US Army Corps of Engineers ®
Portland District

CENWP-PM-E

MEMORANDUM FOR THE RECORD

SUBJECT: RECORD OF ENVIRONMENTAL CONSIDERATION FOR BONNEVILLE BRADFORD ISLAND B-BRANCH ADULT FISH WAY - EROSION REPAIR, MULTNOMAH COUNTY, OREGON

DATE PREPARED: September 30, 2016

LOCATION OF THE PROPOSED ACTION

The Bonneville Dam is a hydroelectric dam completed in 1938 and located on the Columbia River at River Mile (RM) 146. The dam complex extends across Bradford and Cascades Island, in Multnomah County, Oregon and Skamania County, Washington (Figure 1). The B-Branch Adult Fishway at Bonneville Dam is located along the north shore of Bradford Island, approximately 75 meters west of the dam spillway in Sections 21-22, Township 2 North, Range 7 East, approximately 40 miles east of Portland, Oregon, Multnomah County, Oregon.

GENERAL DESCRIPTION OF THE PROPOSED ACTION

The U.S. Army Corps of Engineers (Corps), Portland District, proposes to conduct emergency repairs to a small section of eroding riprap revetment/foundation located beneath the B-Branch Adult Fishway at Bonneville Dam. The dam spans the river between Multnomah County, Oregon and Skamania County, Washington, but all proposed work will take place in-water and along a narrow stretch of the riprap revetment-lined, Bradford Island north-side shoreline within the Oregon boundary. The cumulative area of potential effect (APE) will cover approximately 4.0 acres – 3.2 acres of which will be conducted in-water via barge, 0.4 acre will be the maximum extent of the actual repair work on the existing riprap revetment and up to 0.4 acre of on-land, where a paved parking lot area will be available for possible additional equipment or vehicle staging (Figure 2). The proposed repair work is considered an engineering emergency and is scheduled to begin as early as December 1, 2016.

Two scour holes have developed along an approximately 50 foot (~16-meter) long (E-W) stretch of the existing riprap revetment foundation beneath and in front of the eastern end of the Bradford Island fish ladder. The eastern (upstream) scour hole consists of an approximately 20 foot (~6-meter) long (E-W) by 20 foot (~6-meter) high (N-S) by 8 foot (2.5-meter) deep, partially-submerged chasm. About 20 feet (~6 meters) downstream (westward) is another slightly-smaller, 15 foot (~4-meter) long (E-W) by 15 foot (~4-meter) high (N-S) by 8 foot (~2.5-meter) deep, partially-submerged erosion cavity. A number of factors have contributed to the ongoing erosion along the revetment edge,

particularly hydraulic forces generated by scheduled spills designed to enhance juvenile fish passage and water flows directed by the dam's existing spillway deflector, both of which have been temporarily modified until the proposed repairs have been completed. If erosion is allowed to continue, the potential for further undermining could lead to a structural collapse which could damage the fish ladder and/or cause it to fail. Damage to or failure of the structure would prevent passage of adult Threatened and Endangered fish species, thereby causing the Corps to be out of compliance with key provisions of the Endangered Species Act Section 7(a)(2) Supplemental Biological Opinion.

Specific repair plans have been developed, and it is anticipated that approximately 4,900 tons of riprap (i.e. ~4 ft diameter x ~1-ton boulders) will be placed within the two growing scour holes and along the outside periphery to stem the continuing erosion and to bolster the stability of the fish ladder's existing, underlying riprap foundation. The proposed rock repair/stabilization will be restricted to stabilizing the existing riprap-lined periphery for a maximum E-W distance of approximately 150 ft (~45.7 meters) between the joint with the existing (eastside) structural concrete apron (lower left) and immediately downstream of the western scour hole. The existing, grouted riprap slope is about 3 feet (1.0 meter) thick and extends about 20 feet (~6.0 meters) (N-S) between the surface and submerged bedrock foundation. Repair work will involve removing selected portions of the revetment's eroding, grouted rock face and replacing with newer and larger, free-standing (groutless) riprap.

No work will take place on the fish ladder structure. Access to the scour holes and all riprap repair locations will be conducted in-water from two to three barges (i.e., one vessel will support a clamshell dredge, one will carry a stockpile of riprap material, while a third will support a floating crane that will be used to place the rock in strategic locations within and around the scour holes). The in-water APE is expected to cover about 3.2 acres immediately north of the fish ladder and riprap-covered shoreline. The revetment repair APE may extend to up to 0.4 acre of the existing riprap structure, but the primary focus will be on repairs to the actively-eroding, 50 foot (~16-meter) long (E-W) x 20 foot (~6-meter) high (N-S) x 8 foot (~2.5-meter) deep scour areas. If necessary, although currently not anticipated, the 0.4-acre, paved parking lot located about 600 feet (200 meters) WSW of the westside scour hole may also be used for additional equipment or vehicle staging.

