Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District

May 2021 Meeting Agenda

May 6, 2021 09:00-11:00
Join Meeting: https://usace1.webex.com/usace1/j.php?MTID=m5c365c1bf762dad74cbaa2985e8e04fb
Meeting password: FFDRwG2021!
*(*if using your phone for audio, log in through Webex and have the meeting call you)*

Join by phone (audio only, no Webex): (844) 800-2712 | Access Code: 199 571 1422

Introductions

FFDRWG members:

BPA
*Scott Bettin
Kim Johnson
Siena Lopez-Johnston
*Christine Petersen
Greg Smith
*Leah Sullivan

NOAA
Blane Bellerud
Gabriel Brooks
*Trevor Conder
Kinsey Frick
Claire McGrath
Josie Thompson
*Logan Negherbon

USFWS
*Dave Swank

States
*Erick Van Dyke (ODFW)
*Charles Morrill (WDFW)

CRITFC/Tribes
*Tom Lorz (CRITFC)
Blaine Parker (CRITFC)
Tom Skiles (CRITFC)
Casey Baldwin (CTCR)
Michael Karnosh (CTGR)
Lawrence Schwabe (CTGR)
Torey Wakeland (CTGR)
Aaron Jackson (CTUIR)
Ralph Lampman (YN)

NPCC
Leslie Bach
Kris Homel

FPC
*Erin Cooper

PSMFC
Alan Brower
Darren Chase
Roger Clark
Mark Leonard
Scott Livingston
Nicole Tancreto
*Don Warf

CENWD
*Doug Baus
Tim Dykstra
Dan Feil
Mike Langeslay
*Cindy Studebaker
Sean Tackley
Lisa Wright

CENWW
Karl Anderson
Chris Peery
Marvin Shutters
Denise Griffith

CENWP-OD
*Andrew Derugin
Rebecca Cates
Jeanette Wendler
Bob Cordie
Jeffrey Randall
Scott Fielding
Eric Grosvenor
*Michael Lotspeich
Tammy Mackey
Darren Gallion
*Nathan McClain
Robert Wertheimer

CENWP-PM
Jim Adams
Eric Bluhm
Ian Chane
Jeff Hicks
Steve Sipe
Bob Winters
Brad Eppard
David Griffith
Fenton Khan
Rachel Laird
*Jake Macdonald
Rich Piaskowski
*Jon Rerecich
Ida Royer
David Trachtenbarg
Jeremiah Woodard
*Erin Kovalchuk

CENWP-ENC
*Adam White
*Brandt Bannister
Bridget Bell
Jonathon Brink-Roby
*Shari Dunlop
*Laurie Ebner
Curtis Lipski
Chris Motti
*Steve Schlenker
*Max Wilson-Fey
*Mehdi Roshani

*in attendance

Action items from last meeting

- None

Topics for FFDRWG Discussion/Review/Coordination

- TDA AWS ***Debris Management*** – Erin Kovalchuk (PM), Mehdi Roshani (TL), Jon Rerecich (FC)
  - Introduce new PM and TL
  - Erin Kovalchuk shared a project schedule

Schedule:

Milestone	Start	End
Criteria and Constraint Report	4/19/2021	8/6/2021
Value Management	8/9/2021	8/20/2021
Alternative Evaluation Report	8/23/2021	12/10/2021
Draft Final Report	12/13/2021	4/1/2021
ATR	3/21/2022	4/1/2022
Final Report	4/4/2022	5/27/2022
Closeout	5/30/2022	6/3/2022

  - Tom Lorz (CRITFC): Will FFDRWG be involved in alternative development or alternative analysis? Jon Rerecich (PME): The Value Engineering study is up front, that should provide opportunity for early FFDRWG involvement in alternative ***development***.
- BON Washington Shore control section redesign – Bob Winters (PM), Shari Dunlop (TL), Andrew Derugin (FC)
  - Shari Dunlop (ENC): The PDT started out trying to replicate the John Day control sections (with adjustable sill gates) at Bonneville but moving parts will make it difficult to install PIT antennas.

The PDT is now looking at different combinations of slot width and fixed sill height with the goal of no moving parts, more like the Ice Harbor control section.

- Brandt Bannister (ENC): Vertical slots with submerged orifices, right? Shari: Yes.
- Charles Morrill (WDFW): Will Don W. be providing guidance to the PDT? Shari: Yes.
- Trevor Conder (NOAA): Asked the PDT to pay attention to the design velocities through slots and orifices for adherence to salmon and lamprey passage criteria and keep NOAA engineers in the loop early and throughout the design process.
- Tom Lorz (CRITFC): Asked if there is any more clarity on the budget yet? Jake: Not yet. The initial scoping the PDT is doing now will inform the budget. We'll be more confident in our budget when the PDT tells us whether the "no moving parts" design is feasible.

