

MEMORANDUM FOR THE RECORD

Subject: FINAL minutes for the 08 August 2013 FPOM meeting.

The meeting was in the Celilo Room (5th floor) at the new CRITFC building. In attendance:

Last	First	Agency	Office/Mobile	Email
Bailey	John	USACE-NWW		John.c.bailey@usace.army.mil
Baus	Doug	USACE-RCC	503-808-3995	Douglas.m.baus@usace.army.mil
Benner	Dave	FPC		dbenner@fpc.org
Bettin	Scott	BPA	503-230-4573	
Conder	Trevor	NOAA	503-231-2306	Trevor.conder@noaa.gov
Cordie	Bob	NWP-TDA	541-506-7800	Robert.p.cordie@usace.army.mil
Dugger	Carl	NWW-MCN	541-922-2263	
Fone	Ken	USACE-NWW		Kenneth.r.fone@usace.army.mil
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Hausmann	Ben	NWP-BON	541-374-4598	Ben.j.hausmann@usace.army.mil
Hevlin	Bill	NOAA	503-230-5415	Bill.hevlin@noaa.gov
Klatte	Bern	USACE-NWP	503-808-4318	Bernard.a.klatte@usace.army.mil
Lorz	Tom	CRITFC	503-238-3574	lorz@critfc.org
Lut	Agnes	BPA		
Kiefer	Russ	IDFG		
Kostow	Kathryn	ODFW		
Mackey	Tammy	USACE-NWP	503-961-5733	Tammy.m.mackey@usace.army.mil
Martinson	Rick	PSMFC		rickdm@gorge.net
Mensik	Rosanna	PSMFC	541-929-3630	rmensik@psmfc.org
Meyer	Ed	NOAA Fisheries		
Petersen	Christine	BPA		chpetersen@bpa.gov
Pinney	Chris	USACE-NWW		
Schneider	Carolyn	USACW-NWP		
Scott	Shane	Public Power Council	360-576-4830	
Setter	Ann	USACE-NWW	509-527-7125	
Smith	Marcus	NWW-LGS		
Stansell	Robert	NWP-FFU	541-374-8801	
Tackley	Sean	USACE-NWP	503-8808-4751	
Traylor	Andy	NWP-BON	503-808-4305	Andrew.w.traylor@usace.army.mil
Warf	Don	PSMFC		dwarf@psmfc.org
Welton	Brent	USACE-NWP	503-808-4873	
Wills	David	USFWS		
Wright	Lisa	USACE-RCC	503-808-3943	Lisa.S.Wright@usace.army.mil
Zorich	Nathan	NWP-FFU	541-374-8801	Nathan.a.zorich@usace.army.mil
Zyndol	Miro	NWP-JDA	541-506-7860	

Bailey, Fone, Kostow, Lut, Martinson, Meyer, Smith, Warf called in.

August birthdays include: N. Richards, J. Randall, and P. Keller. HAPPY BIRTHDAY!!!!

