

## MEMORANDUM FOR THE RECORD

Subject: DRAFT minutes for the 10 February 2022 FPOM meeting. The meeting was held via WebEx from 0900 to 1250 hours. In attendance:

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\*Called in for the Avian Updates only

## 1. Final decisions or recommendations made at this meeting

- 1.1. January FPOM minutes approved.
- 1.2. 22 LWG 01 MOC NOAA RSW Detection Efficiency – Concurrence.
- 1.3. MFRs required if/when fishway temperature loggers fail.

## 2. Action Items

### 2.1. NWW

**2.1.1. [December 21] IHR South fish ladder temp monitor broken, cannot calculate the differential. ACTION ITEM: Peery will update progress next FPOM. *STATUS: Parts on hand, will be in place by early spring.*** Conder said it is important to monitor temps. It is in the FPP. He would like an MFR when they fail, for awareness. **Peery & Mackey agreed to send MFRs when temp loggers go down.**

### 2.2. NWP

**2.2.1. [July 21] WA AWEP status update. ACTION:** Morrill will report back on the progress. The draft periodic status review for the American White Pelican is available for review at WDFW's publications webpage. This can be moved to completed action items.

<https://wdfw.wa.gov/publications>

**2.2.2. [Feb 2022] TDA velocity monitoring. ACTION:** Project will pick the monitoring strategy and report back to FPOM.

**2.2.3. [Feb 2022] JDA ladder temps. ACTION:** Grosvenor will distribute his report prior to next FPOM.

**2.2.4. [Feb 2022] BON video stream. ACTION:** Morrill will set up follow on meeting with Peery and Derugin.

**2.2.5. [Feb 2022] BON Avian Lines. BON Fish will send photos of the spillway. *STATUS: The location is near diffuser FG3-21 which is four diffusers away from the entrance gates of B-Branch. It stretches across to Cascade Island's anchor point on the north side of the spillway tailrace. During the February FPOM, BON requested to not repair the one spillway wire. However, the maintenance supervisor has informed us that they are going to attempt to repair the one spillway avian wire during the Corner Collector avian array***



Photo 1. BON broken avian wire location.

### 2.3. Completed Action Items or to be discussed later in the agenda

- 2.3.1.[November 21] 21 LMN 06 MOC North Fish Ladder Debris Barrier Anchor Block.  
ACTION ITEM: Peery will see if concrete pumping could be delayed. *Update: work was completed later in the morning. Could not move to late afternoon. Did not appear to impact fish passage.*
- 2.3.2.[December 21] NWP/NWW Critical Fish Passage O&M needs. ACTION: Mackey will host separate meeting after the January FPOM. *Update: Moved to stand-alone meeting, might follow a short FPAC.*

## 3. Updates

### 3.1. NWW Updates

- 3.1.1.JFF Early Start – MCN March 1<sup>st</sup>.
- 3.1.2.SMP will not be at LMN Working with BPA as they plan to cover the labor gap needed for condition monitoring at LMN. Looking at two people. They still believe they can get contractor on. Pacific States will cover additional labor needed at LMO this year.
- 3.1.3.Biological Service contractor report - Send email to St. John to get on weekly distribution list.
- 3.1.4.Upcoming maintenance/construction/research activities (previously coordinated MOC/MFRs).
  - 3.1.4.1. 20 LGS 16 MOC Powerhouse Roof Repair – Due to flows outage likely the June date, would require 100% spill for four days. NOAA is concerned about sockeye passage. Lorz asked about any flexibility around outage dates for lessening fish impacts. Schedules are pretty tight. Limiting factor is completing the transformer work. NOAA likes August 1-15<sup>th</sup>, however the latter start date makes it difficult to get the work done on time.
  - 3.1.4.2. 21 LGS 13 MOC Guidewall Anchor Cables Replacement – Work complete
  - 3.1.4.3. 21 LWG 08 MOC Trash Rake Crane Replacement (May 2022) – On schedule
  - 3.1.4.4. MCN spillway crane repairs. Spill patterns for underrated cranes and TSW removal (21 MCN06 Modified spill pattern for TSW removal). Crane 6 in service, Crane 7 out. Hoist 6 (SB 6) is OSS gear box – broken teeth & warn bearings.
  - 3.1.4.5. LMN Spillbay 3 repairs – Some spillgate trunnions are exceeding the coefficient of friction. Trunnion bracing was bent on bay 7. Attempting to turn greaseless bearing into greased bearing by drilling and tapping new grease points. Lorz, Conder, and Bettin, had follow on questions about the testing process and if gates had been exercised. Losing SB 3 means we cannot use the FPP spill pattern to aid juvenile passage. van Dyke asked when the last test was performed. SEP 2018 initial inspection, testing was early 2019. Three-year lag was due to wait for engineering report for final

determination not to operate. The calculations were run by three different engineers, and they determined the gates were not built correctly. Path forward it to add grease points.