- BON Second Powerhouse FGE – Jim Adams (PM), Bridget Bell (TL), Jon Rerecich (FC)
  - Jon Rerecich (PME): Modifications to unit 15 gatewells are complete. Planning to award a contract in FY21 for hydraulic testing to occur next Spring (FY22). Also award a construction contract in November 2021 for additional units in 2022 and 2023.
  - Scott Bettin (BPA): How long does it take to do one unit? Jon: Unit 15 was down March 1 - April 15 but future units may not take as long.
  - Jon still owes Tom 2 beers.
- BON spillway rock removal mitigation – Jeremiah Woodard (PM), Max Wilson-Fey (TL), Andrew Derugin (FC)
  - Distinction between "removal" and "mitigation" (2 PDT's)
  - Max Wilson-Fey (ENC): 30% milestone report is complete. Physical and numerical modeling efforts are being summarized in a single report, headed up by Laurie Ebner. The preferred alternative is a barrier on the north and south sides of the apron. Beginning geotechnical design of a barrier.
  - Laurie Ebner (ENC): Goal is to have the modeling report available for FFDRWG review at the beginning of June. See written update for a description of the alternatives.
  - Tom Lorz (CRITFC): Are we concerned about putting more structures in a stilling basin that already has low survival? Laurie Ebner (ENC) does not because the proposed barrier won't extent above the endsill and CFD results suggest acceptable velocities around the barrier.
  - Charles Morrill (WDFW): Asked about the availability of video from the modeling if we ever want to go back and look at a specific condition. Laurie Ebner (ENC): All the videos from the physical modeling are available on hard drives and retrievable as needed.
  - Erick Van Dyke (ODFW): Asked if any of the modeled alternatives included an alternative that completely eliminate the need for interruption of planned spillway operations for surveys or other maintenance operations that interrupted dam operations. Laurie Ebner (ENC): Laurie indicated the simulation that increased the elevation over the full width of the spillway apron (pour over the current ramps or "raising the ramp") would stop rock movement completely while reducing the need for surveys and flushing operations, but was not simulated in the physical model because CFD modeling of that alternative showed an unacceptable increase in velocities along the erosion-prone Bradford Island and Cascades Island shorelines. For this reason, Laurie and the PDT felt the barrier alternative will be the most feasible alternative. It would likely require an annual survey in September (after spill season) to plan a flushing spill in March (before the next spill season). September surveys would be focused on middle spillbays in hopes of not requiring adult ladder outages.
  - This work will not require a coffer dam but there will be underwater grouting and other in-water work.

- Jeremiah Woodard (PM): [Added after the meeting] It is important to note that the cost/benefit analysis of these alternatives is still forthcoming. None of the three alternatives have been eliminated from consideration for cost or any other reason at this point.

- BON spillway survival
  - Trevor Conder (NOAA): We should start with a brainstorming session, list out the possible impacts and identify the information we have and the information we still need for each. Some potential factors include degraded stilling basin, tailwater, gate openings (maybe a sawtooth pattern with larger openings is better).
  - Available information: Weiland report from 2016 suggests Higher tailwater = improved survival. Jake will send this report to FFDRWG.
  - Laurie Ebner (ENC): We have a CFD model of the entire tailrace. But egress is still easier (better) to look at in the physical model. If in fact they want to develop spill patterns that go for larger gate openings (3 to 4 foot versus 1.5 to 2 foot) to increase survival I think the physical model is going to be needed. The physical model is in bad shape. I do not know if would survival or be viable for a major modeling effort. It may require significant work on the model (rebuild the spillway, fish ladders and first few feet of downstream bathymetry). I think the size and design is good so I think it is just rebuilding the components. But it would be expensive and take some time. Then if you are going to spend a lot of money on the model you should look at the footprint of the existing spillway tailrace model. It does not have the B2CC exit in the model. I am not saying that this is necessary to add but you might consider it if you have to rebuild the spillway. I also mentioned that the spillway sectional model should still be at ERDC and could be retrofitted back into a model if that was of interest. There are two detailed sectional spillway modeling reports – the original flow deflector work and the 2000 flow deflector work. We also have a Flow3D sectional model of the Bonneville spillway gate.
  - Trevor Conder (NOAA): Why did we move away from the "crown" pattern? Laurie: Physical modeling showed better egress with the chosen pattern. Trevor Conder (NOAA): If the gate opening hypothesis is correct, improved egress may not balance the negative impacts from small gate openings. Perhaps a pattern with less than ideal egress but larger gate openings could improve overall survival.
- BON Ice & Trash PIT detection
  - Trevor Conder (NOAA): Heard there's momentum at the policy level (SCT). News to Jake. Cindy Studebaker (NWD): There may be funding scheduled for FY23 to further a design. NOAA will not be supportive of installing on a few gates and only running those gates. All gates need to be open.
- BON PIT barge
  - Tom: Will there be a report coming out on the PIT barge below Bonneville? Christine Petersen (BPA): Yes, just got it. Christine will forward this report to FFDRWG.