The location and extent of the scour holes require that the proposed repairs take place as soon as possible. If further erosion occurs and affects the structural integrity of the fish ladder and/or causes it to fail, the adjacent spillway would have to be shut down for repairs indefinitely, adversely affecting spring fish passage (i.e., juvenile salmonids). A spillway shutdown would also create an unsafe situation because a functional spillway is necessary for maintaining flood control (pool level regulation) and powerhouse by-pass when the turbines' flow capacities are exceeded and/or when turbines are taken out of service.

A similar but broader scour hole repair project was conducted at Bonneville Dam on the adjacent concrete spillway and stilling basin in 2012. In that case, the repair of 11 scour

holes that had developed in eight spillway bays and along the fish ladder periphery failed and the current scour hole situation along the Bradford Island fishway revetment developed in spring 2016.

An overhead, visual inspection from the nearby dam spillwall revealed the growing extent of the scour holes along the revetment's northside edge. The turbulent water flowing westward away from the dam spillwall within the spillway was observed to be exerting tremendous hydraulic forces against the scour holes and edge of the exposed riprap revetment immediately north of the fish ladder. Based on the visual inspection, it was obvious that the planned work would not physically impact or cause negative structural changes to the nearby fishway. A 3 foot (~1.0) meter wide "buffer" area will be left unaltered between the base of the concrete fish ladder and existing grouted riprap revetment edge. All rock repair work will occur along the northside portion of the revetment, away from physical contact with the concrete structure.

The Project Manager for the erosion repair is Natalie Richards, NWP RDP, 503-808-4755, Natalie.A.Richards@usace.army.mil; the Technical Lead is Jeremey Appt, Civil Engineer, NWP-RDP CENWP-EC-DG, 503-808-4912, Jeremy.S.Appt@usace.army.mil. The Fish Passage Operations Management (FPOM) Coordinator is Tammy Mackey, NWP Operations Division Fishery Section, Columbia River Coordination Biologist, 503-961-5733, Tammy.m.mackey@usace.army.mil.

PURPOSE AND NEED FOR THE PROJECT

The purpose of this project is to repair multiple areas of erosion under the riprap revetment-lined, Bradford Island north-side shoreline within the Oregon boundary. The action is needed because the reinforced bank was repaired in 2012 and has developed multiple erosion holes since that repair. If the bank is not repaired it is likely that the erosion will undercut the fishway and cause it to fail, putting the fishway infrastructure at risk.

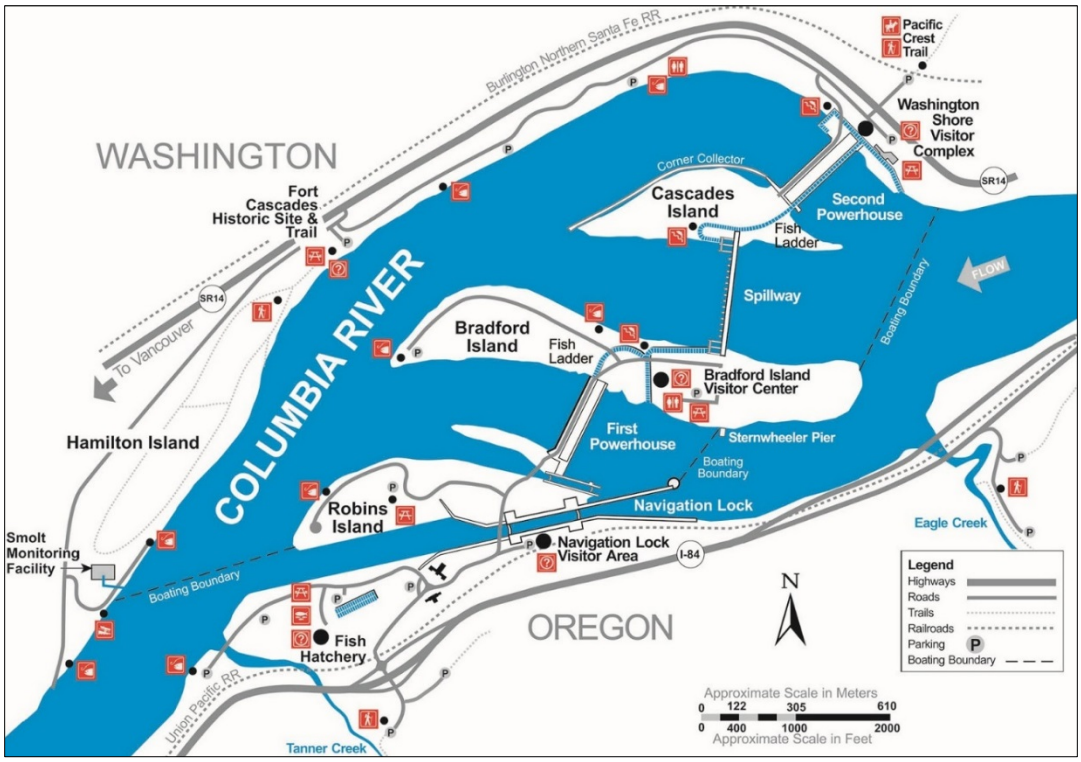

Figure 1. Components of the Bonneville Lock and Dam complex, Multnomah County, Oregon and Skamania County, Washington.

