is completed.
• On the island, temporary fencing or stakes with ribbon will be utilized to establish the construction zone in order to avoid off-site impacts.

c. Compensatory Mitigation Measures
No direct mitigation measures are planned other than incorporating native plantings into the stabilization to enhance fish and wildlife habitat. Over time, this additional native wetland fringe vegetation will greatly improve habitat and may discourage weedy herbaceous growth. There may be a temporal lag of one year while the vegetation becomes established in disturbed areas. Vegetation will be monitored by the Corps for at least three years to ensure at least an 80 percent coverage at the end of the third year. The stabilization structure is expected to provide long-term benefits by preventing further shoreline bank erosion in the recreation area, preventing further loss of riparian vegetation.

d. Findings
The Corps has determined that all appropriate and practicable measures have been taken to minimize potential harm to the environment.

3.0 OTHER FACTORS IN THE PUBLIC INTEREST
a. Fish and Wildlife
Because the majority of the work will be accomplished from barges during the period of high water between July 1 and September 30 in order to avoid or minimize impacts to ESA-listed bull trout when water temperatures are highest, which will preclude bull trout presence in the area; there is little potential for construction activities to disrupt Endangered Species Act (ESA) listed
species in the project area. On June 4, 2020, the Corps submitted a Biological Assessment (BA) to the U.S. Fish and Wildlife Service (USFWS). Consultation with USFWS is ongoing.

b. **Water Quality.** Clean quarry rock will be placed below OHW on the shoreline of the island, and as such, the Corps will be requesting a water quality certificate under Section 401 of the Clean Water Act from the Idaho Department of Environmental Quality (IDEQ) prior to contract award for the in-water portion of the proposed project. Shoreline stabilization work may cause a minor temporary increase in turbidity as soils are disrupted by riprap. All shoreline work will be completed during high water when the pool level is expected to be between elevations 2,062 to 2,062.5 feet MSL and the lowest rock placement will be at an approximate elevation of 2,055 feet MSL. Dissolved oxygen levels should not be impacted because the material is relatively clean. Materials for construction will be obtained from an established borrow pit and rock quarry. No contaminants are known or suspected to be present in the construction materials. Spill kits will be required to be onsite throughout construction as part of the project.

c. **Historical and Cultural Resources**
The Corps has completed consultation with the Idaho State Historic Preservation Office (SHPO) on August 27, 2020.

d. **Environmental Benefits.**
This project will help stabilize the existing eroding shoreline, protect the archaeological site, provide long-term protection to the existing wetlands and shoreline vegetation, and incorporate native vegetative plantings into the riprap structure.

9. **CONCLUSIONS.**
The Corps finds that this project is within the public’s interest and complies with the substantive elements of Section 404 of the Clean Water Act.
Attachment A

Clean Water Act 404(b)(1) Evaluation [40 CFR §230]
Permit Application Evaluation [33 CFR §320.4]

404(b)(1) Evaluation [40 CFR §230]

Potential Impacts on Physical and Chemical Characteristics [Subpart C]:

1. **Substrate [230.20]**
The placement of riprap along the shoreline will bury some of the existing river-bed substrate. The proposed project will utilize clean angular rock from an established quarry. The size and character of the proposed fill rock has been engineered to ensure stability and minimize the amount of fill required.

2. **Suspended particulates/turbidity [230.21]**
Work will from the water by barge during the period of high water between July 1 and September 30 and is expected to be between elevations 2,055 feet MSL to grade at the top of the existing bank at approximately 2,070 feet MSL. Turbidity is expected to be minimal. Dissolved oxygen levels should not be impacted because the material is relatively clean. No contaminants are known or suspected to be present in the construction materials. BMPs will be in place during construction to minimize any potential turbidity issues. There should be minimal residual sediment that could be suspended at a later date, since the riprap rocks placed will be quite large (i.e., approximately three feet in diameter).

3. **Water [230.22]**
The project is not expected to add any nutrients to the water that could affect the clarity, color, odor, or aesthetic value of the water, or that could reduce the suitability of the Pend Oreille River for aquatic organisms or recreation. No significant water quality effects are anticipated.

4. **Current patterns and water circulation [230.23]**
The Corps expects no disruption of current patterns or water circulation at this site during or after construction.

5. **Normal water fluctuations [230.24].**
Since the water levels in Lake Pend Oreille and the Pend Oreille River are controlled by operation of the Albeni Falls Dam, the bank stabilization structure is not expected to have any effect on normal water fluctuations.

6. **Salinity gradients [230.25]**
Not applicable, since the Pend Oreille River is freshwater.
Potential Impacts on Biological Characteristics of the Aquatic Ecosystem [Subpart D]:

1. Threatened and endangered species [230.30]
On June 4, 2020, the Corps submitted a BA for this project requesting concurrence from USFWS that the project may affect, but will not adversely affect bull trout or their designated critical habitat. The project will be constructed between July 1 through September 30, which will reduce project impacts to bull trout as the river is too warm in the late summer months, and the fish take refuge in the cooler part of Lake Pend Oreille. The project will have no effect on any other listed species. It is expected that the USFWS will concur with this finding contingent upon implementation of the project as described in the BA, including conservation measures and BMPs.

2. Fish, crustaceans, mollusks and other aquatic organisms in the food web [230.31]
Following construction there will be a loss of 1.9 acres shallow water habitat during summer pool elevation, since former muddy substrate will now be covered with riprap. At present, there is limited shade-providing vegetation along the area where the erosion is occurring. As part of the revetment construction, willow stakes and rooted stock will be embedded in all rocky protection at approximately one foot above the full summer pool elevation (i.e., 2,062.5 feet MSL). A native seed mix (Table 3) will be broadcast spread in all areas disturbed by the protection work and covered with weed free-mulch. Over time, the willows and colonizing vegetation will provide shoreline shade, organic input through leaf drop and source of terrestrial insects, thus supporting the base of the food web for fish and wildlife. This vegetation may also provide roughage during high flows, and provide additional wildlife habitat. Thus, benefits of the proposed action is a reduction of turbidity by protecting eroding banks and some benefit to bull trout prey base from planted vegetation in the rock protection.

3. Other wildlife [230.32]
Effects to roosting habitat will be limited, since no trees are involved in the construction at the project site. Migratory birds will be minimally impacted due to short duration of activity, no removal of vegetation, and availability of similar habitat adjacent to the site. Other birds and other wildlife may be temporarily displaced during construction due to construction equipment noise, human disturbance, and riprap placement. Because these impacts will only occur during the four to six weeks of construction, they are expected to be inconsequential and temporary.