1. Finalized results from this meeting.

1.1. July FPOM minutes approved.

1.2. AFF task group tentative meeting date on 20 August.

- 1.3. LGS double testing. Setter asked if there is a problem with moving double testing to 9-12 September. This will require a complete powerhouse shutdown for several hours on the first and last day; a uniform spill pattern described in the FPP will be used. With only units 5 and 6 available Hevlin requested opening spill bay 8 one stop, during the day (0500-1200) during the outage to counteract the eddy which will likely form when units Unit 5 and Unit 6 are operating. **This recommendation was accepted.**
 - 1.4. BON mid-season fishway ROV inspection. The diffuser cover for FG6-18, at Cascades Island, was blown askew. About $\frac{3}{4}$ of the hole is exposed. FPOM discussed the risks to fish. **BON will close off FG6-18 and start to schedule an emergency dive as soon as possible.**
 - 1.5. Tribal video at BON. **FPOM was ok with the filming occurring in the next couple of weeks.**
 - 1.6. FPP change forms.
 - 1.6.1. 13LGS08. Approved.
 - 1.6.2. 13BON51. Not approved. Coordination call scheduled for 1500 on 12 August.
2. The following documents were provided or discussed. Documents may be found at <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>
 - 2.1. *Agenda, Fish Passage O&M Coordination Team.*
 - 2.2. *Cooling Water Strainers Lamprey Counts.xls.*
 - 2.3. *Coordination/Notification Forms (NWW/NWP)*
 - 2.4. *FPP change forms. (NWW/NWP)*
 3. Action Items
 - 3.1. NWW Action Items.
 - 3.1.1. [Aug 13] LGS Unit 1 low flow. **ACTION:** NWW will draft a change form to get the needed language in the FPP. In addition, the engineers will evaluate the tainter gate to see if it is suitable for opening and closing the TSW.
 - 3.2. NWP Action Items
 - 3.2.1. [Feb 13] BON AFF PIT tag detector. **ACTION:** Fryer will have detailed drawings, an operating plan, and monitoring plan for FPOM review in October.
 - 3.2.2. [Jul 13] BON JMF Separator Bar contract and condition sub-sampling. **ACTION:** Klatte will arrange for a meeting between FPC and BPA. **STATUS:** Klatte set up a meeting with DeHart (FPC) and Porter (PSMFC) on 16 August. Purpose is to discuss including the condition sub-sampling in the FPC Smolt Monitoring contract.
 - 3.2.3. [May 13] BON video Kelt Monitoring. **ACTION:** NWP (FFU) will develop a proposal for kelt monitoring from 1 March through 10 April. They will bring this back to FPOM in August or September for further discussion and development. **STATUS:** Stansell provided a proposal and included it with the August FPOM documents. FPOM comments are requested by the September FPOM meeting. Bettin suggested that human error was factored into the trigger. Lorz and Fredricks said that human error was not factored into their analysis. There were some concerns about who would be monitoring the bars/video and the delay in reporting and opening the B2CC.
 - 3.2.4. [Jul 13] AFF modifications/mortalities. **ACTION:** NWP will look at the potential of installing cameras. **STATUS:** Fredricks gave a summary of the

morts. He counted 68 morts inside the AFF during June and July. There was discussion about the future of AFF mods and operation. Rerecich is out sick but Mackey asked when the AFF task group could meet to discuss all of the issues. Tentative meeting date is 20 August. **ACTION:** Rerecich will send a meeting invite.

- 3.2.5. [Aug 13] AFF modifications/mortalities. **ACTION:** Rerecich will send a meeting invite for 20 August.
- 3.2.6. [Aug 13] 13BON 51 North monolith lamprey structure repairs. **ACTION:** Hausmann will confirm the monolith gates can be closed and bulkheads won't be needed. He will also inquire about the possibility of turning the DSM on/off each day.
- 3.2.7. [Aug 13] Sturgeon kill between TDA and JDA. Lorz noted that on 24-25 July about two dozen sturgeon were found along the banks. ODFW suggested they had been there for about two weeks. **ACTION:** Lorz will email Mackey the report CRITFC put together. Mackey will post and send to FPOM.

3.3. Action Items completed or to be discussed later in the agenda.

- 3.3.1. [Jul 13] AFF lamprey morts. **ACTION:** Zorich will bring recommendation to Corps-Tribal Accords Work Group next week as well as seek input from Sean Tackley (NWP Planning) and lamprey researchers trapping lamprey in the AFF. **STATUS:** *Potential to raise AFF picketed leads by 1.5" to prevent AFF mortality. Group was uncertain this would be beneficial since not all picketed leads are down during AFF sampling. This would also route fish around the AFF Upper trap which is the main source of lamprey for research and translocation and so could hamper collection efforts.*

4. Updates

4.1. NWW Updates

- 4.1.1. MCN model. *We have indeed been using the model, as the sawtooth pattern is mandatory under the current FPP. We have been working the sawtooth model around the units that have been out of service for rewinds and other work. Also, when units are shut down briefly due to low power loads, the operators have been using the sawtooth pattern as determined by the model and by the current FPP. We also used the sawtooth pattern to determine the order of the units that were shut down for recent RAS and Doble testing. The use of the model is probably partly responsible for the fact that we have not had any significant fish mortalities this summer due to temperature shock.* Setter and Dugger explained the use of the model this past season. Dugger said this year was not a good year with all of the outages that occurred. The model needs a good "average" year for testing but even this year it was useful. Weather and wind are incorporated into the model. Fredricks would like to see the methodology to using the model in the FPP. He doesn't want to use the model himself, he wants to know how NWW will use the model. Dugger said real-time data would be useful, especially for future years.
- 4.1.2. MCN sampling without transport. Setter polled the different sampling sites to see if there are times when they operate without bio techs on-site. Setter asked FPOM to weigh in on sampling timing, efficiencies, etc. Setter said she talked with FPC and it was recommended the issue be taken to FPAC for recommendations. The current path forward is to keep the bio techs with the