Figure 2. Area of probable effect (APE).

ENVIRONMENTAL COMPLIANCE

The following discussions demonstrate compliance with all relevant environmental laws for the proposed action.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969, 42 U.S.C. §4321 *et seq*.: NEPA requires all Federal agencies to identify and assess the environmental impacts of major Federal projects, decisions such as issuing permits, spending Federal money, or actions on Federal lands; consider the environmental impacts in making decisions; and disclose the environmental impacts to the public. Environmental considerations are fully integrated into the decision-making process.

> Finding: After review of the proposed action and in consideration of the laws and executive orders described herein, I have determined that the proposed action qualifies as a ***categorical exclusion*** as described by the Corps' regulations for implementing NEPA, 33 CFR Part 230. This action can be excluded from further NEPA documentation. The applicable categorical exclusion is 33 CFR §230.9(b): *Activities at completed Corps projects which carry out the authorized project purposes. Examples include routine operations and maintenance actions, general administration, equipment purchases, custodial actions, erosion control, painting, repair, rehabilitation, replacement of existing structures and facilities such as buildings, roads, levees, groins and utilities, and installation of new buildings utilities, or roadways in developed areas.*
>
> The Bonneville B-Branch fishway erosion repair project is *in compliance* with 33 CFR §230.9(b) because it involves erosion control and repair of existing structures and facilities.

BALD AND GOLDEN EAGLE PROTECTION ACT OF 1940, 16 U.S.C. §668 *et seq*.: This Act provides for the protection of bald and golden eagles by prohibiting the taking, possession, and commerce of such birds, except under certain specified conditions. Projects involving forestry practices, use of aircraft (or other motorized equipment), blasting and other work may result in loud or intermittent noises if they occur within 1000-feet of an active or alternate nest time during the breeding season (January 1 through August 15) and could disrupt breeding activity.

> Finding: U.S. Fish and Wildlife Service, National Bald Eagle Management Guidelines (May 2007) and the U.S. Army Corps of Engineers eGIS Information Portal were used as aids in evaluating project impacts to bald eagles and known nest locations. Because the proposed project involves erosion repair of an existing facility and will not otherwise change existing operations, there is no potential for impact to preferred nesting, rearing, or foraging habitat, and no project-related potential for a 'take' of bald or golden eagles. Therefore, the proposed action is *in compliance* with this Act.

CLEAN AIR ACT (CAA) OF 1970, 42 U.S.C. §7401 *et seq*: This Act established a comprehensive program to preserve, protect and enhance air quality throughout the United States based on permitting of stationary sources of air pollution emissions, restricting the emission of toxic substances from stationary and mobile sources, establishing National Ambient Air Quality Standards and noise pollution standards. All federal actions resulting in the emission of air pollutants must comply with all federal, state, interstate and local requirements for control and abatement of air pollution in the same manner and extent as any non-governmental entity, unless the activity is explicitly exempted by the U.S. Environmental Protection Agency (EPA).

> Finding: The proposed action does not involve asbestos, a regulated industry, use of an incinerator or open burning, or hazardous materials. The proposed action will not create or result in any exceedances of State and Federal emission standards and is *in compliance* with this Act.

CLEAN WATER ACT (CWA) OF 1972, U.S.C. §1251 *et seq*.: This Act established the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1977. The CWA made it unlawful to discharge any pollutant into navigable waters, unless a permit was obtained.

Section 401 – Section 401(a)(1) requires from the state that a discharge to waters of the U.S. in that state will not violate the states' water quality standards. The EPA retains jurisdiction in limited cases. The Corps seeks a state Water Quality Certification per 33 Code of Federal Regulations (CFR) 336.1 (a)(1) when its activities result in a discharge not previously authorized by a nationwide permit.

Section 402 – Section 402(a)(1) authorizes the EPA, or states in which the EPA has delegated such authority, to issue permits for the discharge of pollutants under the National Pollutant Discharge Elimination System program for all land disturbances over an acre in size. Regulated categories of discharges generally include point-source discharges and stormwater runoff. Permit conditions are usually required to ensure compliance with all applicable effluent and water quality standards.

Section 404 – This Section authorizes the Secretary of the Army to permit the discharge of dredged or fill material into waters of the United States at specified disposal sites based on section 404(b)(1) guidelines. The Corps is not subject to this authorization but complies with all applicable substantive legal requirements including application of section 404(b)(1) guidelines.