Potential Impacts on Special Aquatic Sites [Subpart E]:

1. Sanctuaries and refuges [230.40]
Strong’s Island is maintained for conservation and management of fish and wildlife resources and is considered an important waterfowl and spiny-ray fish feeding and propagation unit. The WMA is likely to benefit from the proposed project because the stabilization of the shoreline will maintain the natural protection of the area from the mouth of Strong’s Island to the main stem of the Pend Oreille River.

2. Wetlands [230.41]
Care will be taken to minimize impacts on the shoreline where the riprap will be placed, as well as incorporating willows into the revetment. In addition, areas that are disturbed during construction will be seeded with native plant species and vegetation will be monitored by the Corps for at least three years to ensure at least an 80 percent coverage rate through one growing season. The stabilized bank could help retain vegetated areas that may have otherwise continued to slough into the river. Approximately 1.9 acres of muddy shoreline/lake bottom will be converted to riprap. The stabilized bank will protect the western end of the island and shoreline from sloughing into the river, and will help protect the 4.45 acres of emergent wetlands along the southwestern end.

3. **Mud flats [230.42]**
Approximately 1.9 acres of muddy lakebed with a shoreline fringe of emergent wetlands will be lost when the stabilization structure is built, as the structure is approximately 50 to 60 feet wide with a total length of 1,000 feet. The stabilized bank will help retain vegetation that may have otherwise continued to slough into the lake.

4. **Vegetated shallows [230.43]**
The western end of Strong’s Island is actively eroding and has a two to three foot tall cut-bank along the water’s edge. Slightly upstream of the western tip on the southern side of the island is a 4.45 acre pocket of vegetated palustrine emergent wetland. Protecting the tip of the island from continued erosion will decrease the risk of losing the 4.45 acres of emergent wetlands.

5. **Coral reefs [230.44]**
Not applicable.

6. **Riffle and pool complexes [230.45]**
Not applicable since riffle and pool complexes are characteristics of streams.

---

**Potential Effects on Human Use Characteristics [Subpart F]:**

1. **Municipal and private water supplies [230.50]**
The proposed project will not affect municipal or private water supplies.

2. **Recreational and commercial fisheries [230.51]**
Since Strong’s Island is managed for fish and wildlife habitat by IDFG, the island has no active recreational program or services. The river is open for public fishing for persons with a current IDFG fishing license. Albeni Cove Recreation Area will be closed to the public during the summer construction season. This closure includes the publically accessible boat launch; however there are other pubic launches available in the vicinity. The closure of Albeni Cove Recreation Area is for the safety of the public, as heavy equipment will be hauling, placing rock in the staging areas (i.e., parking lots), then moving the rock to barges during the following summer construction season. Rock staging is expected in the fall of 2020. During the summer 2021 construction season (i.e., July 1 through September 30), barges and construction boats will be using the boat ramp and docks. The recreation area will remain closed for post-construction
site cleanup, and will reopen to the public for recreational use the summer of 2022. There are no known commercial fisheries at or near the project area.

3. **Water-related recreation [230.53]**
Project work will be completed during the summer months when the lake level is at high pool. Recreational boaters (i.e., water skiers, jet skiers, and/or fishers) in the area may be affected by the addition of construction related watercraft in the area between Albeni Cove Recreation Area and the western end of Strong’s Island. To maintain safe waterways, Bonner County has the following ordinances\(^2\) that address no-wake zones on Lake Pend Oreille and the Pend Oreille River:

- “Within two hundred (200) feet from any shoreline, dock, pier, bridges, other structure or any person in the water.
- Within one hundred (100) feet of any other vessel, the speed of which shall not exceed fifteen (15) miles per hour.
- Within fifty (50) feet of any other vessel.”

On the northern side of the island, the river is approximately 700 feet wide and on the southern side of the island, near the work area, the river is approximately 425 feet wide. The construction of the revetment is expected to add two to three, a small tug to move the barges, and a support boat to the river traffic. The river has sufficient width that recreational boats should not be affected by construction related watercraft. The long-term negative effects of boat recreation will be greatly diminished after construction because erosion from boat wakes will be stemmed.

4. **Aesthetics [230.53]**
During construction, there will be some noise and visual disturbance from heavy equipment operating from barges. Such disturbance is not expected to be significant. After construction is complete, the site will have a different appearance because of the riprap bank stabilization structure will replace the eroding bank. In time, as vegetation matures, it will help the bank stabilization to blend into surrounding area. In addition, the structure will ensure the stability of the existing habitat.

5. **Parks, national and historic monuments, national seashores, wilderness areas, research sites and similar preserves [230.54]**
The stabilization work is expected to benefit historic properties located on the site by preventing further erosion or catastrophic bank failure that could degrade them.

---

**Evaluation and Testing [Subpart G]:**

1. **General evaluation of dredged or fill material [230.60]**
Bank stabilization material will consist of Class III riprap, quarry spalls, and clean topsoil. All imported material will be free from contamination and obtained from a permitted local source.

2. **Chemical, biological, and physical evaluation and testing [230.61]**

\(^2\) Information from Bonner County Sheriff’s Office: [https://bonnerso.org/marine/boater-registration-regulations/](https://bonnerso.org/marine/boater-registration-regulations/)
Armor rock and fill material used at the site under this analysis will be obtained from an established source. There is reasonable assurance that the proposed discharge material is not a carrier of contaminants. Therefore, the required determinations pertaining to the presence and effects of contaminants can be made without testing.

Actions to Minimize Adverse Effects [Subpart H]:

1. Actions concerning the location of the discharge [230.70]
   Since the Corps is not selecting a disposal site, but rather is building a riprap stabilization structure, the actions that will be taken are necessary for the location.

2. Actions concerning the material to be discharged [230.71]
   Bank stabilization material will be required to meet Corps standards for placement of riprap.

3. Actions controlling the material after discharge [230.72]
   No actions should be required, as the structure is not expected to move after construction; however, should any structural deterioration occur, it should be evident to Corps park rangers, and will be addressed as necessary.

4. Actions affecting the method of dispersion [230.73]
   As described above, the structure is expected to be stable after construction and not disperse. Project drawings that show the design of the structure are included in the Environmental Assessment for the project.

5. Actions related to technology [230.74]
   Appropriate machinery and methods of transport of the material for removal and discharge will be employed. All machinery will be properly maintained and operated.

