# FINAL REVIEW OF THE APPLICATION FOR LIHI RECERTIFICATION OF THE DALLES DAM NORTH FISHWAY HYDROELECTRIC PROJECT

LIHI # 71



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For the Low Impact Hydropower Institute

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### I. INTRODUCTION

This report provides the findings and recommendations for the re-certification application submitted to the Low Impact Hydropower Institute (LIHI) by Northern Wasco County People's Utility District (NWCPUD) for the North Shore Fishway Hydroelectric Project (FERC No. 7076). The applicant's recertification application, filed on October 23, 2020 and supplemented on December 11, 2020, was reviewed under the current 2<sup>nd</sup> edition LIHI Handbook's Criteria and Standards (Revision 2.04, April 1, 2020).

The Dalles Dam North Fishway Hydroelectric Project (Project), FERC No. P-7076, is located on the Columbia River at the Dalles Dam (river mile 191.5) near Dalles, Oregon. The Project is owned and operated by Northern Wasco Count People's Utility District (NWCPUD). It is a conduit project, wholly confined within the US Army Corps of Engineers (USACE) Dalles Dam and the Auxiliary Water Supply System (AWSS). On December 31, 1987, the Federal Energy Regulatory Commission (FERC) issued a 50-year license to NWCPUD to begin operation of the Project (FERC P-7076). An amended FERC license was issued on November 8, 1989 to include increased generating capacity made possible when the USACE modified flows into the fish ladder to provide 80 cfs to the ladder rather than the original amount of 150 cfs. This action resulted in an additional 70 cfs passing through the AWSS allowing for an increase in the capacity of the generation to 4.9 MW.

The Dalles Dam is part of the Federal Columbia River Power System (System) built and operated by the USACE. The full System includes eight dams on the Columbia River. The Columbia River basin is home to 41 dams (Figure 1).

The Project is a conduit project, wholly contained within the footprint of the Dalles Dam and its appurtenant facilities. The Project generates electricity by using water from the USACE's AWSS, which is part of the fish passage facilities at the Dalles Dam. The North Fishway is a USACE facility that provides passage through the Dalles Dam.

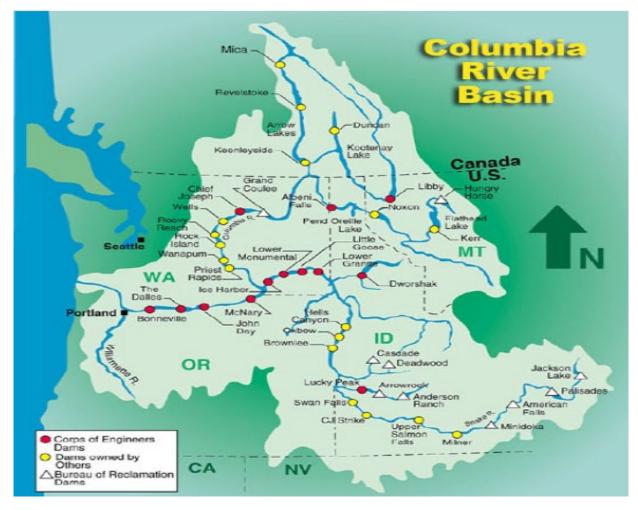


Figure 1. Dams in the Columbia River System

# II. PROJECT LOCATION AND SITE CHARACTERISTICS

The Project's facilities are located on the north shore of the Dalles Dam (River Mile 191.5), in Klickitat County, Washington. The Dalles Dam is near the town of Dallesport. Project facilities are shown in Figure 2. The Dalles Dam is a large concrete gravity, run of the river dam built in 1957.