future plan leaning towards reliability of equipment so bio techs are not needed 24 hours. Fredricks said there are three issues: smolt monitoring, project monitoring, and temperature monitoring. Smolt monitoring could be every other day or once a week, whatever FPAC feels they need. Project monitoring for condition needs to be frequently enough to ensure the safety of fish going through the bypass. Temperature monitoring is a seasonal need and may lead to reduced handling of fish due to elevated temperatures. Mensik said she could reduce the number of fish handled, but spread the fish out throughout the 24 hours. Zyndol suggested condition monitoring is a spot check for the Project and changes to operations do not show up in the sample as quickly. Fredricks said JDA sampling is appropriate for JDA but MCN is different. There are more issues to consider. Dugger said they were able to associate two major injury/mortality events to changes in operations. One was a unit start up at the wrong time of day and the other was a change in pool elevation for hydro races. Setter said in the past the key monitoring sites were LWG, MCN, and BON. She asked if that is still true and asked FPAC to have a discussion about the needs for smolt monitoring throughout the system.

- 4.1.3.** IHR Line 1 disconnect maintenance. MOC 13IHR11 to be revised and resubmitted.
- 4.1.4.** LWG adult fish passage and water temperatures. Setter said this issue has been discussed extensively at TMT. In mid July IDFG suggested sockeye may have been blocked. Pinney found a document that had recommendations for alleviating temperature issues. Turns out those recommendations haven't been implemented. This issue will go to SCT for discussion and prioritization. In addition, there are pumps that hadn't been used in the 1990's. They are now operated continually. NWW needs input from the Region on prioritization of temperature control. Lorz asked if Unit 1 will return to a Kaplan unit and if so, when. Setter said that Unit 1 is supposed to return to a Kaplan but it is a large cap project. She said she doesn't know how units are prioritized but LMN will return to Kaplan in 2014 or 2015. Bettin said LWG is about eight years out because they will use the new Ice Harbor design. Fredricks asked about repairing using in-kind linkages. Bettin said he thought there was a rust issue that precluded a repair. (update unit 1 is scheduled to adjustable again in February 2016). He also noted that it is a design flaw for this family of units and all of the units could end up being fixed blade because of it. He also pointed out that historically we did not spill at this time of the year and we did not see adult passage problems.. Hevlin said he didn't believe LWG spill had anything to do with adult passage at the powerhouse. He said until we get the new forebay model built, we won't know for sure but with the old model, spill didn't affect the powerhouse.
- 4.1.5.** Juvenile fish transport – end of barging nearing. 16 August is the last day of barging. 18 August is the first day of trucking.
- 4.1.6.** LGS Unit 1 operation at low flow. Setter said there appears to be some inconsistency in the FPP guidance. She said there is some guidance in the FPP where the lower limit is defined in MW instead of lower 1%. This reduces flexibility. Marcus Smith, LGS plant manager, explained that there is a back eddy at the powerhouse when the TSW is operating. When there isn't enough flow through the Unit, the TSW flow overpowers the powerhouse and creates that eddy. When the Unit is able to operate at 16K, there is enough flow to push the back eddy out. Setter asked about the operation now that the TSW is closed for the season. Smith said now that the TSW is closed, flow doesn't

overpower the discharge from Unit 1. Baus expressed concerns and noted the FOP has detailed guidance. **ACTION: NWW will draft a change form to get the needed language in the FPP. In addition, the engineers will evaluate the tainter gate to see if it is suitable for opening and closing the TSW.** In the end, FPOM recognized the multiple potentially conflicting sections regarding unit and TSW operation. Smith added that with the undercutting of the spillway, flows are being pushed to the south. Setter requested he get photos of the conditions, if possible. Klatter requested RCC to issue a teletype to allow for operation of unit 1 less than 16 kcfs while the change form is being developed. Walla Walla will set up a trip to ERDC to look at project operations in the new model for flows below 35 kcfs.