*UPDATE: LMN and MCN spill questions Update from Chris Peery (NWW) on 2/15/22*

***Will juvenile egress be affected during low flow/spill levels from bay 6 set at 6 stops?***

*Project biologist and Ryan Laughery did not believe this will have a significant effect on egress conditions. Any potential effects will also be dependent on flow. The current spill table calls for bay 6 to be open starting at spill of 100 kcfs. In an average flow year, spill on 10 April would be closer to 150-170 kcfs with the 125% spill cap. Biologists will be tracking tailrace conditions during the spill season and changes will be considered if determine egress conditions appear poor.*

***Can repairs be made at LMN before spill season, 3 April?***

*The repairs cannot happen before spill season because we need to be able to measure the before/after trunnion friction to validate that the repairs worked, and the measurement part of it cannot happen until after spill season.*

***Were spillbays exercised prior to taking friction coefficient.***

*SBs are fully exercised on a 4-year PM while doing climbing inspections (2/year).*

*SB#3 was fully exercised during the 4-year and climbing inspection in 2018.*

***Why the 2–3-year delay in receiving information that was used to tag the spillbay OOS?***

*Spillway gate fit-for-service evaluation performed in 2012 established trunnion coefficient of friction limit of 0.23 (a typical greased pin/bushing arrangement has a coefficient of friction of around 0.10-0.15) and recommended measuring and monitoring trunnion friction at least every 5 years moving forward.*

*Spillway Gate climbing inspection performed on Gate 7 in September 2018 identified a bent brace member that caused concern that the trunnion friction on Gate 7 may have exceeded limits and was starting to cause buckling of the braces.*

*To investigate this, Gate 7 and Gate 3 were instrumented with strain gauges and trunnion friction was calculated at 0.21 for Gate 7 and 0.23 for Gate 3. Gate 3 was intended to be the control during this investigation but ended up being worse than Gate 7.*

*Both datasets were analyzed by NWW and NWD engineers and eventually sent to a contracting firm. One question that needed to be answered was, is the 0.23 coeff level based on the Folsom Dam incident applicable to the LMN gates? They are.*

*We did not receive the final analysis to fully vet our established “safe” trunnion coefficient nor our results until somewhat recently.*

***Can stoplogs be used to relieve pressure and exercise the gate?***

*In Bryce’s professional opinion, operating the gate fully open/closed does not decrease the friction coefficient as the “graphite” material built into the bushing is likely degraded or worn out.*

*Bryce did say that once we are able to apply grease, full open/close would help reduce the friction coefficient.*

***Could we open the gate with a crane and leaving it at a certain stop for the season?***

*The gate is likely too heavy to lift with ANY crane we have in the fleet. Additionally, the gate is connected to a huge gear reduction that would likely have to be disconnected/reconnected while the crane is attached which would be a safety issue. This is a moot point as applying torque to the gate at any point with a bad bushing will cause strain to the bracing and risk damaging the gate.*

**3.2. NWP Updates**

**3.2.1.** Upcoming maintenance/construction/research activities (previously coordinated MOC/MFRs).

**3.2.1.1.** 21BON001 MOC Navigation Lock 1 (old navlock) Bridge Replacement scheduled for CY 2023.

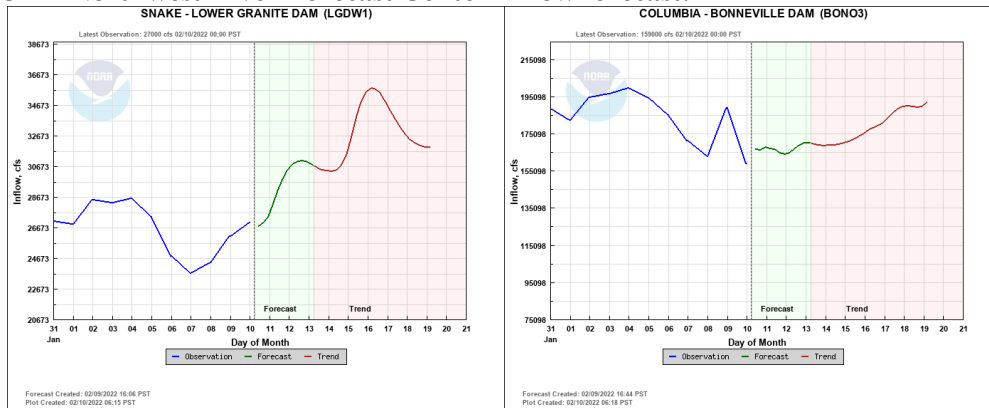
**3.2.1.2.** 19TDA04 MOC Crane rail Replacement winter (on going work) -Contractors are re-working grout to get correct clearance. Looked like there were getting close to wrapping up.