Written project updates

- JDA turbine rehab – Steve Sipe (PM), Curtis Lipski (TL), Jon Rerecich (FC)
- JDA North Fish Ladder Variable Width Weir improvement – Eric Bluhm (PM), Eric Grosvenor (JDA), Jacob Macdonald (FC)
- JDA North Fish Ladder LPS water supply upgrade – Eric Bluhm (PM), Adam White (TL), Jacob Macdonald (FC)
- JDA South Ladder entrance improvements (rounded crest, slot filler) – Eric Bluhm (PM), Adam White (TL), Jacob Macdonald (FC)
- TDA East Fish Ladder junction pool LPS – Eric Bluhm (PM), Adam White (TL), Jacob Macdonald (FC)

- TDA East Fish Ladder control section weir modifications for lamprey – Eric Bluhm (PM), Adam White (TL), Jacob Macdonald (FC)
- BON LPS pump upgrades – Bob Winters (PM), Ben Hausmann (TL), Andrew Derugin (FC)
- BON Bradford Island B-Branch entrance improvements (variable width entrance weir, bollards, and transition pool LPS) – Bob Winters (PM), Adam White (TL), Andrew Derugin (FC)
- BON Bradford Island Ladder extensive minor modifications to serpentine section for lamprey – Bob Winters (PM), Adam White (TL), Andrew Derugin (FC)
- BON Cascades Island LPS flume modifications – Bob Winters (PM), Ben Hausmann (TL), Andrew Derugin (FC)
- BON Cascades Island upper leads – Bob Winters (PM), Andrew Derugin (TL), Andrew Derugin (FC)
- BON Washington Shore junction pool LPS – Bob Winters (PM), Adam White (TL), Andrew Derugin (FC)

Next meeting: June 3rd @ 09:00

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-05-03

TDA AWS trash rake

Project Identifier:	P2 #
Project Manager (PM):	Erin Kovalchuk (CENWP-PMF) *Erin.H.Kkovalchuk@usace.army.mil*
Technical Lead (TL):	Mehdi Roshani (CENWP-ENC) *Mehdi.Roshani@usace.army.mil*
FFDRWG Coordination (FC):	Jon Rerecich (CENWP-PME) *Jonathan.G.Rerecich@usace.army.mil*

Project Description

This project is to evaluate alternatives to remove debris from The Dalles Dam Auxiliary Water Supply (AWS) trash rack. Debris build-up on the rack currently causes high head differential across the rack.

Project Schedule

TBD

Current Status

New Startup. PM and TL have been assigned. Kickoff meeting and site visit are being scheduled and team members are being assigned.

Topics for FFDRWG Review/Coordination

None currently. PDT will solicit FFDRWG review during the Engineering Design Report (EDR) process.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30

BON Second Powerhouse FGE

Project Identifier:	P2 #
Project Manager (PM):	Jim Adams (CENWP-PMF) *James.R.Adams@usace.army.mil*
Technical Lead (TL):	Bridget Bell (CENWP-ENC) *Bridget.M.Bell@usace.army.mil*
FFDRWG Coordination (FL):	Jon Rerecich (CENWP-PME) *Jonathan.G.Rerecich@usace.army.mil*

Project Description

Steel plates were installed in all units in the A and B gatewells to restrict flow. During routine inspections, however, it became apparent that the anchoring system for the steel plates was inadequate. In effect, the nuts and anchoring bolts holding down the plates had come lose, posing the risk that the plates could detach and potentially take out a unit. All flow restriction plates were removed from the units.

A concrete corbel will be installed in the same location as the flow control plates with the design goal to achieve similar gatewell hydraulic conditions as the flow control plates. This new concrete corbel has been designed to meet the flow criteria established and tested for the previous flow restrictor plates to meet the hydraulic and biological goals.

Project Schedule

Awarded 21 December 2020 to Northbank Civil and Marine. Notice to proceed 29 December 2020.

CLIN	Status	Description	Award/Exercise Date	Construction Execution Window
1	Mandatory	Mobilization/Demobilization	December 2020 Award	
2	Mandatory	Unit 15 Construction	December 2020 Award	February 2021-April 2021
3	Optional	Second Mob/Demob and Unit 11 Construction	Sept. 30, 2021	Dec 2021-Feb 2022
4	Optional	2 Additional Units	Sept. 30, 2021	Extend through May 2022
5	Optional	2 Additional Units	Nov. 30, 2021	Extend through August 2022
6	Optional	2 Additional Units (Unit 18 + 1 more Unit)	Nov. 30, 2021	Extend through February 2023