> Finding: A Design Document Report (DDR) and accompanying Plans and Specifications were prepared in accordance with the requirements of ER-1110-2-1150 Engineering and Design for Civil Works Projects to document the engineering design considerations for the erosion repair below B-Branch Adult Fishway at Bonneville Lock and Dam. The proposed project will remove a slumped riprap

slope using a clamshell dredge and repair the slope with riprap suitable to withstand the turbulent flows discharging from the fishway. Material stockpiled on the barge will be enclosed with a temporary sediment control barrier such as a wattle system to minimize discharge of sediment draining from the stockpiled material into the Columbia River. The Portland District Sediment Quality Team reviewed the composition of the material to be disposed of and determined that the material is of a size and composition that no further testing for disposal contraints would be required (Attachment 1). The removed riprap will be placed on a barge and barged to a berth where it will be offloaded for landside disposal.

Erosion repair activities are routinely undertaken and authorized under nationwide permit (NWP) No. 3 (Maintenance). The proposed action is consistent with activities authorized under NWP No. 3. The project will not cause a permanent loss of wetlands or waters of the United States. The proposed action will meet all the general conditions of NWP No. 3 and the Portland District's Nationwide Regional Permit Conditions available at: http://www.nwp.usace.army.mil/Portals/24/docs/regulatory/nationwide/Revised Regional Conditions 9Feb2015.pdf., which includes a presumption of Section 401 water quality certification.

The Corps prepared Environmental Assessments (EA) under NEPA for each NWP. These EAs are referred to as Decision Documents. The Decision Document for NWP No. 3 provides the evaluation as specified in Subparts C through F of the Section 404 (b)(l) Guidelines (40 CFR Part 230) http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2012/NWP 3 2012.pdf. In addition to the criteria and conditions listed in the NWP, the Corps incorporates by reference the NWP No. 3 Decision Document findings of the 404(b)(l) evaluation.

The Oregon Department of Environmental Quality (ODEQ) is the agency of the State of Oregon designated to carry out the certification functions prescribed by Section 401. On April 9, 2012, ODEQ issued a water quality certification for the five year duration of the Corps' 2012 NWP program. The full 401 water quality certification is available at: http://www.nwp.usace.army.mil/Portals/24/docs/regulatory/nationwide/DEQ 2012 NWP WQC.pdf. NWP No. 3 is considered pre-certified by ODEQ and the Corps will meet all associated general and special conditions of the water quality certification. The repair footprint measures approximately 150 feet long by 35 feet to 50 feet in depth on a 2:1 slope. The total area of ground disturbance is approximately 0.4 acre, which is less than 1.0 acre, the triggering value for an individual water quality certification.

A Section 402 permit (NPDES authorization) is *not required* as there will be no ground disturbance or change in stormwater runoff into surface waters as a result of the proposed action. Therefore, this proposed action is *in compliance* with this Act.

COASTAL ZONE MANAGEMENT ACT (CZMA) OF 1972, 6 U.S.C. §1451 *et seq*: This Act encourages coastal states to develop and implement coastal zone management plans that are consistent with national policies to preserve, protect, develop and where possible, restore or enhance coastal zone resources. Section 307 of the CZMA requires that any federal action occurring in or outside of Oregon's coastal zone which affects coastal land or water uses or natural resources must be consistent with the Oregon Coastal Management Program.

> Finding: The proposed action is not in the coastal zone for the state of Oregon and will not result in any influence on lands covered by the CZMA. Therefore, this Act is *not applicable* to the proposed action.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT – SUPERFUND (CERCLA) OF 1980, 42 U.S.C. §9601 *et seq*.: This Act established a method to assign liability to parties responsible for the release of hazardous wastes and established a trust fund (Superfund) for the cleanup of associated lands through either short-term removals or long-term remediation to reduce the dangers to public health and the environment associated with hazardous substances.

> Finding: The location of the proposed action is not within the boundaries of a designated Superfund site as identified by the Environmental Protection Agency or the State of Oregon, and is not part of the National Priority List (http://www.epa.gov/superfund/sites/npl/index.htm). Therefore, this Act is *not applicable* to the proposed action.

ENDANGERED SPECIES ACT (ESA) OF 1973, 16 U.S.C. §1531 *et seq*.: The ESA was enacted to protect and conserve endangered and threatened species and critical habitat. Requirements of the ESA ensure activities authorized, funded, and carried out by Federal agencies are not likely to jeopardize the continued existence of any listed species or result in adverse impacts to designated critical habitat of a listed species. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for the administration of ESA listed species.

The current USFWS and NMFS ESA-listed species lists were reviewed for Multnomah County, Oregon. Using "Multnomah" as a search query, the USFWS list was found at this website (Table 1):

> http://ecos.fws.gov/tess_public/.

The NMFS list was found at this website:

> http://www.westcoast.fisheries.noaa.gov/publications/protected_species/salmon_steelhead/status_of_esa_salmon_listings_and_ch_designations_map.pdf.

Table 1. USFWS ESA-listed species in Multnomah County, Oregon (https://www.fws.gov/endangered/ accessed 9/29/2016).