- 3.2.1.3. 20TDA10 MOC PUD Smolt Bypass Extended Outage – Work ongoing. Pouring concrete footings on 10 February. There is some concern they may not complete sample side by 1 May.
- 3.2.1.4. 18JDA02 MOC Trash rack replacement - Scheduled for April 2022. Fabricating one set of trash racks now.
- 3.2.1.5. 20JDA04 MOC STS crane replacement. In design and moving forward.
- 3.2.2. BON Aqui-S long term solution – EPA is moving toward general permit. Currently disposal is still to the ground. No change from last year.
- 3.2.3. TDA AWS debris management.
- 3.2.4. TDA trunnion pin. Gate 9 trunnion would be part of a larger project to completely rehab Gates 1-9. SAP shows Start in 2031, Construction 2034.
- 3.2.5. TDA Fishway water velocity evaluation new measurement. Looking to transition from timing floats in the water, which can be subject getting captured by eddies or equipment, to an electronic meter. New meter is recording higher values than the old float method. Conversation ranged from the best way to monitor flow to the origin of the flow criteria. Conclusion: RT shows fishway is functioning well regardless of measured flows. Pick between one and three index points and monitor there. **ACTION: Project will pick the monitoring strategy and report back to FPOM.**
- 3.2.6. JDA north pump #4.
- 3.2.7. JDA spill bay 10. In manual operation, have not figured out remote operations from the control room, likely manual most of spill season.
- 3.2.8. JDA N elevator #4 – Service contract in place. Engineers are making a list of fixes to return to service.
- 3.2.9. JDA SMF April start up – Starting up April 1<sup>st</sup>.
- 3.3. **NWS (Seattle)**
  - 3.3.1. Upcoming maintenance/construction/research activities (previously coordinated MOC/MFRs).
  - 3.3.2. Albeni Falls Dam – Fish passage facility will be a design – build. Just starting process.
  - 3.3.3. Chief Joseph Dam – Effort underway to replace the debris boom.
  - 3.3.4. Libby Dam -
  - 3.3.5. Lake WA ship canal (Ballard Locks) – Evaluating the effectiveness of sea lion acoustic device. Ocean Initiative is testing Scottish device in several areas. Some concern that seal bombs have diminished the hearing of some sea lions so acoustic deterrents may be less effective.
  - 3.3.6. Mud Mountain Dam – new fish facility on-line in July of 2021. Difficulty dealing with heavy sediment from Mt. Rainier impacting dewatering screen.
- 3.4. **Research/FFDRWG updates.**
  - <http://pweb.crohms.org/tmt/documents/FPOM/2010/FFDRWG/FFDRWG.html>
  - 3.4.1. **NWP FFDRWG** Last meeting 2/3/2022 – Notes from last week’s meeting have been distributed. Send edits to Macdonald.
    - 3.4.1.1. JDA ladder temp. memo development (Grosvenor) – Data back to 2011, working with NWW to make the data digestible. Will focus on 2018 & 2019 study data. Building string array to deploy in area the study found a small pocket of cold water. **ACTION: Hope to have report out prior to next FPOM.**
  - 3.4.2. **NWW FFDRWG** Last meeting 1/31/2022. Next meeting 4/28/22. Steve Juhnke will be taking over FFDRWG role in NWW. Last meeting notes will be distributed in the future.
  - 3.4.3. **NWP & NWW SRWG** Next meeting 2/16/22 – Kicking off planning cycle will have list of studies out to SRWG group next Monday or Tuesday.

### 3.5. RCC update

Project	Previous Day (2/9) Average Outflow (kcf)	5 Day (2/14) Forecasted Inflow (kcf)	10 Day (2/19) Forecasted Inflow (kcf)	Forecasted Inflow Low/High (kcf)
LWG	27	30	32	27 (2/10) / 36 (2/16)
MCN	151	158	185	157 (2/11) / 185 (2/19)
BON	157	169	192	167 (2/10) / 192 (2/19)

**Table 1. NOAA Northwest River Forecast Center inflow forecast.**



**3.6. Fish Count Program update (Peery, Wertheimer)** - Only counting at BON right now, contractor is ready to start on March 1<sup>st</sup> BON, LGS, LWG, and TDA.