6. Actions affecting plant and animal populations [230.75]
   The Corps has coordinated construction activities with local Native American Tribes and state and Federal resource agencies to ensure that minimal impacts to fishery and wildlife resources will occur. Native riparian vegetation will be planted and monitored biannually for survival. Plantings that do not survive on their own after 12 months in ground will be replanted in the second year following construction. Monitoring and replanting will continue until 80 percent coverage is achieved. Construction features will be located to minimize impacts to plant and animal populations.

7. Actions affecting human use [230.76]
   The proposed shoreline stabilization structure will not alter recreational use of the area. The summer season construction will not preclude access to the majority of the island. As discussed in Subpart F (3), construction of the project will add 4-5 additional watercraft including barges in the river between the island and Albeni Cove Recreation Area. The proposed project will not create or add pollutants to the human environment.

8. Other actions [230.77]
BMPs, such as dust suppression measures, will be used to ensure that no unnecessary damage to the environment occurs during construction.

---

**General Policies for Evaluating Permit Applications [33 CFR §320.4]**

1. **Public Interest Review [320.4(a)]**  
The Corps finds this bank stabilization action to be in compliance with the 404(b)(1) guidelines and not contrary to public interest.

2. **Effects on wetlands [320.4(b)]**  
See 404(b)(1) evaluation above. Minor impacts to wetlands are expected, and will be minimized and mitigated - see 17 below.

3. **Fish and wildlife [320.4(c)]**  
The Corps has consulted with state and federal resource agencies, tribes and other interested members of the public on this action. Impacts will be minimized and mitigated - see 17 below.

4. **Water quality [320.4(d)]**  
The Corps has determined this project will not violate Water Quality Standards as set forth by the Clean Water Act and is seeking a 401 Water Quality Certification from the IDEQ.

5. **Historic, cultural, scenic, and recreational values [320.4(e)]**  
The Corps has completed consultation with Idaho SHPO. Once the project is complete, the Strong’s Island will continue to be managed for fish and wildlife habitat, and as such is open for light, unimproved recreational use.

6. **Effects on limits of the Territorial Sea [320.4(f)]**  
Not applicable, since the project will not occur in coastal waters.

7. **Consideration of property ownership [320.4(g)]**  
Strong’s Island and Albeni Cove Recreation Area properties belong to the Corps. The staging area, Albeni Falls Recreation Area will be closed during the summer 2021 for construction purposes. Access from the staging area and the construction site is by boat only, on public riverine rights of way.

8. **Activities affecting coastal zones [320.4(h)]**  
Not applicable, since the project will not occur in coastal waters; Bonner County is not a coastal county as defined under the Coastal Zone Management Act.

9. **Activities in marine sanctuaries [320.4(i)]**  
Not applicable, since the area is not a marine sanctuary.

10. **Other federal, state, or local requirements [320.4(j)]**  
On June 4, 2020, the Corps submitted a BA to the USFWS requesting concurrence with the findings that the project may affect, but is not likely to adversely affect (NLAA) threatened bull.
trout and their critical habitat. It is anticipated that the USFWS will concur with this finding contingent upon implementation of the project as described in the BA, including conservation measures and BMPs. The Corps will seek Water Quality Certificate under Section 401 of the Clean Water Act from the IDEQ. No other certifications are required.

11. Safety of impoundment structures [320.(k)]
Not applicable, since an impoundment structure is not being built.

12. Water supply and conservation [320.4(m)]
Not applicable, since the action will have no effect on the area water supply.

13. Energy conservation and development [320.4(n)]
Not applicable.

14. Navigation [320.4(o)]
Construction of the riprap revetment will add two to three barges, and two to three support boats in the water during the summer 2021 construction season (July 1 through September 30). Albeni Cove Recreation Area, including the boat launch, will be closed to the public the summer of 2021. Recreational boaters are required by Idaho State Law and Bonner County Ordinances to give right-of-way to the slower, and less maneuverable barges which will be operating between the western end of Strong’s Island and Albeni Cove Recreation Area. With only a few boats four to six added to the river, impacts to navigation is expected to be minimal, and short-term in duration. No other navigational impacts are expected.

15. Environmental benefits [320.4(p)]
This project will prevent erosion of public property and help preserve existing shoreline habitat. See the Environmental Assessment and the CWA 404 evaluation for a full description of project benefits.

16. Economics [320.4(q)]
Completion of the project will enable the recreation area to remain operational and to continue serving the local and regional public.

17. Mitigation [320.4(r)].
The following measures will be taken to minimize and mitigate for impacts from the project:

- The design includes planting of native vegetation, including willows, which will replace natural values lost from the erosion and the placement of the stabilization structure. Vegetation will be monitored for up to three years to ensure at least an 80 percent coverage rate through one growing season.
- Palustrine emergent wetlands will actually be protected from future erosion by the bank stabilization project.
- Loss of cultural resources and historic properties will be avoided through the placement of the bank armoring.
- BMPs, such as stormwater runoff prevention, will be used to ensure that no unnecessary damage to the environment occurs.
• USACE archeologist and biologist will monitor construction progress to ensure BMPs are in place and impacts to natural and cultural resources are properly avoided.
• Disruption to traffic during construction will be minimized as much as possible, and any damages to road infrastructure will be repaired.
• Rocks will be hauled during the summer to avoid damaging local roads during the winter/spring load (weight) restrictions.
• Temporary fencing or stakes with ribbon will be utilized to establish the construction zone in order to avoid off-site impacts.
APPENDIX B – ESA COORDINATION

- Letter to USFWS (02/06/2020)
- Concurrence Letter from USFWS (14/07/2020)
Planning, Environmental, and Cultural Resources Branch

Ms. Christy Johnson-Hughes
IFWO - Spokane
U.S. Fish and Wildlife Service
11103 E. Montgomery Drive
Spokane Valley, Washington 99206

Dear Ms. Johnson-Hughes:

The Seattle District, U.S. Army Corps of Engineers (USACE) has prepared a biological assessment (BA) (enclosed), as required under Section 7(a) of the Endangered Species Act (ESA) of 1973 (16 U.S.C., 1531 et seq.) to address all federally-listed species affected by the a shoreline protection project along Strong's Island located on the Pend Oreille River, Bonner County, Idaho and to initiate formal consultation.

Strong's Island is one of several parcels owned by the USACE and designated as part of the Pend Oreille Wildlife Management Area. Erosion from wave action and the operation of the Albeni Falls Dam has caused incremental bank failure along the island shorelines and has the potential to affect an archaeological site. The purpose of this project is to stop erosion and loss of land by hard armoring portion of the island’s shoreline with vegetated riprap rock protection.