Group	Common Name	Scientific Name	Status
Birds	yellow-billed cuckoo	*Coccyzus americanus*	Threatened
Birds	northern spotted owl	*Strix occidentalis caurina*	Threatened
Birds	marbled murrelet	*Brachyramphus marmoratus*	Threatened
Birds	streaked horned lark	*Eremophila alpestris strigata*	Threatened
Fishes	bull trout	*Salvelinus confluentus*	Threatened
Flowering Plants	Nelson's checker-mallow	*Sidalcea nelsoniana*	Threatened
Flowering Plants	Kincaid's Lupine	*Lupinus sulphureus* ssp. *kincaidii*	Threatened
Mammals	Columbian white-tailed deer	*Odocoileus virginianus leucurus*	Endangered
Mammals	red tree vole	*Arborimus longicaudus*	Candidate
Snails	Puget oregonian	*Cryptomastix devia*	Under Review

Finding: Consultation with NMFS and USFWS for fish species was conducted pursuant to Section 7 of the ESA and the Fish Passage Operations and Maintenance (FPOM) Committee guidelines. The FPOM determined that the proposed repair work may proceed as proposed (Attachment 2). Previous consultations for bull trout on similar projects determined that there would be *no effect* because the habitat was unsuitable. Species listed in Table 1 may occur in the project vicinity but will not be affected by the proposed project. The work will have no impact on other Columbia River in-water species or any upland species known to occur in Multnomah County. The Corps has made a *no effect* determination for all ESA-listed species and their designated critical habitat. Therefore, this action is *in compliance* with this Act.

FARMLAND PROTECTION POLICY ACT (FPPA) OF 1994, 7 U.S.C. §4201 *et seq*.:
Without authorizing Federal agencies to regulate the use of private or non-federal lands, this Act encourages Federal agencies to minimize the impact of Federal programs on the unnecessary and irreversible conversion of farmland (prime or unique) to nonagricultural uses. It follows that Federal programs shall be administered in a manner that, as practicable, will be compatible with state and local government and private programs and policies to protect farmland.

Finding: No farmland is located at the site of the proposed action. Therefore, this Act is *not applicable* to the proposed action.

FISH AND WILDLIFE COORDINATION ACT (FWCA) OF 1958, 16 U.S.C. §661 *et seq*.:
This Act directs federal agencies to prevent the loss and damage to fish and wildlife resources; specifically, wildlife resources shall be given equal consideration in light of water-resource development programs. Consultation with the USFWS is required when activities result in the control of, diversion or modification to any natural habitat or

associated water body, altering habitat quality and/or quantity for fish and wildlife. For the Corps, all coordination under this Act is in accordance with the 2003 Agreement between the U.S. Fish & Wildlife Service and the U.S. Army Corps of Engineers for Conducting Fish and Wildlife Coordination Act Activities.

> Finding: This action is not a water-resource development project. Therefore, this Act is *not applicable* to the proposed action.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976, 16 U.S.C. §1801 *et seq*: This Act is designed to actively conserve and manage fishery resources found off the coasts of the United States to support international fishery agreements for the conservation and management of highly migratory species. This Act established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for fisheries regulated under a Federal fisheries management plan. EFH is defined as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Waters include aquatic areas and their associated physical, chemical, and biological properties used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR §600.10). Federal agencies must consult with NMFS on all proposed actions authorized, funded, or carried out by the agency which may adversely affect EFH.

> Finding: The proposed project is at the Bonneville Dam, therefore, the action was reviewed by the FPOM. This review determined that there will be no direct impact to any EFH, and there will be *no effect* to EFH as a result of this project. The FPOM determined that the proposed repair work may proceed as proposed (Attachment 2). Therefore, the proposed action is *in compliance* with this Act.

MARINE MAMMAL PROTECTION ACT (MMPA) OF 1972, 16 U.S.C. §1361 *et seq*: This Act established a Federal responsibility to conserve marine mammals within waters of the United States. With certain specified exceptions, the Act establishes a moratorium on the taking and importation of marine mammals.

> Finding: A few individuals of the eastern population of Steller's sea lion and of California sea lion, both of which are marine mammals generally protected under the MMPA, occur at Bonneville Dam from spring through fall, annually. They appear during the spring salmon run when they are attracted to forage on the salmon in the dam's tailrace and most depart the area in fall after the run. NOAA Fisheries first granted the states of states of Oregon, Washington, and Idaho authorization under MMPA Section 120 to remove sea lions preying on salmon near Bonneville Dam in 2008. In 2016, NOAA Fisheries re-authorized the states to continue the lethal removal of certain California sea lions identified as preying on salmon and steelhead near Bonneville Dam after other deterrence and hazing

measures were employed (http://www.westcoast.fisheries.noaa.gov/protected_species/marine_mammals/authorized_states.html, accessed October 3, 2016; Attachment 3). The Letter of Authorization (LOA) runs for five years, through June 30, 2021. It is one of many actions underway across the Columbia Basin to address impacts on imperiled salmon and steelhead, including impacts from hydroelectric dams, hatcheries, harvest, habitat degradation, and other predators. The proposed project action is unlikely to disrupt the marine mammal behavioral patterns of the few sea lions that may still be present in December, the estimated project start date, and the activities associated with the repairs will likely cause them to volitionally swim away from the work area. There will be no effect to marine mammals as a result of this project. Therefore, the proposed action is *in compliance* with this Act.

MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT (MPRSA) OF 1972, 16 U.S.C. §1431 *et seq*.: This Act, also known as the Ocean Dumping Act, prohibits the dumping of materials into the ocean that would degrade or endanger human health or the marine environment.

Finding: The proposed action does not require disposal of materials into the ocean. Therefore, this Act is *not applicable* to the proposed action.

MIGRATORY BIRD TREATY ACT (MBTA) OF 1918, 16 U.S.C. §703 *et seq*: This Act makes it unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Under the MBTA, "migratory birds" include all birds native to the United States and the Act pertains to any time of the year, not just during migration.

Finding: The proposed action is *in compliance* with this Act because the action will not result in the taking of any migratory birds.

NATIONAL HISTORIC PRESERVATION ACT (SECTION 106) (NHPA), 1966: NATIONAL HISTORIC PRESERVATION ACT (SECTION 106) (NHPA), 1966: This Act is designed to protect and conserve cultural resources and ensure that development does not harm or degrade them. Section 106 of the NHPA requires all Federal agencies to consider the potential effects of their projects and undertakings on historic properties eligible for or currently listed on the National Register of Historic Places (National Register): http://www.cr.nps.gov/nr/. Historic properties are archaeological sites, historic structures, the remnants of sites or structures, and/or areas of traditional or cultural significance to affected Native American Tribes. To determine the potential effect of the project on known or unknown historic properties, the nature of the proposed activity and its effect on the landscape is evaluated; the likelihood that historic properties are present within a project area is assessed; an evaluation as to whether the ground has been disturbed by previous land use activities and the extent of the disturbance is made; listings of known archaeological or historic site locations, site data bases, previously-surveyed areas and sites listed on the National Register of Historic Places are reviewed; and consultations with State Historic Preservation Offices (SHPOs) and Tribes concerning the presence of

areas of significant traditional and/or cultural importance that may be affected are conducted.

Finding: Bonneville Dam and its associated structural components were completed in 1938 as a Public Works Administration project designed to improve navigation on the Columbia River and provide hydropower to the Pacific Northwest. A second powerhouse (B2) was completed in 1981, and a larger navigation lock was completed in 1993. The Bonneville Dam Historic District (BDHD) was listed on the National Register of Historic Places in 1986 (i.e. National Register No. 86000727) and subsequently declared a National Historic Landmark in 1987. BDHD's principal elements consist of Bonneville Dam, Bonneville Powerhouse #1, Navigation Lock #1, Administration Building, Auditorium Building, Bonneville's fishways, fish hatchery, and the surrounding landscape.

In accordance with Section 106 of the NHPA, the Corps has determined the Bradford Island fish ladder revetment and in-water construction, repair and excavation work associated with the proposed *Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project* meets the definition of an undertaking as defined by 36 CFR 800.16(y). Per 36 CFR Part 800.5[b], the Corps has also determined that the proposed undertaking will have *no adverse effect* on BDHD and will not adversely affect the property's NHPA eligibility (NHPA Appendix 1). The planned repair work within the designated in-water and undercut/revetment repair area will not cause any physical changes or impacts to the nearby fish ladder structure. Moreover, allowing the existing scour holes and revetment perimeter to further erode without attempting to implement stabilization measures would likely undermine the stability of the fish ladder foundation and cause it to eventually subside – resulting in an *adverse effect* to the structure.

Although the disposal location of excess sediment and rock material to be excavated from the fish ladder revetment's submerged side slope and adjacent spillway basin floor remains undetermined, such action would be considered as having *no potential to effect* the historic integrity of BDHD as long as the designated disposal location is (a) in-water within the spillway basin, (b) within a pre-approved disposal area, or (c) transported by the Contractor to an approved, non-Corps property disposal location. Designation of any other, non-approved on-land or upland location may require additional NHPA review or consultation prior to approval to proceed.

The Corps has coordinated, in accordance with Section 106 of the NHPA and 36 CFR 800.3(b) and (c), as well as within provisions of the *Programmatic Memorandum of Agreement (PMOA) for Construction of the New Navigation Lock and for the Operation and Maintenance of the Bonneville Dam Historic District, Between the Corps of Engineers, the State Historic Preservation Officers of Washington and Oregon, and the Advisory Council on Historic Preservation*

(as executed on February 28, 1987), the *no adverse effect* determination via official letter notifications (dated September 1, 2016) with Oregon State Historic Preservation Office (SHPO), Washington Department of Archaeology & Historic Preservation (DAHP), the Confederated Tribes of the Grand Ronde Community of Oregon (Grand Ronde), Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), Confederated Tribes and Bands of the Yakama Nation (Yakama), Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and Nez Perce Tribe.