**3.7. BON Video quality during stock ID (Morrill/Bonnie Jackman)** – Playback start/stop is only available on small screen mode. Lighting changes during the day depend on fish counter needs and impact video. Video quality is poor, and equipment may need to be replaced. The equipment and video stream were provided by 4Peaks as a courtesy. If there are equipment shortcomings it would be up to WDFW address. Morrill suggested that high quality video would be a benefit to regional fish managers. **ACTION: Morrill will set up follow on meeting with Peery and Derugin.**

### 3.8. Pinniped update

**3.8.1. Bonneville Dam** – Less than 5 Stellar Sealions in the tailrace, captured by camera trap on Tower Island. Will return to predation monitoring when abundance is > 20 animal.

**3.8.2. Willamette Falls** – no update

### 3.9. Lamprey update

**3.9.1. BON** – Cutting lamprey orifices at BI serpentine weir section. Current concrete saw blades were inadequate to cut through rebar and concrete. Ordering new blades.

**3.9.2. TDA** – No mods right now. East ladder junction pool LPS to trap design is ongoing.

**3.9.3. JDA** – Mods to S. Fish ladder trap re-orient the grating behind the picket leads to reduce sediment built up with goal to increase trapping efficiency. Grating work funded by JDA, starting next week work may take two weeks. SFL Ent. Weir cap to increase lamprey entrance. Slot fillers attached to the weir caps. Work to take place this summer. (Grosvenor). More detail in the FFDRWG update emailed last week.

**3.9.4. NWW** - Weir crest at MCN & IHR cooling water intake hood prototype - addressing input provided by Conder. LWG juvenile acoustic telemetry survival study. Study on track but there are concerns about supply chain delays to build acoustic tags. As of last PNNL update (Dang), things are on track.

**3.9.5. Lamprey Accords Work Group (Macdonald)** – Next meeting is 11 February.

### 3.10. Avian updates (10:30)

**3.10.1.** NWW – Inland Avian Management Plan update (new – Steve Juhnke) – Reached back to Civil Air Patrol to de-obligate FY 21 funds prior to funding FY 22. Crew going to Badger Island to search for material to reduce tern nesting on bare sand/ground. Joining Blane Parker, Tom Skiles & maybe Tom Lorz as well (all three CRITFC).

Looking for a place holder to fund avian wires at McNary Dam. Design options will be discussed in FFDRWG.

**3.10.2.** JDA – Predominately DCCO most days, 25 – 30 loafing on rocks near spillway. BPA plans to repair avian wires damaged during line replacement, March 21<sup>st</sup>.

**3.10.3.** TDA – Few birds in general. Reports of a couple 100 gulls at the mouth of the Deschutes. Planning for USDA hazing as well as some falconry. Waiting to see if lethal take is available this season.

**3.10.4.** BON – B2CC lines are down and need to be replaced, scheduled for March. One line is missing from the spillway array, to replace may require taking down the entire array. Would not only cost money but time away from other fishway maintenance actions. **ACTION:** Derugin will supply image of spillway array showing missing line.

**3.10.5.** Estuary – Mobilizing to prep ESI 1 acre tern colony area and passive dissuasion. Rice Island deploying green laser in the eastern bowl. Lorz asked about long-term monitoring plan, which will be covered below.

**3.10.6.** Lethal Removal – Update of the NEPA progress (Schmidt) - Mackey shared Corps letter response to CRITFC with schedule of milestones including April completion date.

**3.10.7.** 2022 Avian Management & Monitoring Plan (BPA Greg Smith & Ben Hausman, BOR Mitch Mumba, Corps- Cindy Studebaker). Part of the CRS BiOp implementation mapping out plan for current calendar year (2022).

**New item:** Working toward lethal take with falconry at The Dalles. Monitoring at Crescent & Peery reported on Badger Island earlier.

**BOR – North Potholes Reservoir at Goose Island.** Active & passive dissuasion continues. Active tern harassment will increase 25 – 30% rovers on the island to prevent tern nesting. Patrols on northern part of reservoir and will set up passive dissuasion if terns attempt to nest.

**Blalock Island** – CAP flights are funded to monitor reservoir elevation impacts on tern nesting attempts.

**East Sand** – Will prepare 1 acre tern nesting area. Sewing tags for PIT recovery on both tern & DCCO colonies. To be determined if analysis for predation will be funded. Will work on trigger in SRWG.