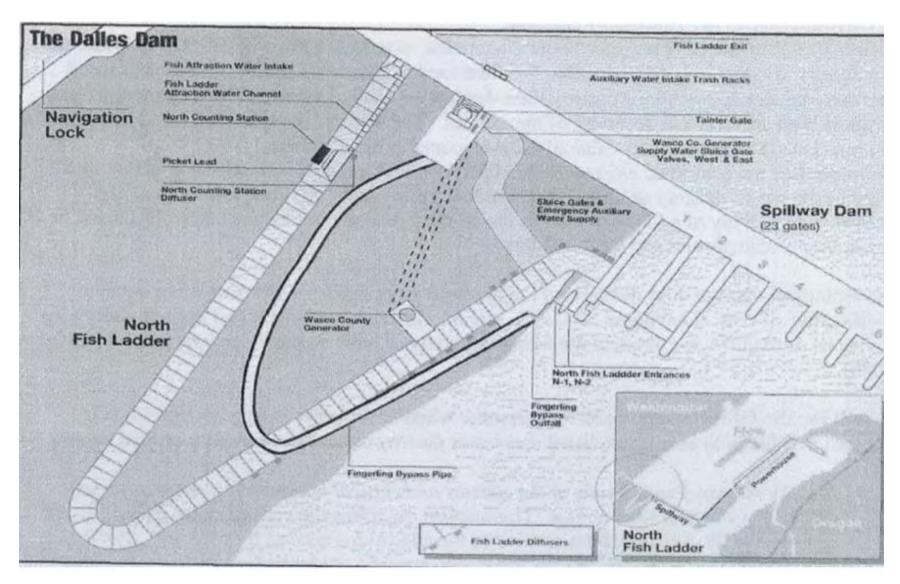
Figure 2. The Dalles Dam North Shore Fishway Project Zone of Effect

The USACE operates the North Shore Fishway to provide upstream and downstream movement of fish passing the dam. The flow rate within the fish ladder is typically about 80 cfs. This flow rate is too small, relative to the flow rate of the Columbia River, to be effective in attracting fish to the entrance of the fish ladder. To provide suitable attractions flows, the AWSS was constructed as part of the Dalles Dam. The AWSS is operated by the USACE to fulfill its requirements to provide fish passage facilities at the Dalles Dam. It delivers approximately 800 cfs to a location near the entrance of the North Fishway. The 800 cfs provides an attraction flow to guide fish into the fish ladder for passage.

The Project facilities located within the Dalles Dam, utilize water in the AWSS to generate electricity (Figure 3). A 210-foot-long, 20-foot-wide rectangular concrete intake channel connects the Dalles Dam impoundment to the AWSS and therefore, to the Project. The penstock is 10 feet in diameter, and 85 feet in length. The project has a 35-foot by 64-foot powerhouse with one 4.9 megawatt generating unit, installed within the AWSS' pressurized conduit. The unit has a design head of 80 feet and a hydraulic capacity of 800 cfs. The USACE

controls the day-to-day flow rate through the AWSS, and thus, the quantity of water available to the Project.

Water flows into the AWSS from Lake Celilo, the impoundment behind the Dalles Dam. It enters the AWSS intake structure through a trash rack with 7/8-inch bar spacing to prevent entry of floating debris and large fish. The AWSS intake structure contains a wall of stainless steel wedgewire screen, 150 feet in length. The screens have a 1/8-inch opening to exclude juvenile fish, while allowing water to pass into the AWSS conduit. The surface area of the screens was selected to limit the approach velocities to prevent impingement of the juveniles on the screen. A small amount of AWSS water, 10 to 12 cfs, is used to convey the excluded fish through a 1,200-foot-long 16-inch-diameter pipe to a release point in the Columbia River downstream from the Dalles Dam.





### III. REGULATORY AND COMPLIANCE STATUS

A review of the filings in the FERC library from the last certification (November 10, 2015) to January 29, 2021, found no documents indicating issues with the LIHI certification criteria.

National Marine Fisheries Service (NMFS) issued a Biological Opinion for the Project on December 19, 2011. NMFS found that the Project "is not likely to jeopardize the continued existence of the Snake River Fall Chinook Salmon evolutionary significant unit (ESU), Snake River spring/summer Chinook salmon ESU, Upper Columbia River spring Chinook salmon ESU, Snake River sockeye salmon ESU, Snake River Steelhead distinct population segment (DPS), Upper Columbia River Steelhead DPS or Middle Columbia River steelhead DPS, or Middle Columbia River steelhead DPS or destroy or adversely modify their designated critical habitat".

The Reviewer contacted Mr. Blane Bellerud from NMFS to inquire if the agency had any concerns regarding effect of the current operations of The Dalles North Shore Fishway Project. Mr. Bellerud said that NMFS was satisfied with the Applicant's implementation of the 2011 Biological Opinion and the care that the Applicant takes in the ongoing sampling program and in project operations.