Current Status

- Construction in unit 15 is underway and on track. Unit 15 is on the outage schedule March 1-April 20. The contract states the unit must be completed by April 15th.
- Hydraulic Testing Spring 2021 – During March contract negotiations with NWP, the A/E contractor expressed concerns in meeting the testing deadline and deliverables due to procurement of equipment, preparation/calibration of equipment, and staffing limitations. Hydraulic testing will not occur this year.
- Hydraulic tests will be needed next spring to meet the upper 1% test range of 18.0-18.5 kcfs.
- Impacts to the B2FGE concrete work contract are being evaluated. The concrete work will be delayed by one year.
- Rerecich owes Lorz a beer.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30

BON Washington Shore control section redesign

Project Identifier:	P2 # 492401
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Shari Dunlop (CENWP-ENC) *Shari.L.Dunlop@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

"…modify the serpentine-style flow control sections of Bonneville Dam's Washington Shore and Bradford Island fish ladders, converting them to Ice Harbor-style vertical slot with submerged orifices configurations. This would improve passage conditions for adult lamprey and likely reduce stress and delay for adult salmon, steelhead, and bull trout. All full-duplex passive integrated transponder (PIT) arrays currently located in the control sections of these ladders would be replaced in kind or improved to maintain or enhance current levels of detection of PIT-tagged anadromous fish."
-January 2020 CRS BA § 2.5, pg. 2-85.

Project Schedule

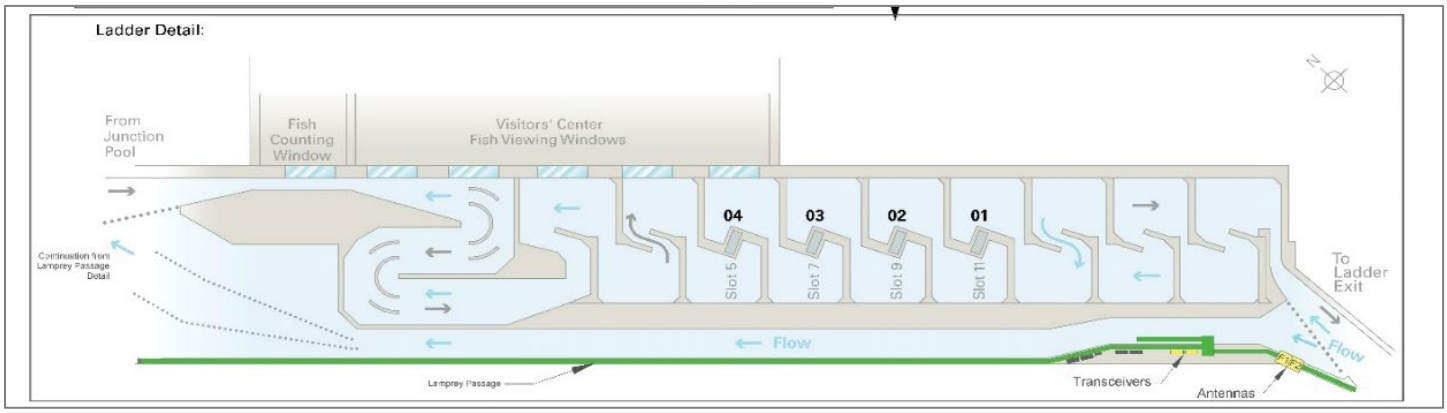
TBD

Current Status

A problem with PIT tag antennas coupled with actuated sill gates in the vertical slots was identified during scope development. The PDT is currently performing a screening-level investigation to determine if the required flow control can be achieved without adjustable-height sill gates. Based on the outcome, the design may include replacement of the PIT tag antennas in the control section or may require identifying an alternate location for the existing PIT tag antenna array.

Topics for FFDRWG Review/Coordination

None currently. PDT will coordinate with FFDRWG after we have a better understanding of the underlying design assumptions.



Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-05-04

BON Spillway Rock Removal Mitigation

Project Identifier:	P2 # 470163
Project Manager (PM):	Jeremiah Woodard (CENWP-PMF-P) *Jeremiah.J.Woodard@usace.army.mil*
Technical Lead (TL):	Max Wilson-Fey (CENWP-ENC-HD) *Max.P.Wilson-Fey@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

P2# 470163 includes two PDT's distinguished by their funding source. The Bonneville spillway rock *removal* PDT is responsible for physically removing rocks from the stilling basin/spillway annually (or as needed). Rock removal is jointly funded by Corps O&M and BPA Expense funding and coordinated in the FPOM regional forum. The Bonneville spillway rock removal *mitigation* PDT is responsible for identifying, designing, and constructing a long-term solution that would prevent rocks from migrating into the stilling basin. Rock removal mitigation is jointly funded by Corps O&M and BPA Capital funding and coordinated in the FFDRWG regional forum.

Currently emergency contracts are placed most years to physically remove rocks from the stilling basin (FPOM). This FFDRWG project is to determine whether a structural alternative can be identified to reduce the frequency of physical rock removal by preventing rocks from moving into the stilling basin in the first place. Alternatives will be evaluated based on factors such as their ability to prevent rock movement, cost, and ease of construction.