4.2. NWP Updates

- 4.2.1.** BON mid-season fishway ROV inspection. Traylor conducted much of the inspection. The diffuser cover for FG6-18, at Cascades Island, was blown askew. About ¾ of the hole is exposed. FPOM discussed the risks to fish. **BON will close off FG6-18 and start to schedule an emergency dive as soon as possible. FPOM requested BON put the ROV in there to look for fish.** If there are none or few, the diver can put the grate in place.
- 4.2.2.** BON fish unit ROV inspection. Hausmann said there was nothing notable immediately reported. Dive Safety did the inspection.
- 4.2.3.** BON temps- modified sampling for the JMF and AFF. JMF on every other day sampling. AFF hit 71.9F on 7 August. CRITFC not sampling today.
- 4.2.4.** BON Updated Dewatering Plans. Still working on these.
- 4.2.5.** TDA mid-season fishway ROV inspection. Inspection occurred on 6 August. Everything looks good. Scanned the forebay turbine trashracks at the same time. Used the Dive Safety ROV, with the sonar scan. All trashracks except F1 looked clean. F1 had rocks piled up at the base of the trashrack. This is a result from the rocks sloughing off the underwater features. TDA will monitor this.
- 4.2.6.** JDA mid-season fishway ROV inspection. Everything looks good. One fishway was always in service during this inspection and the outages were very short today: South 0700 to 1230 and North 1230 to 1430 hrs.
- 4.2.7.** JDA fish pump #2. Turbine 2 was OOS due to thrust bearing pump failure since 7/10. It took a while to procure the necessary motor (got a spare one as well) and then we had to wait for JD Maintenance to complete line 3 work. JD South fishway was in criteria (but not optimal) all the time while turbine 2 was OOS.
- 4.2.8.** JDA temps- modified sampling for the SMF. Sampling Monday and Thursday. Full flow PIT detection is still in operation.

4.3. Research/FFDRWG updates. Approval letters, permits, etc located at www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/NWP%20Research/Research.html

4.4. RCC update.

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)
LWG	24	26	25
MCN	166	145	154
BON	172	144	158

4.5. Lamprey updates.

- 4.5.1.** BON WS lamprey structure. **SEE 5.1.**

4.5.2. JDA-S Lamprey collection temperature protocols. *At this time we could find no literature values to help guide in deciding an appropriate temperature limit, above which the trap should not be operated. We reviewed five years (2008-12) of trapping data for John Day Dam provided by Aaron Jackson (CTUIR). The mean mortality rate was 0.8% over a temperature range from 14.8 to 22.8 C (58.6 to 73.0 F) and there was no relation between mortality and water temperature (WQM tailrace). Therefore we ask trap operator to collect water temperature at the trap to help us determine an upper thermal limit.*

4.5.3. Tribal video at BON. **FPOM was ok with the filming occurring in the next couple of weeks.**

4.6. Avian. Gulls are decreasing and cormorants are headed up.

4.7. Critical Infrastructure. No update in August 2013.

4.8. BPA updates. No updates in August 2013.

5. Coordination/Notification forms (need concurrence).

5.1. 13BON51 Washington Shore Lamprey flume repairs. Tackley and Welton introduced the MOC. Welton covered the planned installation of the new hangers. This work requires divers. Fredricks asked why the DSM must be out. Welton explained the discharge is a problem for divers. NUE and NDE will need to be closed as well.

ACTION: Hausmann will confirm the monolith gates can be closed and bulkheads won't be needed. He will also inquire about the possibility of turning the DSM on/off each day.

5.1.1. Baus discussed the chum tailwater requirements and when those requirements go into effect. Baus asked if BOP was being coordinated as well. It was noted BOP wasn't mentioned in the MOC... but it should be. If we need to maintain 11.5' tailwater the first week of November, then that water may need to pass through the spillway. Baus also noted the B2CC gasses the river and is there a need for a special spill pattern. Bettin asked about the end date of 12 November instead of the November 9th date being discussed in other forums. Tackley responded that he calculated the amount of time the work would take and it ran all the way until the 12th.

5.1.2. Fredricks disagreed with the Fish Impacts section. He said there is going to be an impact. There will be increased fallback through unscreened units. Fish passage efficiency without screened bypass at PH2 will be impacted. Fredricks isn't as concerned about the 105% gas limit during the proposed time of year. He wants the adult and juvenile impacts acknowledged in the MOC. He suggested running the B2CC could mitigate the juvenile impacts. Fallback must be considered and recognized. Fredricks noted there is still a fair amount adult fish passage during the first two weeks of November. He expressed concern about operating turbine units at night and then turning them off during the day. This could potentially strand them in the PH2 tailrace.