### IV. PUBLIC COMMENT RECEIVED BY LIHI

The Application was publicly noticed on December 21, 2020. No Public comments were received by LIHI during the 60-day comment period when ended on February 19, 2021.

# V. ZONES OF EFFECT

Only one Zone of effect (ZOE) exists for the Project. That ZOE is approximately 5.7 acres in size and contains the hydroelectric facility, related structures, and fish passage facilities for both upstream and downstream passage. As explained in Section II above, the Project extracts energy from an 800 cfs flow in a pressurized conduit delivering water for the fish attraction flow at the downstream entrance of a fish ladder.

### VI. LIHI CRITERIA REVIEW AND RECOMMENDATIONS

The Applicant selected the standards and criteria shown in Table 1. All but two criteria are assigned to Standard 1. The criteria related to the Zone of Effect for criterion D - Downstream Fish Passage and criterion F - Threatened and Endangered Species were assigned Standard 2 by the Applicant. The Reviewers agree with the standards selected by the Applicant, except for the Threatened and Endangered Species criterion, where the reviewers recommend Standard 3.

Table 1. The Dalles	: Dam North Shore	e Fishwav Pro	ject Zone of Effect: Conduit

			Alternative Standard			
	Criterion	1	2	3	4	Plus
Α	Ecological Flow Regimes	Х				
В	Water Quality	Х				
С	Upstream Passage	Х				
D	Downstream Passage		Х			
Е	Watershed and Shoreline Protection	Х				
F	Threatened and Endangered Species		Х	<b>X</b> <sup>1</sup>		
G	Cultural and Historic Resources Protection	Х				
Н	Recreational Resources	Х				

1. Reviewers suggest that F-3 is more appropriate (see discussion in Section F).

# A. Ecological Flow Regimes

**Goal:** The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.

**Assessment of Conditions**: The Applicant selected Standard A-1, Not Applicable/De Minimis Effect for the Ecological Flow regimes criterion. This standard requires:

**STANDARD A-1. Not Applicable/De Minimis Effect**: The facility operates a true run of river operation mode and there are no bypass reaches or water diversions associated with the facility; or the facility is located within an existing water conduit that does not discharge to natural waterways.

**Discussion:** The Project is a conduit facility that does not impound or regulate water. It simply extracts energy from an 800 cfs flow through a pressurized conduit delivering water for fish attraction at the entrance of the fish ladder. The fish ladder is part of the mitigation features for the USACE's Dalles Dam. The Project uses water from the AWSS for generation. It then returns the water to the AWSS to be discharged as attraction flow for the USACE's fish ladder. The USACE manages the AWSS as part of the Dalles Dam Project and thus determines the flow rate available to the Project for generation.

The Reviewers agree with the Applicant's selection of the A-1 Standard and conclude that the Project continues to satisfy this criterion.

### **B. Water Quality**

**Goal:** Water Quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

**Assessment of Criterion:** The Applicant selected Standard B-1, Not Applicable/De Minimis Effect for the Water Quality criterion. This standard requires:

**STANDARD B-1 – Not Applicable/De Minimis Effect**: The facility does not alter the physical, chemical or biotic water characteristics necessary to support fish and wildlife resources or human water uses (e.g. water supply or recreation).

**Discussion**: The Project does not appear to alter water quality. The Columbia River in the vicinity of the Dalles Dam is listed on most recent Washington State 303(d) impaired waters list for temperature, total dissolved gas, dioxin, dissolved oxygen, pH and bacteria exceedances. The flow used by the Project is less than 0.5 percent of the total flow through the Dalles Dam. In recognition of the insignificant effect operation the Project has on water quality of the Columbia River at the Dalles Dam, the FERC issued Order 464, which waived the certification by the State of Washington under Section 501 of the federal Clean Water Act, since it was a conduit project, wholly contained within the Dalles Dam.

The Reviewers agree with the Applicant's selection of the B-1 Standard and conclude that the Project continues to satisfy this criterion.

# C. Upstream Fish Passage

**Goal:** The facility allows for the safe, timely and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy populations in the areas affected by the facility.