Project Schedule

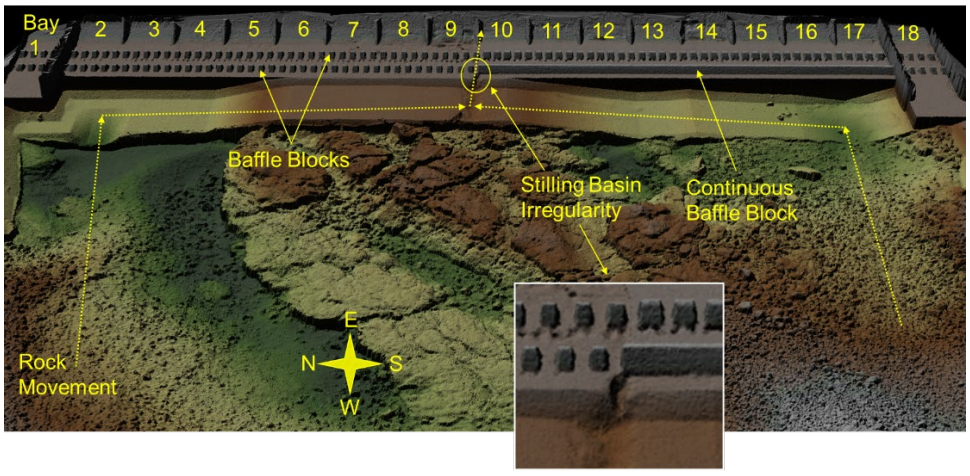
Complete modeling report: May 2021. Distribute modeling report for FFDRWG review: June 2021
Distribute 60% Phase 1a report for FFDRWG review: August 2021. Complete Phase 1a report: September 2021

Current Status

A modeling report summarizing NWP CFD and ERDC physical model results will be ready for regional review in June. Draft is complete, pending internal review. CFD modeling looked at extending the continuous baffle block currently downstream of bays 10-17 past bay 9, a barrier on the ramp, and raising the whole ramp. Physical modeling looked at extending the solid baffle block downstream of bays 10-18 past bay 9 and a barrier on the ramp. Raising the whole ramp produced high velocities along the shorelines in the CFD model and was not carried forward to the physical model.

Topics for FFDRWG Review/Coordination

PDT will distribute the model report for FFDRWG review around the time of our next meeting (3-June).



Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update
Date Prepared/Updated: 2021-04-01

JDA Turbine Rehab

Project Identifier:	P2 #
Project Manager (PM):	Steve Sipe (CENWP-PMF-P) *Steven.C.Sipe@usace.army.mil*
Technical Lead (TL):	Curtis Lipski (CENWP-ENC-HD) *Curtis.L.Lipski@usace.army.mil*
FFDRWG Coordination (FL):	Jon Rerecich (CENWP-PME) *Jonathan.G.Rerecich@usace.army.mil*

Project Description

The purpose of this project is to address reliability concerns and maximize production of hydroelectric power at JDA, which includes electrical energy production and electrical grid ancillary services while at the same time, improving survival of fish passing through the turbines. Maximum production of hydroelectric power at JDA will be realized through increased reliability and increased efficiency. Reliability improvements will be realized through a combination of replacement and refurbishment of powertrain equipment to include, but not limited to, turbine runners, shafting, generators, isophase bus, breakers, switches, and transformers. Efficiency improvements will be realized through increased turbine efficiencies associated with new turbine runners and other modifications to the turbines.
The purpose of this project is also to increase survival of turbine passed fish. Increased survival of turbine passed fish will be realized through developing state-of-art hydroelectric turbines to obtain improved fish passage survival through the turbines. The design of the state-of-the-art turbines will be an iterative and collaborative process that focuses on fish-friendly design features and criteria. This iterative and collaborative design process will be similar to the ongoing Ice Harbor L&D turbine runner replacement design and upcoming McNary L&D turbine runner replacement in NWW. Phase 1A recommendations include replacing up to 14 units with combination fixed blade & adjustable blade to obtain improved fish passage survival through the turbines.

Project Schedule

Phase 1 Short Term Schedule	Start	Finish
30% DDR/P&S review	3/12/2020	4/1/2020
60% DDR/P&S review	8/28/2020	9/18/2020
90% DDR/P&S review	9/21/2021	2/18/2022
BCOES review	1/24/2022	11/11/2022

Overall Schedule Milestones	Date
Contract award	October 2024
Collaborative design process Model testing	2024-2029
First unit installation	2031-2033
Unit installation complete	2040-2045

Current Status

- Final VE study report due Feb. 19, 2021

- The 1:25 scale physical observational turbine model rehab and relocation is complete. The model will be used to inform the development of the Phase 1 Plans and Specifications package, to document the hydraulic conditions

that affect the biological performance of the existing JDA turbines, and to support the collaborative and iterative design process in Phase 2. ERDC baseline model validation testing with the existing runner has been scheduled for last week and this week. Baseline model data collection for Test Series 1 will be occurring until May 2021 at which time ERDC is scheduled to transition back to McNary. This task includes preparation of a data report documenting the runs performed, results, conclusions, and recommendations. Runner evaluation tests will need to carry over to Test Series 2 (not yet scoped), which is expected to occur in late 2021 or early 2022.