On September 15, 2016, SHPO offered verbal agreement to the *no adverse effect* determination for BDHD's subsurface archaeological resources during a telephone consultation between Daniel Mulligan, Corps District Archaeologist, and Dr. Dennis Griffin, SHPO State Archaeologist. CTWSRO responded with a similar "no concerns" email to the Corps on September 15, 2016. An official SHPO concurrence letter (dated September 20, 2016) was also received by the Corps for the *no adverse effect* determination regarding potential impacts to BDHD's above-ground historic resources. DAHP declined to offer comment (presumably deferring to the decision of SHPO) and the other Tribes chose to not offer comments within the 30-day comment period. A *Memorandum for the Record* (NHPA Appendix 1) documents the findings and determination of effect justifications. The Corps has completed NHPA obligations and requirements in regard to this project, and no further Section 106 considerations are required (Attachment 4).

In the unlikely event that cultural resources are uncovered during construction, all work shall halt until a Portland District archaeologist arrives at the scene of the discovery. The Corps will comply with the procedures outlined in 36 CFR 800.13, the current version of the Portland District *Inadvertent Discovery Plan* and provisions of NAGPRA, as applicable, if human remains are discovered.

NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (NAGPRA), 1990: This Act (Public Law 101-601; 25 U.S.C. 3001-3013) was enacted to address the rights of Native American lineal descendants, Indian tribes and Native Hawaiian organizations with respect to the treatment, repatriation and disposition of Native American human remains, funerary objects, sacred objects and objects of cultural patrimony, collectively referred to in the statute as *cultural items*, with which can show a relationship of lineal descent or cultural affiliation. A major purpose of the Act is to provide greater protection for Native American burial sites and more careful control over the removal of Native American human remains, funerary objects, sacred objects and items of cultural patrimony on Federal and tribal lands. NAGPRA requires that Indian tribes or Native Hawaiian organizations be consulted whenever archaeological investigations encounter, or are expected to encounter, Native American cultural items or when such items are unexpectedly discovered on Federal or tribal lands (Section 3). Excavation or removal of any such items also must be done under procedures required by the Archaeological Resources Protection Act (Sec. 3 (c)(1)).

Finding: In the unlikely event that human remains, archaeological deposits or cultural items are discovered during work activities associated with the proposed *Bonneville Dam Bradford Island B-Branch Adult Fishway Bank Erosion Project*, all work must cease in the immediate area of the discovery and a Portland District archaeologist must be notified immediately. The Corps will comply with procedures outlined in 36 CFR 800.13, the current version of the Portland District *Inadvertent Discovery Plan* and provisions of NAGPRA as applicable.

RIVERS AND HARBORS ACT OF 1899, 33 U.S.C. §§401-418: Section 10 of this Act regulates structures in or over any navigable water of the U.S., excavation from or deposition of material in such waters, and any other work affecting the course, location, condition, or capacity of such waters.

Finding: The entire length of the Columbia River (in the United States) is a navigable river, and under the jurisdiction of the Rivers and Harbors Act. The proposed action is subject to Section 10 of the Act, however, all materials from the proposed activities will be disposed of at an upland site, and this project will have no effect on any navigable waters. Therefore, the proposed action is *in compliance* with this Act.

SAFE DRINKING WATER ACT OF 1996, 42 U.S.C. §300(f) *et seq*. The primary objectives of this Act are to protect the nation's sources of drinking water and to protect public health to the maximum extent possible, using proper water treatment techniques. The EPA and states established national primary and secondary drinking water standards and established techniques to meet those standards. Facilities that treat drinking water and underground sources of drinking water are regulated by the states through permits. The Corps must ensure that any facility in their jurisdiction that is used, or may be used, for public drinking water complies with the water requirements of the state in which the facility is located. Any Corps activities that may impact or endanger underground drinking water supplies are subject to the requirements of the state program and EPA permit requirements.

Finding: The proposed action is *in compliance* with this Act because the action will not result in any effects on the public drinking water supply.

WILD AND SCENIC RIVERS ACT (WSRA) OF 1968, 16 U.S.C. §§1271-1287: This Act applies only to rivers designated by Congress as "wild and scenic" in order to safeguard the special character of these rivers. Under this Act, Federal agencies may not assist the construction of a water resources project that would have a direct and adverse effect on the free-flowing, scenic, and natural values of a federally designated wild or scenic river.

Finding: The proposed action will not occur within, or near, a designated Wild and Scenic River. Therefore, this Act is *not applicable* to the proposed action.