**Assessment of Criterion:** The Applicant selected Standard C-1, Not Applicable/ De Minimis Effect for the Upstream Passage criterion. This standard requires:

**STANDARD C-1. Not applicable/ De Minimis Effect**. The facility does not create a barrier to upstream passage or there are no migratory fish in the vicinity of the facility and the facility did not contribute to extirpation of species that were historically present.

Seven anadromous fish species pass upstream through The Dalles Dam fish passage facilities including:

- 1. Sockeye (Oncorhynchus nerka)
- 2. Coho (Oncorhynchus kisutch)
- 3. Chinook (*Oncorhynchus tshawytscha*)
- 4. Steelhead (Oncorhynchus mykiss)
- 5. White Sturgeon (Acipenser transmontanus)
- 6. Chum (Oncorhynchus keta)
- 7. Pacific Lamprey (Entosphenus tridentatus)

The Project is wholly contained within the AWSS, which does not impede the upstream migration of fish. The Dalles Dam facilities provide fish ladders for upstream migrants independent of the Project. Fish passing upstream through the North Fish Ladder cannot access the Project.

The Project does not pose a barrier to upstream fish movement, as the facilities are wholly contained within the structure of the AWSS. Upstream migrants cannot access the generating unit, which is located within a pressurized conduit. Fish seeking to move upstream can use the USACE's fish ladder, which was constructed as part of the Dalles Dam. The flow from the AWSS provides the attraction flow for the fish ladder. The ladder is isolated from the AWSS conduit and the generation unit.

The Reviewers concur with the Applicant's selection of the C-1 Standard and conclude the Project continues to satisfy this criterion.

### D. Downstream Fish Passage

**Goal:** The facility allows for the safe, timely and effective downstream passage of migratory fish. For riverine (resident) fish, the Facility minimizes loss of fish from reservoirs and upstream river reaches affected by facility operations. Migratory species can successfully complete their life cycles and maintain healthy populations in areas affected by the Facility.

**Assessment of Criterion:** The Applicant selected Standard D-2, in compliance with Agency Recommendation for the Downstream Fish Passage and Protection criterion. This standard requires:

**Standard D-2. Agency Recommendation**: The facility is incompliance with a science– based resource agency recommendation for downstream passage or fish protection, which may include provisions for appropriate monitoring and effectiveness determinations.

A variety of anadromous and resident fish species occur in the vicinity of the Dalles Dam (Table 2). These fish may be entrained in the flow into the AWSS and thus, may pass downstream through the Project facilities.

Anadromous Fish	Residential Fish
Sockeye salmon (Oncorhynchus nerka)	Crappie spp. ( <i>Pomoxix spp</i> )
Coho salmon (Oncorhynchus kisutch)	Bullhead spp. ( <i>Ameiurus spp.</i> )
Chinook salmon( <i>Oncorhynchus tshawytscha</i> )	Bluegill (Lepomis macrochirus)
Steelhead (Oncorhynchus mykiss)	Pacific Lamprey (Entosphenus tridentatus)
White Sturgeon (Acipenser transmontanus)	Yellow Perch ( <i>Perca flavescens</i> )
Chum Salmon (Oncorhynchus keta)	Sculpin spp. ( <i>Cottus spp.</i> )
Pacific Lamprey (Entosphenus tridentatus)	Sucker spp. (Catostomus spp.)
	Banded Killifish (Fundulus diaphanous)
	Walleye (Sander vitreu)
	Northern Pikeminnow ( <i>Ptychocheilus oregonensis</i> )
	Mountain Whitefish (Prosopium williamsoni)
	Bass ( <i>Micropterus spp</i> .)
	American Shad (Alosa sapidissima)

### Table 2. Fish Species found in the Vicinity of the Project

Anadromous Fish	Residential Fish
	Peamouth ( <i>Mylocheilus caurinus</i> )
	Siberian Prawn (Exopalaemon modestus)

Article 402 of the FERC license required the Applicant to design and build downstream fish passage facilities using fish screens and associated bypass conveyance facilities. Water entering the AWSS passes through a trash rack with a bar spacing of 7/8 inches. Although the trash rack excludes debris and adult fish, smaller fish including juvenile salmonids, pass through the trash rack and into the AWSS and become entrained in the Project water. Prior to water entering the turbine, the small fish are separated from the inflow to the AWSS conduit (Project penstock). Flow passes through the trash rack and into a screened intake structure which separates the small fish from the flow. Fish screened from the powerhouse flow are passed out of the end of the intake structure into a pipe that conveys them to the tailrace. The screened water then travels through a penstock to the Project turbine. The flow passes through the turbine and is then returned to the AWSS, which ultimately discharges downstream of the Dalles Dam, near the entrance of the North Fishway.