- Tailrace flow patterns have been validated in the 1:45 JDA general model and in a CFD model. Model runs will commence after further HAC modeling is complete and preliminary options for the turbine mix are established. The focus of the tailrace modeling will be to assess juvenile egress and conditions for adult approach to the fish ladder entrances.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-02

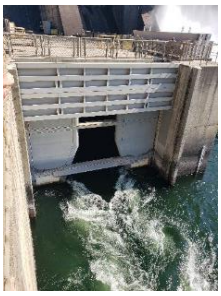
JDA North Fish Ladder Variable Width Weir Improvement

Project Identifier:	P2 # 492402
Project Manager (PM):	Eric Bluhm (CENWP-PM-FP) *Eric.V.Bluhm@usace.army.mil*
Technical Lead (TL):	Eric Grosvenor (CENWP-ODJ) *Eric.Grosvenor@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

Replace the skin on the downstream face of the JDA North Fish Ladder Variable Width Weir (VWW) with material that will provide a smooth attachment surface for lamprey. The VWW was originally constructed in 2013 using HDPE panels on the downstream face, either to save weight or cost. Some HDPE panels have since failed and were temporarily replaced with screen material.






Project Schedule

Design: FY 2021
Construction: Winter 2021/2022
Evaluation/Closeout: FY 2022

Current Status

VWW is in place with JBS screen panels (as pictured above) awaiting design and fabrication.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30

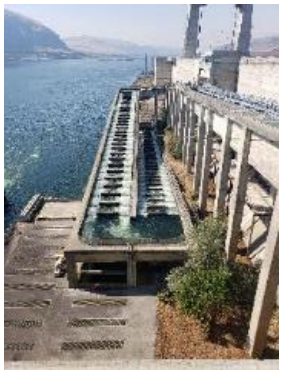
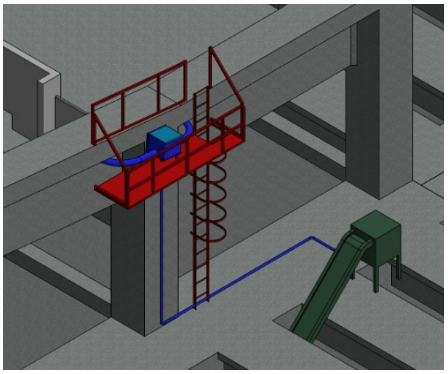
JDA North Fish Ladder LPS water supply upgrade

Project Identifier:	P2 # 492402
Project Manager (PM):	Eric Bluhm (CENWP-PM-FP) *Eric.V.Bluhm@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

Increase the capacity of the current system.

1. Modify LPS to replace existing drop in well pumps with gravity-fed water supply or alternative, more reliable pump configuration.
2. Larger collection box (current water supply is insufficient so larger box cannot be installed without upgraded water supply.
3. Consider opportunities for volitional passage in the design (per 2020 CRS BA § 2.5, pg. 2-85)

Project Schedule

Design: FY 2021
Construction: Winter 2021/2022
Evaluation/Closeout: FY 2022

Current Status

PDT will prepare multiple alternatives for consideration. Internal scoping meeting scheduled for 4/12. LPS is in service for 2021 passage season with existing pumps and collection box.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-05-04

JDA South Ladder entrance improvements (rounded crest, slot filler)

Project Identifier:	P2 # 492402
Project Manager (PM):	Eric Bluhm (CENWP-PM-FP) *Eric.V.Bluhm@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

Entrance weir improvements (rounded crest, slot filler). Caps cannot be added to South Ladder entrance weir due to FPP submergence criteria so the weir needs to be modified more extensively to provide rounded weir crests and guide slot covers.

Project Schedule

- Design: FY2021
- Construction: Winter 2021/2022
- Evaluation/Closeout: FY 2022

Current Status

Internal scoping meeting occurred on 4/12. PDT kickoff meeting scheduled for 5/17.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-05-04

TDA East Fish Ladder junction pool LPS

Project Identifier:	P2 # 492403
Project Manager (PM):	Eric Bluhm (CENWP-PM-FP) *Eric.V.Bluhm@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

Design junction pool LPS to tailrace deck collection box.