The BA provides information on the potential impacts of this project on bull trout (Salvelinus confluentus). Based on this information, the USACE has determined the project may affect, but is not likely to adversely affect bull trout. The proposed project also may affect, but is not likely to adversely affect bull trout critical habitat.
The USACE requests to initiate formal consultation with your agency pursuant to Section 7 of the ESA, as amended, for Coastal/Puget Sound bull trout. If you have any questions, please contact Ms. Katherine Cousins, the environmental coordinator for this consultation, at (206) 764-6869 (Kathereine.L.Cousins@usace.army.mil), or Mr. Fred Goetz, the Seattle District ESA Coordinator at (206) 764-3515 (Frederick.A.Goetz@usace.army.mil). I may also be contacted at (206) 764-6761 or laura.a.boerner@usace.army.mil.

Sincerely,

BOERNER.LAUR
A.A.1251907443

Date: 2020.06.02 11:10:57

Laura Boerner, LG, LHG
Chief, Planning, Environmental & Cultural Resources Branch

Enclosure

cc:
Jim Muck
In Reply Refer To:  
FWS/IR9/ES/IFWO/2020-I-1274

Ms. Laura Boerner  
Chief Planning, Environmental & Cultural Resources Branch  
Department of the Army, Corps of Engineers, Seattle District  
P.O. Box 3755  
Seattle, Washington 98124-3755

Subject: Albeni Falls Dam Strong’s Island Cultural Resource Shoreline Protection Project–Bonner County, Idaho – Concurrence

Dear Ms. Boerner:

This letter responds to the U.S. Army Corps of Engineers, Seattle District’s (USACE) request for the U.S. Fish and Wildlife Service’s (Service) concurrence on effects of the subject action to species and habitats listed under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.; [Act]). USACE’s request dated June 2, 2020, and received by the Service on the same date, included a biological assessment entitled Albeni Falls Dam Strong’s Island Cultural Resource Shoreline Protection Project Pend Oreille River (Assessment) dated June 2, 2020. Information contained in the Assessment is incorporated here by reference.

Through the Assessment, the USACE determined that the proposed Shoreline Projection Project (Project) may affect, but is not likely to adversely affect bull trout (Salvelinus confluentus) and its designated critical habitat. The Service concurs with USACE’s determination for bull trout and its critical habitat and presents our rationale below.

Further, pursuant to the requirements of 7(a)(4) of the Act and 50 CFR 402.10, USACE assessed the effects of their proposed action and made a not likely to jeopardize the continued existence of determination for the proposed threatened North American wolverine (Gulo gulo luscus). Though Service concurrence is not required by 7(a)(4) or CFR 402.10, the inclusion of the determination creates a need under CFR 402.12(k) for the Service’s concurrence. After reviewing the Assessment, we concur with your determination, and pursuant to language in CFR 402.12(k), a conference is not required.

USACE also determined, through the Assessment, that the proposed Project would have no effect to yellow-billed cuckoo (Coccyzus americanus), grizzly bear (Ursus arctos horribilis), and Canada lynx (Lynx canadensis). The regulations implementing section 7 of the Act do not require the Service to review or concur with no effect determinations.
Proposed Action

The location of the proposed Project and action area is on Strong’s Island, a 30 acre island, located in the Pend Oreille River approximately two miles upstream from Albeni Falls Dam (Assessment, pp. 1-4). The proposed Project would stop erosion and land loss by hard-armoring approximately 1,000 linear feet of the western side of the island’s shoreline using Class III riprap (eight-to 22 inch diameter spalls; 145,748 cubic yards); quarry rock spalls (two-to four inch diameter spalls; 67,285 cubic yards); mulch (42 cubic yards); and Mackenzie (Salix pratixa), Drummond (S. drummondiana), Coyote (S. exigua), and Bebb (S. bebbiana) willow stakes (5,000 stakes and gallons). Bank stabilization activities would occur in the inundation zone during the summer high pool reservoir levels (Assessment, pp. 2-7). Crews and materials would be barged to Strong Island Project site. Project equipment would include a tugboat, barges, and a barge-mounted crane, implementing various construction techniques and materials (Assessment pp. 4-7). After completion of construction, the disturbed area would be reseeded with native grasses (Assessment, p. 7). Initial site preparation and staging would occur at the Albeni Cove Recreation Area in fall or winter 2020, and the proposed Project activities would occur over a four-to-six week period between July and September during the bull trout work window (Assessment, pp. 4 and 6). The purpose of the proposed Project is to protect two archaeological sites eligible for the National Register of Historic Places (Assessment, p. 2).

Species and Habitat Presence in the Action Area

Bull Trout

Bull trout in the Pend Oreille River system have complex life histories and migrate to either a lake (lacustrine-adfluvial), river (fluvial-adfluvial), or streams that flow out of lakes (alluvial-lacustrine). Adults and subadults occupy the Pend Oreille River. Most bull trout in this system spawn in tributaries of Lake Pend Oreille (Dupont et al. 2007, p. 1269), but some are known to use tributaries of Priest River (IDFG 2019, p. 134). Dupont et al. (2007, p. 1271) tracked six adult, post-spawning bull trout migrating from the Middle Fork East River, downstream to the Priest River, and then upstream along the Pend Oreille River to Lake Pend Oreille. Some of the tracked fish returned to spawn in the tributaries of Priest Lake and River (Dupont et al. 2007, pp. 1270-1272). The action area is approximately four miles west of the confluence of the Priest River and Pend Oreille River and is outside the typical migratory route to Lake Pend Oreille, although bull trout are known to occupy the portion of the river between Priest River and Albeni Falls Dam.

Bull Trout Critical Habitat

The Pend Oreille and Priest Rivers provide feeding, migratory, and overwintering (FMO) designated critical habitat for bull trout. The Pend Oreille River provides connectivity between Priest River spawning and rearing habitat and Lake Pend Oreille FMO habitat. Spawning and rearing habitat occur outside the action area approximately 50 river miles north in the Middle Fork East River, North Fork East River, Uleda Creek, and Keokee Creek. Although Strong’s Island is west of the typical migratory route for bull trout, it is within designated critical habitat.
Potential Impacts and Effects from the Proposed Action

Bull Trout

The proposed Project would occur during summer high pool when the shoreline is surrounded by flowing water and would include in-water work. The proposed Project activities include placing riprap, quarry rock spalls, match, and willow whips and poles against the eroding bank. Potential effects include increased turbidity during delivery/placement of materials, potential displacement of bull trout associated with noises from barges and equipment, and potential chemical contamination.