Article 403 requires the Applicant to conduct a fish sampling and monitoring program to evaluate the effectiveness of the passage facilities. In compliance with Article 403, the Project conducts studies annually to determine if the fish bypass system is functioning appropriately. These studies are also required by the Biological Opinion issued by NMFS (NMFS 2011) for this Project. The annual evaluation of fish passage and the condition of sampled fish passing through the facility has occurred every year since the unit went online except 2007. The Applicant did not sample in 2007, as they lacked take authorization from NMFS for the sampling program since their previous permit had expired in 2006 (letter to FERC from NWCPUD). The sampling resumed in 2008, when the Applicant received authorization to continue the sampling program under the auspices of the Washington Dept. of Fish and Wildlife (WDFW), at the request of NMFS. WDFW requested that they continue to collect information regarding juvenile salmonids passing through the Project facilities. With the release of the 2011 Biological Opinion, the Applicant adjusted the sampling program to be consistent with the Biological Opinion. The sampling is now being conducted annually, generally during the middle of the migration period, April through July.

As required by the NMFS Biological Opinion, data collected from the monitoring program includes species, size, condition, injuries or symptoms of disease and operational information such as forebay elevation, water temperature and flow rate. Fish collected during these studies included 1,374 juvenile salmonids in 2018 to 2,929 in 2019. Chinook salmon, steelhead, coho salmon and sockeye salmon were represented in the catch. Based on annual reports filed in 2017, 2018, and 2019 pursuant to Article 403 of the license, mortality rates from these years were generally low, ranging from 2.9 to 6 percent, and are consistent with the take provisions of the NMFS Biological Opinion.

The Reviewers conclude that the Project meets the Standard D-2 for downstream passage. The terms and conditions of the FERC license and of NMFS Biological Opinion relative to protection of juvenile fish passing through the facility and the exclusion of larger fish from the facilities.

The Applicant applied for a PLUS standard for Criterion D based on their participation in the Fish Passage Operations & Maintenance (FPOM) Working Group. The biologist hired by the Applicant joins the working group addressing passage and management of fish passage with the USACE in the spirit of cooperation. While NWPUD's support of their biologist's participation in this group is commendable and would help the Applicant implement the program, the Reviewers do not feel this action rises to the level of a PLUS standard. NWCPUD has an obligation to reduce potential harm to endangered species travelling through their system as reflected in the Biological Opinion. Having the Applicant's biologist attend the meetings with the NMFS and other agencies fosters clear communication and increases understanding. Although the participation of the Applicant's biologist in the working group is likely helpful to the Applicant, the Reviewers could not confirm that there is a direct benefit to the fish resources that result from this participation.



Figure 4. Fish collection tank for downstream juvenile migrants.

### E. Shoreline and Watershed Protection

**Goal:** The facility has demonstrated that sufficient action has been taken to protect mitigate or enhance the condition of soils, vegetation, and ecosystem functions on shoreline and watershed lands associated with the facility.

**Assessment of Criterion:** The Applicant selected Standard E-1, Not applicable/De Minimis Effect for the Shoreline and Watershed Protection criterion. This standard requires:

**Standard E-1. Not Applicable/De Minimis Effect:** There are no lands associated with the facility under the direct or indirect ownership or control of the facility owner that have been identified as having significant ecological value for protecting water quality, aesthetics, or low-impact recreation, and the facility is not subject to any Shoreline Management Plans or similar protection.

#### Discussion

The Project is located entirely within the fenced perimeter of the Dalles Dam Facility. As such, it is not associated with The Dalles Dam impoundment or downstream shorelines and there are no lands or waters of ecological value associated with the Project. No documentation of watershed or shoreline protection concerns were found in the FERC records for the Project. In addition, due to the small footprint and the facility being wholly contained within another project, there are no specific license articles or official agency positions suggesting a need for watershed or shoreline protection by the Project.

The Reviewers agree with the Applicant's selection of the E-1 Standard and conclude that the Project continues to satisfy this criterion.