"Expand network of Lamprey Passage Structures (LPSs) to bypass impediments in existing fish ladders **(Lamprey Passage Structures)**. Ramp-like flume structures would be installed or modified in fish ladders at Bonneville, The Dalles, and John Day dams to guide adult lamprey out of fish ladders and into parallel systems for volitional passage or collection for upstream transport or passage studies. The LPSs would use independent water sources (pumps or gravity flow systems) and may be placed in various locations within fish ladders, such as collection channels, junction pools, and auxiliary water supply channels. New structures may be installed at Bonneville Dam's Bradford Island and Washington Shore fish ladders, The Dalles Dam's east fish ladder, and/or John Day Dam's south fish ladder. At John Day Dam, the existing lamprey passage structure on the north fish ladder may be extended from the tailrace deck to the forebay" - ***January 2020 CRS BA § 2.5, pg. 2-85***.

Project Schedule

- Design: FY 2021 – FY 2022
- Construction: Winter 2022/2023
- Evaluation/Closeout: FY 2023

Current Status

New startup. Internal scoping meeting occurred 4/21. PDT kickoff meeting scheduled for 5/20.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-05-04

TDA East Fish Ladder control section weir modifications for lamprey

Project Identifier:	P2 # 492403
Project Manager (PM):	Eric Bluhm (CENWP-PM-FP) *Eric.V.Bluhm@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Jacob Macdonald (CENWP-PME) *Jacob.Macdonald@usace.army.mil*

Project Description

Modify elevated orifices in East Fish Ladder control section weirs 154-157 for better adult lamprey passage.

Project Schedule

- Design: FY 2022
- Construction: Winter 2022/2023
- Evaluation/Closeout: FY 2023

Current Status

New startup. Internal scoping meeting occurred 4/21. PDT kickoff meeting scheduled for 5/20.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30

BON Lamprey Passage Structure Pump Upgrade

Project Identifier:	P2 # 492400 (BON1) and 492401 (BON2)
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Andrew Derugin (CENWP-ODB) *Andrew.G.Derugin@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Bradford Island, Cascades Island, and Washington Shore LPS's will have current drop in well pumps replaced with standardized 480V surface mount pumps that will increase the reliability and flexibility of the Bonneville Dam LPS system.

Project Schedule

- Acquire Materials: FY 2021
- Installation: WA Shore and Cascades Island – FY 2021, Bradford Island – Winter 2021/2022
- Evaluation/Closeout: FY 2022

Current Status

New pumps have been installed at the Washington Shore LPS, tested on 29-Apr.

Topics for FFDRWG Review/Coordination

None currently.

Newly installed Washington Shore LPS pumps (4/29/2021)

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-31

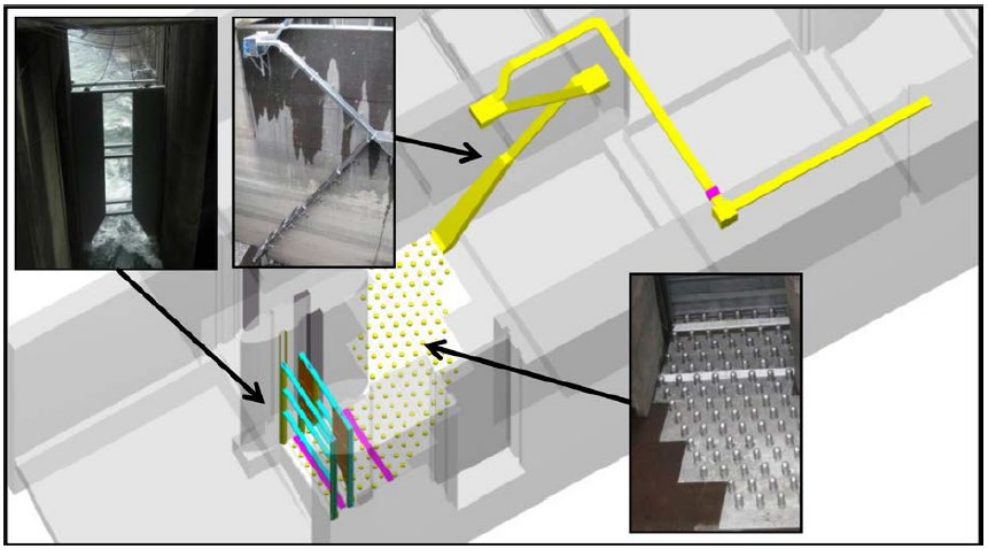
BON Bradford Island B-Branch entrance improvements (variable width entrance weir, bollards, and transition pool LPS)

Project Identifier:	P2 # 492400
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Design B-Branch (Spillway) entrance improvements, including variable width weir, bollards, refuge boxes or other cover, as feasible. Implement in conjunction with transition pool LPS at this fishway.