5.1.3. Bettin asked how the structure would fail, if it did. Welton said when hanger rod 5 broke, the flume dropped onto the lateral supports and displaced some weight on hanger rod 6. Bettin said that if you cannot accomplish all of the work in the work window being discussed are you considering an option of waiting until the following winter maintenance period and risk failure. Bettin also asked about how long the structure is expected to be in place. Tackley said we need to have it in place at least three years to test passage efficiency.

Bettin asked if there would need to be an outage to remove the structure as well.

5.1.4. Bettin asked if it was possible to leave screens in and turn the DSM on and off each day. **Hausman said he would look into that.** Another thing to explore if flows are low is to leave some screens in place and not run those units. This would allow the project to return to full operation of the second powerhouse sooner at the end of the lamprey flume repair. . A decision to move forward or not needs to be made soon.

5.1.5. Baus asked about the fluctuations of tailwater elevation. The contracts usually state there will be normal tailwater fluctuations and during the fall/winter months, this could be several feet. Welton said he isn't sure but what the contractor will use as far as barges and cranes.

5.1.6. Coordination call scheduled for 1500 on 12 August.

5.2. 13LGS08 – Rescheduling of Doble Testing. LGS doble testing. Bettin asked if Unit 5 annual maintenance will be postponed. Smith said U5 annual has been moved to the following week. Setter asked if there is a problem with moving doble testing to 9-12 September. This will require a complete powerhouse shutdown for several hours on the first and last day; during those spill periods the project will use the patters outlined in the FPP. . Units 5 and 6 will be the only units operation To provide adult attraction water at the ladder entrance Hevlin requested opening spill bay 8 one stop, during the day (0500-1200), when Unit 5 and Unit 6 are operating. **This recommendation was accepted.** Bailey said he has concerns about it and he will keep an eye on it. Setter said the timeframe is so short, we should be fine.

6. Fish Passage Plan: The Draft 2014 FPP and Change Forms website is at: <http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/2014/changes/index.html>. All change forms reviewed to date have been posted. See the “*Production Schedule & Deadlines*” document for a timeline of events and due dates for change forms to be included the printed version of the 2014 FPP:

- Friday, 01 NOV 2013 – all Corps change forms due to Wright.
- Friday, 13 DEC 2013 – all change forms due to Wright.
- Tuesday, 31 DEC 2013 – final draft sections and change forms will be posted online for regional review.
- Appendix A (Special Project Operations and Studies) sections will be drafted by NWW and NWP as soon as final study designs and operations are finalized (via FFDRWG and/or FPOM), and are due to Wright by mid-February for inclusion in the final print version of the 2014 FPP.

6.1. 14BON001 PH2 Mid-Range Operation. *Pending NWD policy/legal review.*

6.2. 14BON005 6.6. navlock dewatering verbiage

6.3. 14BON006 facts and figures

6.4. 14BON007 avian and pinniped hazing

6.5. 14TDA004 6.6. navlock dewatering verbiage

6.6. 14TDA005 facts and figures

6.7. 14TDA006 avian and pinniped hazing

6.8. 14JDA002 6.6. navlock dewatering verbiage

6.9. 14JDA003 2.2.1. TSW removal

6.10. 14JDA004 facts and figures

6.11. 14JDA005 avian and pinniped hazing

7. Potential 2014 FPP changes.

- 7.1. Fredricks suggested including a calendar of dates when specific actions are scheduled to occur.
- 7.2. **All Projects:** Adult salmon diel passage data added to guide decision-making during scheduling of O&M activities. FPP location to be determined. Proposed at FPOM June 13.
- 7.3. **BON:** ITS operation when Unit 1 gates are OOS.
- 7.4. **JDA:** JDAS lamprey trap operations in Lamprey Appendix.
- 7.5. **MCN:** Debris spill protocol prior to TSW removal. Proposed at FPOM June 13.
- 7.6. **MCN:** remove language regarding transportation.
- 7.7. **MCN:** sawtooth model methodology.
- 7.8. **LGS TSW:** add criteria that SW will be closed no earlier than August 1 to ensure closure doesn't occur during subyearling migration. If low-flow criteria are achieved prior to August 1, the TSW will remain in service until August 1 unless an adult passage delay is observed or if necessary due to turbine unit operational constraints at low flows. Closing the TSW prior to August 1 will be coordinated with FPOM via an MOC.
- 7.9. **LGS Unit 1 low flow:** language to help clarify Unit 1 operation to help push out the back eddy.
- 7.10. **Appendix B:** remove language regarding MCN transport.
- 7.11. **Appendix or new section:** Guidelines for Avian & Pinniped Hazing. Proposed at FPOM April 11 and May 9.
- 7.12. Lorz requested project stats, such as number of turbine units, MW, max/min forebay, etc.