EXECUTIVE ORDER 11593, PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT, MAY 1971: This order advises federal agencies to provide leadership in

preserving, restoring and maintaining the historic and cultural environment of the Nation. Federal agencies are directed to administer the cultural properties in a spirit of stewardship and trusteeship for future generations, initiating measures in such a way that federally owned and non-federally owned sites, structures and objects of historical, architectural or archaeological significance are preserved, restored and maintained for the inspiration and benefit of the people. In addition, Federal agencies are ordered to consult with the Advisory Council on Historic Preservation to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural or archaeological significance.

> Finding: The proposed action will not result in the degradation of any historic or cultural environment, either federally owned or non-federally owned. No sites, structures, or objects of historical, architectural or archaeological significance will be adversely affected by the proposed action. Therefore, the proposed action is *in compliance* with this order.

EXECUTIVE ORDER 11988, FLOODPLAIN MANAGEMENT, 24 MAY 1977: This order requires federal agencies to evaluate the potential effects of proposed activities on floodplains and avoid possible long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Federal agencies are directed to develop alternatives to floodplain activities, where practicable, and identify what impacts (beneficial and/or adverse) due to the action.

> Finding: The proposed action will not result in a modification to the current floodplain conditions of the Columbia River. It will not encourage further development of the floodplain. Therefore, the proposed action is *in compliance* with this order.

EXECUTIVE ORDER 11990, PROTECTION OF WETLANDS, 24 MAY 1977: The purpose of this order is to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. In planning their actions, Federal agencies are required to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

> Finding: The proposed action is in compliance with this order because the proposed construction will have *no effect* on wetlands since no wetlands are located in the vicinity of the project.

EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE, 11 FEBRUARY 1994: This order requires Federal agencies to minimize health impacts on subsistence, low-income, or minority communities, ensuring no persons or group of people bear a disproportionate burden of negative environmental impacts resulting from the execution of this country's domestic and foreign policies. The Environmental Protection Agency's "EJView" online database was used in this evaluation, accessed on September 25, 2016 https://www.epa.gov/environmentaljustice.

Finding: No subsistence, low-income or minority communities will be affected by the proposed action because all work will occur within the boundaries of an existing facility. There will be no changes in population, economics, or other indicators of social well-being for this area anticipated in the near future. Therefore, the proposed action is *in compliance* with this order.

EXECUTIVE ORDER 13175, CONSULTATION AND COORDINATION WITH INDIAN TRIBAL GOVERNMENTS, 6 NOVEMBER 2000: The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, executive orders, and court decisions. This order requires federal agencies to formulate and establish "regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes." This consultation is meant to work towards a mutual consensus and is intended to begin at the earliest planning stages, before decisions are made and actions are taken.

Finding: The proposed action will not result in the development of a Federal policy, therefore this Act does not apply.

EXECUTIVE ORDER 13186, MIGRATORY BIRDS, 10 JANUARY 2001: This order further strengthens the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, the Fish and Wildlife Coordination Act, the Endangered Species Act, and the National Environmental Policy Act. Federal agencies taking actions that will result in any "take" (intentional or otherwise) of a migratory bird are required to develop a Memorandum of Understanding with USFWS to promote the conservation of migratory bird populations and resources.

Finding: The Project staff will remove the "avian wires" spanning the work area before the repairs begin, and replace them after the repairs are completed. There will be no take of migratory birds or their habitat resulting from the proposed action. Therefore, the proposed action is *in compliance* with this order.

EXECUTIVE ORDER 13514, FEDERAL LEADERSHIP IN ENVIRONMENTAL, ENERGY, AND ECONOMIC PERFORMANCE, 5 OCTOBER 2009: This order requires Federal agencies to increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse, and stormwater management; eliminate waste, recycle, and prevent pollution; leverage agency acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services; design, construct, maintain, and operate high performance sustainable buildings in sustainable locations; strengthen the vitality and livability of the communities in which Federal facilities are located; and inform Federal employees about and involve them in the achievement of these goals.

Finding: The proposed action will have *no impact* on over-all energy efficiency, greenhouse gas emissions, water resources, and the livability of the community.

There would be a small, localized reduction in air quality, including generation of greenhouse gases, due to emissions from construction equipment. These impacts would be minor and temporary in nature, and would cease once construction is completed. Materials suitable for recycling would be recovered during installation. For these reasons, the proposed action is in compliance with this executive order by restoring functional use of a federal facility, while minimizing adverse impacts to the environment, energy, or economic performance of nearby communities. In addition, the proposed action would repair a damaged feature of the fish passage system, ensuring that the Corps will comply with the federal fish passage agreements in place for the Bonneville Dam.

OTHER LAWS AND EXECUTIVE ORDERS

None.

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ATTACHMENTS

Attachment 1. Memorandum for the Record – Sediment Quality Team Review.
Attachment 2. Memorandum for the Record – Fish Passage Operations and Maintenance (FPOM) Committee.
Attachment 3. Memorandum for the Record – NOAA Fisheries MMPA Section 120 webpage.
Attachment 4. Memorandum for the Record –Section 106 and SHPO Consultation.