**DCCO** – some have returned to nest at ESI.

**Greg Smith BPA** – In BA committed to looking at efficacy of management actions (Corps & BOR actions). Is there sufficient information to do a cumulative assessment of avian predation on out migrating salmon & steelhead in coordination of PRCC dependent on PIT tag recoveries. Monitoring Astoria-Megler bridge, no management actions planned.

**Lorz** – asked if there was a venue to supply comments. Plan for 2022 has already been submitted to NOAA, open to comments going forward. Lorz requested ability to provide input prior to document being finalized.

**Avian updates ended at 11:15.**

**3.11. BPA update** – Bettin emailed update to Mackey for posting. Some spill going on at MCN and BON due to grid mod upgrade limiting hydraulic capacity there.

**4. NWP/NWW Critical Fish Passage O&M needs** – Mackey will compile rankings and provide average score sorted by Project and by District.

**5. Coordination/Notification forms (need concurrence/discussion)**

- 5.1. 22 TDA 01 MFR Wasco PUD dewatering – No comments
- 5.2. 22 IHR 01 MFR Juvenile steelhead mortalities – Seven STHD morts during dewatering. No comments.
- 5.3. 22 LNM 01 MOC North Fish Ladder Debris Barrier – Needs to install 4 concrete anchors about 100' from fishway. St. John emailed FPOM with detailed answers to several questions. Morrill asked if work could be move to the IWW window? Project wants to complete prior to expected debris flows. Anchors arrived and scheduled to be drilled prior to the ladder watering up. Goal is to have debris barrier back in place by 28 February. NOAA not ok with time in current MOC – hopes work can be completed during IWW window. **MOC will carry over to next month unless work is completed during IWW.**
- 5.4. 22 LWG 01 MOC NOAA RSW Detection Efficiency – No comments, Concurrence.

## 6. Fish Passage Plan

- 6.1. The 2021 FPP is in effect through February 28, 2022.
- 6.2. The 2022 FPP goes into effect March 1 and is in the final stages of development. Draft sections and Change Forms are at: [pweb.crohms.org/tmt/documents/fpp/2022/changes](http://pweb.crohms.org/tmt/documents/fpp/2022/changes)
  - 6.2.1. NEW & PENDING Change Forms:
    - 22BON001 – Units 1 & 10 Maintenance (Bettin, Derugin). PENDING
    - 22BON002 – Screen Removal Schedule (Derugin). NEW
    - 22TDA001 – Flow Velocity (Cordie). PENDING
    - 22JDA001 – Condition Sampling (Fielding). PENDING
    - 22JDA007 – Screen Removal Schedule (Fielding). NEW
    - 22MCN002 – Orifice Operation (St. John, Johnson). PENDING
    - 22MCN004 – Modified Spill Patterns (Peery). NEW
    - 22IHR003 – Orifice Operation (St. John, Fone). PENDING
    - 22LMN002 – Orifice Operation (St. John, Griffith). PENDING
    - 22LMN004 – Spill Patterns with No Bay 3 (Peery). NEW
    - 22LGS002 – Orifice Operation (St. John, Barnes). PENDING
    - 22LWG004 – Orifice Operation (St. John, Holdren). PENDING
    - 22AppJ001 – JDA Condition Monitoring (Fielding, Grosvenor). NEW

## 7. Task Group Updates.

- 7.1. Task Group Avian meeting (Cordie)
  - 7.1.1. <http://pweb.crohms.org/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Avian%20Hazing/>
- 7.2. Task Group Condition Monitoring (Lorz & Sullivan) – This task group will be inactive.
  - 7.2.1. <http://pweb.crohms.org/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Condition%20Monitoring/>
- 7.3. Task Group 15 Mile Steelhead Overshoots, TDA ITS operation dates. (Bellerud) – Blane asked FPOM reps if they thought this was a worthwhile operation? ODFW and WDFW – Yes worthwhile. CRITFC – would not object to this operation. BPA – Likely no problem if it is cost neutral, will have to report back. Bellerud will carry this suggestion to the policy people.
  - 7.3.1. <http://pweb.crohms.org/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20TDA%20ITS%20operations/>
- 7.4. Task Group Non-native Piscine Predation (Hausmann). Thompson no longer with NOAA. Derugin and Morrill nominated Hausman to take over TG.
  - 7.4.1. <http://pweb.crohms.org/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Non-native%20piscivorous%20fish>