8. Task Group Updates.

- 8.1. Fish counting task group (Setter). Team members include Fredricks, Klatte, Mackey, Rerecich, Setter, Tackley, and Wills. Setter pulled together existing needs and gave that to Klatte. A meeting will be tentatively scheduled for after the August FPOM. Setter suggested there may be a place for video counting at some projects. The team can look at all of the options.
- 8.2. Avian task group. Chaired by NWW. Team members include: Cordie, Dugger, Fone, Fredricks, Hausmann, Madson, Setter, Skidmore, Trachtenbarg, Zorich, Zyndol. NWW will hold a meeting after the September FPOM. Zorich asked about the objectives of this task group. He noted that there is some disproportionate allocation of lethal take in the Basin. Fredricks suggested going dam by dam and looking at the effectiveness of our avian abatement program at each project. Klatte suggested bringing in the Port of Portland avian guy as well.
- 8.3. AFF mods (Rerecich). Modifications are not complete so task group will continue.
- 8.4. Sea Lion task group. (Stansell). Team members include: Fredricks, Conder, J. Skidmore, Hausmann, Mackey, Whiteaker, VanderLeeuw, Cordie.

9. Other.

- 9.1. Sturgeon kill between TDA and JDA. Lorz noted that on 24-25 July about two dozen adult sturgeon were found along the banks. ODFW suggested they had been there for about two weeks. CRITFC asked about JDA operations. Zyndol said that since Line 3 has been out, the Project has had very stable operations. In addition, the dam has anglers and hazers with eyes on the water and no one reported any sturgeon mortalities. Dugger suggested checking for parasite loads. **ACTION: Lorz will email Mackey the report CRITFC put together. Mackey will post and send to FPOM.**

9.2. Fish counts available to FPC. Lorz asked if FPC could call and get hourly data from the fish counters. Setter said it is a contract issue and we can't ask the contractor do that at this time. Benner will need to call Moody or Bailey to get the information.

10. Calendar items/ next FPOM agenda items. (Check the CY13 on the website)

DRAFT

Memorandums of Coordination



COORDINATION TITLE- 13 LGS 08 Rescheduling of Doble Tests

COORDINATION DATE - August 2, 2013

PROJECT - Little Goose Lock and Dam

RESPONSE DATE - August 15, 2013

Description of the problem Little Goose Dam Main T1 Transformer “Doble” testing was tentatively scheduled for August 5–15, 2013 (FPP Appendix A, Page A-19, Special Project Operations section 1.6 Doble Testing). Doble testing will not take place as planned for 2 reasons.

1. The BPA has determined that a transmission line circuit breaker at the Little Goose substation has failed. For practical reasons, investigation into the cause of this failure and the subsequent replacement of the circuit breaker is necessary prior to the start of Doble Tests. This work is scheduled to take place during the same August 5-15 time frame as the previously planned Doble Tests.
2. The Lower Granite line outages in support roof replacement and Doble Tests in August precludes the possibility of Doble Tests at Little Goose. Little Goose and Lower Granite Dams share the same transmission lines. One of these facilities must be in service to ensure the transmission lines remains energized. Should these transmission lines go out of service, the integrity and reliability of the regional power grid and continued electrical service to local utilities will be compromised.

The next available work window from BPA, Inland Power, project staff and the testing engineer is September 9 – 12, 2013. This date is the last available work window for this year. If not rescheduled, this work will not be completed and important equipment testing will not be conducted, resulting in WECC/NERC compliance issues. Non-compliance may force equipment shut down and the loss of generation capacity. For safety reasons, Doble Testing must be conducted during dry weather. Postpostment of these tests into the Fall and Winter months is not feasible. Doble testing is required to validate transformer operational conditions. Not performing the tests will put at risk transformer operational integrity and powerhouse reliability.