Turbidity and sediment effects are expected to be short in duration and intensity due to the implementation of conservation measures. Conservation measures to reduce turbidity include, but are not limited to: no excavation of soils; placing a filter layer on the bank to prevent transport of fine-grained sediment through the riprap; keying riprap into bank and not end-dumped; utilizing erosion control materials (silt fence certified weed-free straw bales); and placement of barriers around disturbed sites to prevent sediment from entering the river (Assessment, pp 5-8). Sediment is expected to rapidly disperse within the large volume of water. There is sufficient adjacent habitat for bull trout to escape and to avoid sediment pulses in the action area. With the implementation of conservation measures, potential effects to bull trout resulting from sediment and turbidity are expected to be insignificant.

Barges and work activities have the potential to disturb bull trout if bull trout are present in the action area. The levels of noise and vibration from barges and construction activities are not expected to cause disruptions that are substantially different than those typically experienced by fish in their natural environment. The Pend Oreille River is a trafficked river corridor and is used by recreationalists (Assessment, p. 2). Furthermore, most bull trout are not expected to occur in the action area during project activities because they migrate up the Priest River and the East River and hold in those locations until late summer when spawning occurs (Assessment, p. 17). Therefore, we expect potential effects to bull trout as a result of noise and vibration to be insignificant.

Accidental spills of hydraulic fluids from construction equipment have the potential to degrade water quality or injure or kill bull trout. The potential for chemical contamination is reduced through conservation measures including, but not limited to: implementing a spill prevention control and countermeasure plan; ensuring equipment is clean; refueling equipment on land greater than 150 feet from water; checking equipment for drips and leaks regularly; using biodegradable hydraulic fluids; and having a fuel spill kit and absorbent pads available on site (Assessment, p. 8). Therefore, potential effects to bull trout as a result of chemical contamination are expected to be discountable.

Bull Trout Critical Habitat

The proposed Project activities may cause minor short term impacts to Physical and Biological Features (PBF) 2 (water quality impediments in FMO habitat) and PBF 8 (sufficient water quality for normal reproduction, growth, and survival) by increasing sediment transport, turbidity effects, and chemical contamination. Water quality would not be significantly changed from preexisting conditions due to implementation of best management practices associated with turbidity and chemical contamination listed above. Due to implementation of conservation measures
(Assessment, pp. 5-8), potential effects to bull trout critical habitat resulting from sediment and turbidity are expected to be insignificant and potential effects resulting from chemical contamination are expected to be discountable. The proposed bank stabilization Project would stop erosion and land loss by hard-arming and planting 5,000 willow stakes. Over time, the proposed Project would reduce sediment transport and turbidity into the Pend Oreille River system; therefore, Project activities are expected to be beneficial to bull trout critical habitat over time.

Concurrence

Based on the Service’s review of the Assessment, we concur with USACE’s determination that the action outlined in the Assessment and this letter, may affect, but is not likely to adversely affect bull trout or its designated critical habitat. This concurrence is based on the implementation of conservation measures and the low potential for bull trout to occupy the Project area, which reduces impacts of the proposed action to bull trout and bull trout critical habitat to insignificant and discountable levels.

This concludes informal consultation. Further consultation pursuant to section 7(a)(2) of the Act is not required. Reinitiation of consultation on this action may be necessary if: (1) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not considered in the assessment; (2) the action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the analysis; or (3) a new species is listed or critical habitat designated that may be affected by the proposed action.

Thank you for your continued interest in the conservation of threatened and endangered species. If you have any questions regarding this consultation, please contact Christina Hacker of this office at christina.hacker@fws.gov

Sincerely,

Patricia C. Johnson-Hughes

for Christopher Swanson
Acting State Supervisor

cc: IDFG, Panhandle (Horsmon)


Idaho Department of Fish and Game (IDFG). 2019. Fisheries Management Plan 2019 – 2024. Idaho Department of Fish and Game, Boise, USA.
APPENDIX C – ALTERNATIVE 2 – BANK STABILIZATION CONSTRUCTION DESIGNS
STRONG ISLAND EROSION PROTECTION
ALBENI FALLS DAM, IDAHO

PROJECT VICINITY MAP

SAFETY PAYS
ROCK TESTING CRITERIA:

1. Rock testing shall be performed at all areas shown on the drawings. See limits for the rock testing area. Testing shall be performed by a representative of the contractor. The results shall be recorded on the construction report form. The representative of the contractor shall determine the amount of testing required.

2. Contractor shall supply source of materials and equipment for the construction of a rock testing facility. The rock testing facility shall be designed and constructed in accordance with the specifications for rock testing facilities.

3. The results of the rock testing shall be used to determine the suitability of the rock for the project. The results shall be recorded on the construction report form.

4. Rock testing shall be performed by a representative of the contractor. The results shall be recorded on the construction report form.

5. Rock testing shall be performed by a representative of the contractor. The results shall be recorded on the construction report form.

6. Rock testing shall be performed by a representative of the contractor. The results shall be recorded on the construction report form.

QUANTITIES:

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>TONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOPSOIL</td>
<td>280</td>
</tr>
<tr>
<td>MAF 5A</td>
<td>6,000</td>
</tr>
<tr>
<td>OUTER ROCK</td>
<td>4,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROSEED</td>
<td>4,500 SF</td>
</tr>
<tr>
<td>WILLOW</td>
<td>4,000 EA</td>
</tr>
<tr>
<td>1 GALLON POSTS</td>
<td>1,000 EA</td>
</tr>
</tbody>
</table>

NOTE:
- All quantities shown are approximate and are for the benefit of the contractor and to ensure that all materials are adequately planned for the project.
- All quantities shall be verified during the construction phase.

G-002 SHEET 2 OF 4
Example of letter sent to Federally recognized tribes.
Letters were sent (08/07/2020) to:

The Honorable Ernie Stensgar, Chairman  
Coeur D'Alene Tribe  
PO Box 408  
Plummer, ID 83851

The Honorable Shelly Fyant, Chairwoman  
Confederated Salish and Kootenai Tribes  
PO Box 278  
Pablo, MT 59855

The Honorable Glen Nenema, Chairman  
Kalispel Indian Community of the Kalispel Reservation  
PO Box 39  
Usk, WA 99180

The Honorable Gary Aitken, Chairman  
Kootenai Tribe of Idaho  
PO Box 1269  
Bonners Ferry, ID 83805
Similar notification letters were sent to the Coeur d’Alene Tribe, Confederated Salish and Kootenai Tribes, Kalispel Tribe of Indians, and Kootenai Tribe of Idaho.