### F. Threatened and Endangered Species Protection

Goal: The facility does not negatively impact federal or state listed species.

**Assessment of Criterion:** The Applicant selected Standard F-2 (Finding of No Negative Effect) but the Reviewers determined that Standard F-3, Recovery Plan and Action is more applicable. This standard requires:

**Standard F-3. Recovery Plan and Action:** The facility is in compliance with relevant conditions in a species recovery plan, with relevant conditions in an incidental take permit or statement, biological opinion, habitat conservation plan or similar government document and the incidental take document and/or biological opinion issued relevant to the facility was designed to be a long-term solution for the protection of the listed species

#### Discussion

Eight federally-listed fish species are found in the vicinity of the Project. These include:

- 1. Snake River Fall Chinook Salmon
- 2. Snake River Spring/Summer Chinook Salmon
- 3. Snake River Sockeye Salmon
- 4. Upper Columbia River Spring Chinook
- 5. Snake River Sockeye Salmon

- 6. Snake River Steelhead
- 7. Upper Columbia River Steelhead
- 8. Middle Columbia River Steelhead

Snake River Fall Chinook, Snake River Spring/ Summer Chinook salmon are also listed as threatened by the State of Oregon. The Applicant suggested that Standard F-2, Finding of no negative effects is applicable. This Standard notes that "There may be listed species in the facility area, but the facility has been found by appropriate resources management agencies to have no negative effect on them, or habitat for the species does not exist within the facilities affected area or is not impacted by facilities operations".

The Reviewers find that the Project does not meet the F-2 standard, as mortalities to listed species do occur as the listed fish pass through the Applicant's facilities. As presented in Table 3, the level of mortalities decreased markedly with implementation of the NMFS BO. The Project is currently in compliance with the take authorization granted in the BO.

In 2011, NMFS completed Endangered Species Act consultation with FERC for the Project and issued the BO. In 2007 FERC initiated Section 7 consultation with NMFS, after the Applicant's prior authorization expired in 2005. The proposed action evaluated included:

- 1. The continued operation of the Project,
- 2. The entrainment of listed salmonids in the Project water passing through the turbine, and
- 3. The handing of fish in the monitoring program.

NMFS analyzed potential effects on salmonid species associated with trash racks, fish monitoring programs, fish handling effects, and published their findings in the BO. Potential effects to the food base of killer whale were evaluated and found to be insignificant. The BO also found that low levels of mortalities and injuries caused by the Project would constitute only a minuscule effect on salmon and steelhead in passing through the facilities of the Project.

The Applicant's implementation of the BO shows a marked decrease in mortalities of young salmonids passing though the Project turbines (Table 3). In the years from 2001 to 2010, over half of the years had total moralities over 5 per cent with some years reaching as high as 14.3 or 23.6 per cent. After the implementation of the 2011 BO, the highest percent mortality was only 8.8 per cent and all but two years had mortalities less of 5.2 or less. Years after issuance of the BO are shaded in blue in the table.

% Mortality								
YEAR	Yearling Chinook	Sub Yearling Chinook	Steelhead	Coho	Sockeye	Total		
2001	15	14.6	2.6	2.6	0.0	11.1		
2002	0.0	6.9	0.0	0.0	13.8	6.6		
2003	0.0	1.2	9.1	0.0	4.8	1.3		
2004	0.0	1.0	0.0	0.0	0.0	1.0		
2005	0.0	2.0	0.0	0.0	0.0	1.9		
2006	0.0	11.9	0.0	0.0	0.0	6.7		

#### Table 3. Mortalities of listed salmonids passing through the Project generator.

% Mortality								
YEAR	Yearling Chinook	Sub Yearling Chinook	Steelhead	Coho	Sockeye	Total		
2008	0.0	28.9	0.0	0.0	0.0	23.6		
2009	0.0	14.3	0.0	0.0	0.0	14.3		
2010	1.3	6.9	0.0	0.0	3.8	5.6		
2011	1.1	1.2	0.0	0.0	0.0	1.1		
2012	1.4	2.3	12.5	0.0	0.0	2.3		
2013	0.0	2.0	0.0	0.0	0.0	1.9		
2014	7.0	4.5	20.0	0.0	9.5	5.2		
2015	0.7	12.9	0.0	25.0	0.0	8.8		
2016	0.0	0.5	0.0	0.0	0.0	0.5		
2017	9.9	6.5	8.3	0.0	6.7	6.4		
2018	1.7	4.1	14.3	0.0	12.1	4.1		
2019	0.6	3.2	0.0	0.0	0.0	2.9		

Page 44 of the NMFS 2011 BO concludes the following:

"After reviewing the current status of the listed species, the environmental baseline within the action, the effects of the proposed action, and cumulative effects, it is NMFS" opinion on that the proposed action [e.g., continued Project operation) is not likely to jeopardize the continued existence of the species present."