- Modeled after Cascades Island and JDA North (mirror image of Cascades Island Entrance)



Cascades Island entrance improvements (2009)

Project Schedule

TBD

Current Status

Internal scoping meeting scheduled for 4/8.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

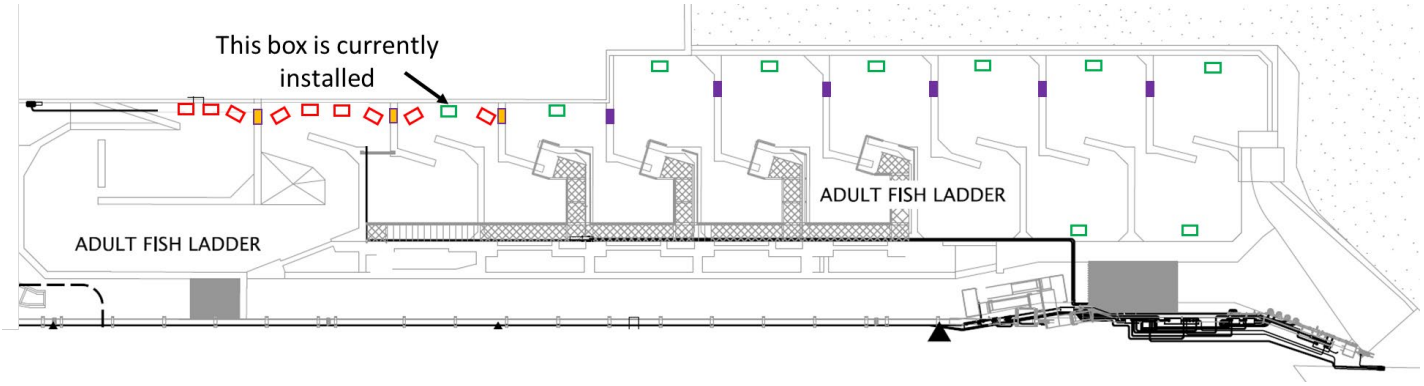
Date Prepared/Updated: 2021-03-03

BON Bradford Island Ladder extensive minor modifications to serpentine section for lamprey

Project Identifier:	P2 # 492400
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Extensive minor modifications to control section (serpentine weirs) of ladder including refuge boxes, rounded corners on weirs, additional lamprey orifices, and (if practicable) new features such as artificial rocks.



Project Schedule

TBD

Current Status

New Startup.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-03

BON Cascades Island LPS Flume modifications

Project Identifier:	P2 # 492401
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Lamprey flume needs to be lowered to eliminate the mid-system lift pumps. This may require rerouting existing plumbing and moving electrical equipment in the area, as well as fabricating new brackets and a new flume section.

Project Schedule

- Design: FY 2021
- Construction: August 2021
- Evaluation and Closeout: FY 2022

Current Status

Initiating design.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30

BON Cascades Island upper picketed lead modification

Project Identifier:	P2 # 492401
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Andrew Derugin (CENWP-ODB) *Andrew.G.Derugin@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Modify two upper picket leads (upstream of new LPS trap) to exclude lamprey from AWS Channel. Replace existing leads with smaller mesh and eliminate gaps to prevent lamprey from straying into the dead-end abandoned AWS channel.

Project Schedule

- Installation: FY 2021
- Evaluation/Closeout: FY 2021

Current Status

OD-B project staff are scheduled to perform this minor modification Spring 2021.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-31

BON Washington Shore junction pool LPS

Project Identifier:	P2 # 492401
Project Manager (PM):	Bob Winters (CENWP-PM-FP) *Robert.Winters@usace.army.mil*
Technical Lead (TL):	Adam White (CENWP-ENC) *Adam.J.White@usace.army.mil*
FFDRWG Coordination (FC):	Andrew Derugin (CENWP-PME) *Andrew.G.Derugin@usace.army.mil*

Project Description

Design Transition Pool LPS to tailrace deck collection box. Include refuge boxes or bollards to guide lamprey to new structure.

"Expand network of Lamprey Passage Structures (LPSs) to bypass impediments in existing fish ladders **(Lamprey Passage Structures)**. Ramp-like flume structures would be installed or modified in fish ladders at Bonneville, The Dalles, and John Day dams to guide adult lamprey out of fish ladders and into parallel systems for volitional passage or collection for upstream transport or passage studies. The LPSs would use independent water sources (pumps or gravity flow systems) and may be placed in various locations within fish ladders, such as collection channels, junction pools, and auxiliary water supply channels. New structures may be installed at Bonneville Dam's Bradford Island and Washington Shore fish ladders, The Dalles Dam's east fish ladder, and/or John Day Dam's south fish ladder. At John Day Dam, the existing lamprey passage structure on the north fish ladder may be extended from the tailrace deck to the forebay" ***-January 2020 CRS BA § 2.5, pg. 2-85***.

Project Schedule

- Design: FY 2021 – FY 2022
- Construction: Winter 2022/2023
- Evaluation/Closeout: FY 2023

Current Status

New Startup.

Topics for FFDRWG Review/Coordination

None currently.

Fish Facility Design Review Work Group (FFDRWG)
USACE, Portland District
Project Update

Date Prepared/Updated: 2021-03-30