Planning, Environmental, and Cultural Resources Branch

The Honorable Ernie Stensgar, Chairman
Coeur D’Alene Tribe
PO Box 408
Plummer, ID 83851

SUBJECT: Tribal Notification for the Albeni Falls Dam, Strong’s Island Historic Properties Shoreline Stabilization Project, Bonner County, Idaho

Dear Chairman Stensgar,

The Seattle District, U.S. Army Corps of Engineers (Corps) is in the process of planning a project to mitigate adverse effects to a historic property, archaeological site 10BR91. The historic property is located on Strong’s Island at the Albeni Falls Dam and Pend Oreille Lake Project (AFD). Strong’s Island is located approximately 1.2 miles upstream of Albeni Falls Dam in the middle of the Pend Oreille River in Bonner County, Idaho (Figure 1). Stream bank erosion on the island has occurred due to bank slumping events during winter drawdowns of the reservoir by the AFD and wind driven or recreational boat driven waves. The erosion is threatening the archaeological site and to mitigate this, the Corps is examining two potential alternatives. The preferred alternative to stop erosion and loss of land is to construct a riprap revetment. The other alternative being considered is to conduct archaeological data recovery by gathering and preserving information from the site through archaeological excavation.

The proposed revetment would be approximately 50 to 65 feet wide ranging from approximately 2,055 feet elevation to grade at the top of the existing bank for a total length of approximately 1,000 linear feet. The structure would be finished at a two (horizontal) to one (vertical) slope (Figures 2 and 3). The preferred staging and access site to the proposed stabilization area is at the Corps’ Albeni Cove Recreation Area, located approximately 1.2 miles downstream from the west end of Strong’s Island. Primary access to the construction site would occur from the river during high pool and the in-water work window between July 1 and September 30.

In accordance with the National Environmental Policy Act, the Corps is preparing a Draft Environmental Assessment (EA) to evaluate the environmental effects of the alternatives. The purpose of this letter is to inform you that a Draft EA for this project will soon be released for a 30-day comment period.

Two species listed under the 1973 Endangered Species Act (ESA), as amended, may occur within the project area; bull trout and North American wolverine. As a part of the environmental review process, a Biological Assessment (BA) was sent to the United States Fish
and Wildlife Services (USFWS) on June 5, 2020 requesting their concurrence that the proposed shoreline stabilization project will have no effect on North American wolverine or its proposed critical habitat and that the project may affect but not likely to adversely affect bull trout, and their designated critical habitat. We anticipate the USFWS will concur with this finding contingent upon implementation of the project as described in the BA, including conservation measures and Best Management Practices (BMPs). The coordination will be documented within the EA.

The Corps will be requesting comments on the proposed alternatives. We are interested in your comments and will fully consider any comments we receive. A copy of this letter with enclosures will be furnished to Mr. Caj Matheson, Natural Resources Director.

For assistance with general information regarding tribal coordination and consultation, please contact Ms. Lori Morris, Tribal Liaison, at (206) 764-3625 or frances.morris@usace.army.mil. To reply with comments or to request any additional information about this project, please contact Mr. Jeremy Ripin at (206) 764-3630 or jeremy.w.ripin@usace.army.mil.

Sincerely,

Laura Boerner, LG, LHG
Chief, Planning, Environmental and Cultural Resources Branch

Enclosure
Figure 1. Strong’s Island vicinity map. Strong’s Island is located near the community of Priest River, Bonner County, Idaho.
Figure 2. General design plan showing the location of the proposed revetment and the staging areas.
Figure 3. General design plan showing the proposed revetment design and typical section profile.
APPENDIX E – NHPA COORDINATION

- Letter to SHPO (28/07/2020)
- SHPO signed Treatment Plan Form (27/08/2020)
Planning, Environmental and Cultural Resources Branch

July 28, 2020

Tricia Canaday,
Administrator
State Historic Preservation Office
210 Main Street
Boise, ID 83702

SUBJECT: FCRPS Albeni Falls Dam 10BR91 Treatment Plan Form; Bonner County, Idaho

Dear Ms. Canaday,

The U.S. Army Corps of Engineers (Corps) proposes to implement a mitigation treatment for site 10BR91 in Bonner County, Idaho. Albeni Falls Dam is one of 14 projects included in the Federal Columbia River Power System (FCRPS) which through the implementation of the Systemwide Programmatic Agreement (SWPA) the Lead Federal Agencies (LFAs) (Corps, US Bureau of Reclamation, and Bonneville Power Administration) manage historic properties affected by the multipurpose operations of the dams for compliance with Section 106 of the National Historic Preservation Act (NHPA).

Stipulation IX.G.2 of the SWPA requires the LFAs to prepare written documentation of determinations of National Register eligibility, determinations of the undertaking’s effect on the historic property and proposed treatment measures to resolve for adverse effects. A memorandum of agreement (MOA) is not required to resolve adverse effects under the SWPA rather, the TPF serves as the documentation required by the SWPA under Stipulation IX.G.

The FCRPS Cultural Resource Program Albeni Falls Cooperating Group has agreed site 10BR91 requires mitigation. The Corps proposes, as full mitigation for the loss of cultural deposits and degradation, displacement, and loss of cultural remains to 10BR91, treatment in the form of stabilizing the eroding bank of Strong’s Island in the area of the property. The revetment would be constructed of rock riprap and the completed structure would be approximately 50 to 65 feet wide ranging from approximately 2,055 feet elevation to grade at the top of the existing bank for a total length of approximately 1,000 linear feet. The structure would be finished at a two (horizontal) to one (vertical) slope. The revetment would

The enclosed TPF documents the actions the LFAs are taking to resolve for adverse effects to site 10BR91 under the SWPA (Enclosure 1). A draft copy of the 10BR91 TPF was discussed at multiple Albeni Falls Dam cooperating group meetings in FY2019 and FY2020. Throughout the
drafting and review process the LFAs consulted with the Kalispel Tribe of Indians, the Coeur d’Alene Tribe, the Confederated Salish and Kootenai Tribes, and the Kootenai Tribe of Idaho.