The protection measures stipulated in the BO were implemented in 2012 resulting in the Project markedly reducing mortality to listed salmonids passing through the powerhouse. Measures taken by the Applicant to protect juvenile fish entrained in water passing into the Project are discussed in Section D. Downstream Passage. A review of the FERC docket indicted that the Project is in compliance with both State (Washington Dept. of Fish and Wildlife) and federal resource (NMFS) agencies concerns regarding threatened and endangered species.

In light of the reports of ongoing juvenile salmonids mortalities of salmonids entrained in flow passing through the turbine, the Reviewers spoke with Mr. Blane Bellerud, a biologist with NMFS, the agency contact for the Project. NMFS continues to provide oversight on this Project relative to conformance with the BO and has ongoing involvement in oversight of the Project. The Reviewers asked if NMFS had any concerns regarding the effects of the current Project operations on listed species under the purview of NMFS. Mr. Bellerud told the Reviewers that NMFS was satisfied with the Applicant's implementation of the BO and the care that the Applicant takes in the ongoing anadromous fish sampling program.

Based on the information contained in the application and the confirmation from NMFS of compliance with the BO, the Reviewers conclude that the facility continues to satisfy this criterion.

# G. Cultural and Historic Resources Protection

**Goal:** The Facility does not unnecessarily impact cultural or historic resources that are associated with the facility's lands and waters, including resources important to local indigenous populations, such as Native Americans.

**Assessment of Criteria**: The Applicant selected Standard G-1, Not Applicable/De Minimis Effect for the Cultural and Historic Resources criterion. This standard requires:

**Standard G-1.** Not Applicable/ De Minimis Effect: There are no cultural or historic resources present on Project lands that can be potentially threatened by construction or operations of the facility, or facility operations have not adversely affected those that are or were historically present.

#### Discussion

A cultural resource evaluation was conducted by USACE as part of the original construction of the Project. The study concluded there were no significant resources. This result was later confirmed in a letter from the State of Washington, Dept. of Archaeology and Historical Preservation dated December 8, 2010 (Appendix A.4 of the LIHI application). No subsequent concerns regarding historic or cultural resources appear in the Project's FERC record.

The Reviewers agree with the selection of the G-1 Standard and conclude that the Project continues to satisfy this criterion.

### H. Recreational Resources

**Goal:** The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

**Assessment of Criteria**: For Recreational Resources, the Applicant selected Standard H-1, not Applicable/ De Minimis effect. This standard requires:

**Standard H-1. Not Applicable/De Minimis Effect**. The Facility does not occupy lands or waters to which the public can access safely. In addition, the facility does not otherwise impact recreational opportunities in the vicinity of the Project.

#### Discussion

There are no recreational facilities associated with the Project. Based on a review of the FERC docket and FERC's 1987 Environmental Assessment, no recreation component was recommended for the Project. The entire Project Facility and its associated ZOE is located within the fenced perimeter of the Dalles Hydroelectric Project operated by USACE. There is no public access or recreational potential within the fenced perimeter. All recreational areas located upstream and downstream of the Dalles Dam, are managed by USACE. Thus, the Project does not have the potential to affect public recreational opportunities.

The Reviewers agree with the selection of the H1 standard and conclude that the Project continues to satisfy this criterion.

# VII. CERTIFICATION RECOMMENDATION

This review included evaluation of the application and supplemental information provided by the Applicant, a review of pertinent documents contained in the FERC eLibrary, the 2011 Biological Opinion issued by NMFS, direct communication with NMFS, and other publicly available information. Based on the evaluation, the Reviewers recommend that the Project be recertified as a Low-Impact facility for a term of five (5) years. No conditions are recommended for the certification.