The Corps requests your signature on the enclosed 10BR91 TPF. If you have any questions or desire additional information, please contact the project Archaeologist, Jeremy Ripin, at jeremy.w.ripin@usace.army.mil or (206) 764-3630. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

Laura Boerner, LG, LGH
Chief, Planning, Environmental and Cultural Resources Branch

Enclosure
6. Special Requirements or Conditions Needed to Insure Long-Term Success of the Treatment

The treatment area will be monitored every 5 years to ensure the revetment is in working condition and to observe if any maintenance of the revetment is required. Maintenance of the revetment would be completed as needed.

7. References Cited


Federal Columbia River Power System (FCPRP)

Gough Stan and Keo Boreson.


8. Signatures

8.A. Prepared By

RIPIN, JEREMY W
ILLIAM.1279213
412

Jeremy Ripin, Archaeologist, U.S. Army Corps of Engineers Seattle District

Date

Signature/Position/Agency or Tribe

BOERNER, LAUR
A.A.1251907443

Date

Treatment Plan Form v8 03112016
APPENDIX F – NOTICE OF AVAILABILITY AND RESPONSE TO COMMENTS

- Notice of Availability
- Summary of comments from Kalispel Tribe of Indians (07/08/2020)
- Corps response to comments from Kalispel Tribe of Indians (09/01/2020)
Public Notice and Notice of Availability of Draft Environmental Assessment

Planning, Environmental & Cultural Resources Branch
P.O. Box 3755
Seattle, WA 98124-3755
ATTN: Jeremy Ripin

Public Notice Date: 8 July 2020
Expiration Date: 7 August 2020
Reference: CENWS-PMP-20-04

Project Name: Albeni Falls Dam, Strong’s Island Historic Properties Shoreline Stabilization Project, Bonner County, Idaho

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Seattle District (Corps) has prepared, pursuant to the National Environmental Policy Act, a draft Environmental Assessment (EA) to address the potential environmental impacts associated with mitigation of adverse effect on a historic property at the Albeni Falls Dam (AFD) Strong’s Island Wildlife Management Area (WMA). In addition to the draft EA, the Corps has prepared a Clean Water Act Section 404(b)(1) Evaluation. The purpose of this Public Notice is to solicit comments from interested persons, groups, or agencies on the Corps’ proposal to stabilize a section of shoreline at Strong’s Island WMA.

This Public Notice is being issued under CWA Section 404 and in accordance with rules and regulations published as 33 CFR 335 “Operation and Maintenance of Army Corps of Engineers Civil Works Projects Involving the Discharge of Dredged or Fill Material into Waters of the U.S. or Ocean Waters”; 33 CFR 336 “Factors to be Considered in Evaluation of Army Corps of Engineers Dredging Projects Involving the Discharge of Dredged Material into Waters of the U.S. and Ocean Waters”; 33 CFR 337 “Practice and Procedure”; and 33 CFR 338 “Other Corps Activities Involving the Discharge of Dredged Material or Fill into Waters of the U.S.”

A copy of the draft EA is available on the Seattle District Corps website: http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/

Basin: Pend Oreille River
Project Name: Albeni Falls Dam, Strong’s Island Historic Properties Shoreline Stabilization Project, Bonner County, Idaho

Copies of the draft EA are also available by request. Please contact Mr. Jeremy Ripin at 206-764-3630 or via e-mail Jeremy.w.ripin@usace.army.mil
AUTHORITY
The AFD project was authorized under the Flood Control Act of 1950 (Public Law 516, 81st Congress, 2nd Session) in accordance with Senate Document 9, 81st Congress, 1st Session, as part of a comprehensive plan for the development of the Columbia River System. Section 4 of the Flood Control Act of 1944 (Public Law 78-534), as amended, authorized the Corps to construct, maintain, and operate public parks and recreational facilities in reservoir areas under Corps control, and to permit the construction, maintenance, and operation of such facilities. The Flood Control Act of 1962 amended the 1944 authority to include all water resources projects.

LOCATION
The Strong’s Island WMA is approximately 2.5 miles downstream from the community of Priest River, Idaho and is approximately 1 mile upstream of Albeni Falls Dam on the middle of the Pend Oreille River in Idaho. The project is at 48°10’36.29” N latitude and 116°58’15.21” W longitude.

PROJECT DESCRIPTION
Erosion from wave action is causing incremental bank failure along the western end of a mid-channel island in the Pend Oreille River, threatening sensitive cultural resources. The primary focus of the project is the mitigation of adverse effects to a historic property caused by the operation of the Albeni Falls Dam.

The preferred alternative is the construction of rock riprap bank stabilization along approximately 1,000 lineal feet of the shoreline. When complete, the structure would provide protection against erosion from elevation approximately 2,055 feet to 2,070 feet, or 8.0 feet above the regulated summer pool level. The project would take place within the Corps-owned Strong’s Island WMA.

Impacts from the project are expected to include minor construction related effects on water quality, wildlife, noise, and recreation. These impacts to water quality, wildlife, noise, and recreation would generally be highly localized and of short duration. To accommodate staging and access to the construction site, the Albeni Cove Recreation Area would be closed to the public from September 2020 – May 2022. In addition, approximately 1.91 acres of muddy lakebed/shoreline habitats would be covered by riprap. The Corps would use best management practices to minimize potential adverse effects to aquatic and terrestrial resources. Impact reduction measures would take the form of plantings of native vegetation, scheduling construction in the summer high-water months (approximately July – September), and long-term protection of cultural resources.

PUBLIC INTEREST EVALUATION
The decision to proceed with this proposed action will be preceded by a determination of whether the proposed activity would be in the public interest. All factors which may be relevant to the proposal’s public interest will be considered; among those are navigation and the Federal standard for dredged material disposal; water quality; wetlands; endangered species; historic resources; scenic and recreation values; fish and wildlife;
marine sanctuaries; applicable state/regional/local land use classifications, determinations, and/or policies; conservation; economics; shoreline erosion and accretion; safety; and considerations of property ownership.

As a foundation for its public interest determination the Corps will consider, on an equal basis, all alternatives that are both reasonable and practicable, i.e., available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The Corps will select the alternative that represents the least costly alternative, constituting the discharge of dredged or fill material into waters of the United States in the least costly manner and at the least costly and most practicable location, that is consistent with sound engineering practices, and that meets the environmental standards established by the CWA Section 404(b)(1) evaluation process.

PUBLIC REVIEW PROCESS
The decision on whether to conduct the project will be based on an evaluation of the probable impact on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among these are: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people.

Any person who has an interest that may be affected by this disposal of fill or dredged material may request a public hearing. The request must be submitted in writing to the District Engineer within the comment period of this notice, and must clearly set forth the following: the interest that may be affected, the manner in which the interest may be affected by this activity, and the particular reason for holding a public hearing regarding this activity.

The Corps invites submission of factual comment on the environmental impact of the proposal. Comments will also be considered in determining whether it would be in the best public interest to proceed with the proposed project. The Corps will consider all submissions received before the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. The Corps will initiate an Environmental Impact Statement (EIS), and afford all the appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

Submit comments or requests for additional information to the address posted at the top of this notice no later than 30 days after the date of this notice to ensure consideration.
Summary of Comments from Kalispel Tribe of Indians and Responses

The Corps received comments from the Kalispel Tribe of Indians in a letter dated August 4, 2020. On August 24, 2020 the Corps and representatives of the Kalispel Tribe of Indians had a meeting to discuss the comments and to help clarify information in the comments. The Corps responded to the comments in a letter. A summary of the comments and the Corps response (in italics) is below.

Comment 1. The purpose of the proposed action is singular, to mitigate for the hydroelectric project's continual operational adverse effects to the significance of 10BR91. The modality of those adverse effects is erosional in nature and the loss of land (and the habitats therein) is incidental to the government's statutory obligation.

a) Mitigation of anticipated loss lands exceeds the underlying justification.

b) The reduction of water turbidity, should stabilization be effective, is also incidental and exceeds the underlying justification.

_The Corps concurs that the purpose and need of this project is to address the adverse effects caused by the operation of the Albeni Falls Dam on archaeological site 10BR91 and the need (proposed treatment) is to mitigate for that adverse effect. The Corps does not concur that stopping erosion exceeds justification._

Comment 2. The mitigation of adverse effect to National Register of Historic Places (NRHP) eligible historic properties is a negotiated outcome. That negotiation conducted between affected parties (in this case Idaho State, Tribes, and the Cultural Resources Management Industry/Research Community) and the U.S. Government.

a) To negotiate in good faith, the Kalispel Tribe of Indians requested that the U.S. Government conduct a comparative cost analysis of the potential methods of mitigation.

b) The U.S. Government completed the initial request of conducting that cost analysis yet obscures the objective measurables in the EA. The Government's preferred alternative is objectional for the following reasons:

   a. The cost to mitigate the Tribe and public's interest can be attained for substantially less.

   b. The allocation of scarce historic property money is disproportionate.

   c. The monopolization of management attention for more than one season shall forestall the evaluation and treatment of other historic properties in the project and elsewhere within the FCRPS.

_The Corps has negotiated with all the potentially affected Tribes in good faith and discussed treatment of site 10BR91 with the Albeni Falls Dam and Pend Oreille Lake Historic Property Management Cooperating Group (Cooperating Group) during numerous quarterly meetings. Bank stabilization as a potential treatment has been openly discussed since at least November 2018. The Corps did not perform a cost comparison between the potential methods of mitigation but did develop a cost estimate for bank stabilization. Despite the cost, bank stabilization was determined by the Cooperating Group to be an effective treatment solution. The cost estimate is commensurate with projects of this type. As described in Section 2.2 of the EA, the project timeline is estimated to take one year to complete. Material would be purchased and stockpiled in September 2020 and construction would be undertaken in Summer 2021 and completed by September 30, 2021._

Comment 3. The Kalispel Tribe of Indians shall face the local political consequences of the decision. The preferred alternative fails to meet the Kalispel Tribe of Indians' expectations and reasonably constructs yet another local political argument for alienation and marginalization.
The Corps is aware of and appreciate our unique legal relationship with the Kalispel Tribe of Indians. We understand your concerns regarding the local community’s potential perceptions of the project and their potential effects on the Kalispel Tribe of Indians. To help address your concerns we will commit to engage in a public relations outreach campaign emphasizing the project is a Corps of Engineers project implemented under obligations of the Federal Columbia River Power System. We will work with personnel at the Seattle District and operating project to implement this public relations outreach. Should the public have concerns or comments, the Corps will address them.

Comment 4. The data recovery sampling methods described in the EA are insufficient given the dimensions of the recorded site. Data recovery would still be a significant cost savings to the US Government's preferred alternative and provides other benefits. The data recovery alternative described omits several potential benefits and these are:

a) Archaeological data recovery has become a comparatively rarified event in the region with modern decisions being made on data derived from legacy projects (e.g., Chief Joseph Hydrologic Project [Lake Rufus]) skewing prehistoric reconstructions of regional archaeology to steppe ecosystems and their specific cultural adaptive behaviors.

b) Albeit the Kalispel Tribe of Indians has endeavored to remedy this regional bias in data accumulation and comparative analysis its efforts are confined to the lower Pend Oreille watershed on less mature landforms.

c) The earlier of the three components identified at 10BR91 dates approximately 4000 years before present (B.P.) both locally and regionally proven components of this vintage are rare and poorly understood. Examination of it will flesh out the ambiguities that currently exists in the mid-Holocene.

d) Increasingly as Tribal governments have taken a larger participatory role in cultural resource management there has been a growing skills gap emerging. Some Tribal governments, reflective of their domestic values abstain from excavation. Yet there are other Tribal governments (e.g., Kalispel Tribe of Indians) that use the method to effectively solve their issues. Moreover, if an appropriately designed data recovery effort was conducted by a third-party actor that included intensive infield experiential training accessible to affected Tribes, then the technical skill gap shortens and more Tribes could exercise a greater deal of self-determination by understanding a fuller gambit of methods of problem solving.

The Corps agrees with your analysis that the sampling strategy summarized in the Draft EA is adequate; however, we still have many concerns with data recovery. The Corps has examined data recovery as an option but in meetings with the Cooperating Group over the last several years decided not to proceed with that alternative for the following reasons:

a) There are many unknowns that may occur during the excavation of an important site of this type, including the potential discovery of human remains. We acknowledge and respect similar sites of this age are extremely rare and components of the site date to approximately 4,000 years before present.

b) Data recovery efforts could last for many years and are likely to carry a reflectively significant cost, particularly if funerary or human remains are found.

c) Although Kalispel Tribe uses excavation as a tool to effectively problem solve for difficult cultural resource issues, it is our understanding the other tribes on the Cooperative Group determined data recovery was not an acceptable mitigation alternative for this site.

d) The cultural resource collections regionalization efforts currently under way by the Army for consolidation and curation/storage of archeological materials complicate the data recovery option.