Type of outage required Doble testing for T1 Bank will require a total powerhouse outage, and 100% spill (except for station service) for up to 6 hours on September 9. By then, all preliminary work should be completed and T2 re-energized allowing generation availability of Units 5 and 6. T1 and turbine units 1 through 4 will be removed from service on September 9 from 0700 hours to September 12 at 1700 hours. Turbine unit 1% efficiency operations and turbine priorities will continue to follow fish passage plan requirements during this work. Another total plant outage lasting approximately 2 hours, will be required on the last day of the outage Sept 12th to remove clearance tags and restore T1 bank service. Because of the time and effort required, placing T1 in and out of service on a daily basis is not a practical option.

Impact on facility operation Total powerhouse shutdown is required for up to 6 hours while T1 is taken out of service on September 9 and for approximately 2 hours on September 12 when T1 is returned to service. During these periods, turbine unit 5 will be operated under speed-no-load conditions for station service. Under these conditions, approximately 5 kcfs will pass through the turbine and the remainder of river flow will be spilled. All adult fishway pumps will be available for service (pump #3 is expected to be back in service by August 9). The juvenile fish facility will continue to operate with diesel generator supplied electrical service.

Only turbine units 5 and 6 will be available for operation during the T-1 line outage. Since turbine units 5 and 6 require slightly more flow to operate, one can expect slightly less spill

(should spill take place) than if turbine units 1, 2 or 3 were available for service. Spill required under the Fish Operations Plan (FOP) will end on August 31.

Dates of impacts/repairs September 9 – 12, 2013

Length of time for repairs September 9 – 12, 2013

Expected impacts on fish passage

Adult Fish Impacts: Turbine units 5 than 6 would become operating priority units from September 9 to 12. This outflow pattern may intensify the counter-clockwise eddy at the powerhouse tailrace area. Adult fish guidance and attraction to the south shore entrances may be reduced and fish passage may be delayed. Project staff will monitor fish passage closely, if fish passage appears to be delayed, the project can offset these effects by increasing fish pump output to enhance outflow from the adult fishway entrances. The project can also manipulate flow patterns between Spill and Turbine units during the morning hours 0600 – 1000 hours during the highest fish passage times of the day increasing the attraction flows where needed. This availability of attraction capability should offset any problems associated with the changes incurred by the Unit outages. These capabilities would be coordinated through FPOM and RCC if needed to enhance passage needs.

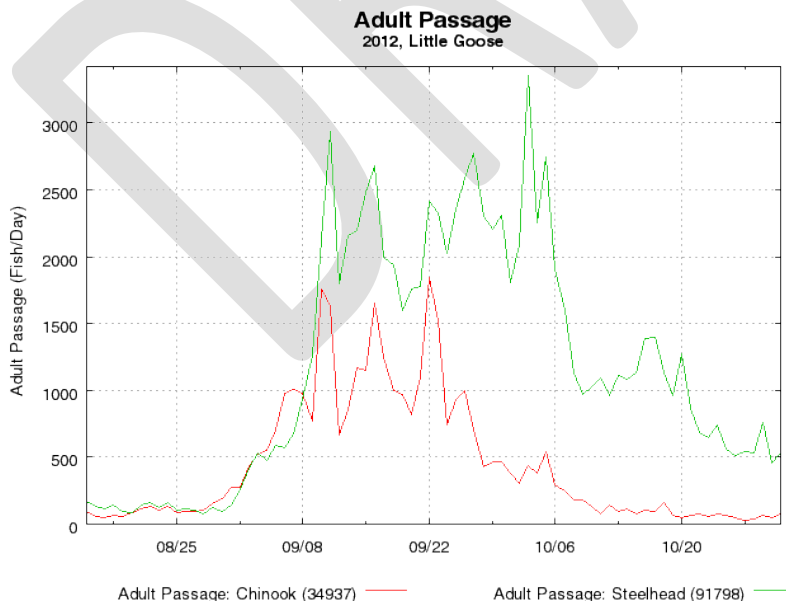
Juvenile Fish Passage Impacts: Fish will be entering the upper end of the collection gallery where juvenile fish are known to hold at times. Auxiliary diesel generator power will be available at the collection facility. PIT tag detection, fish collection, and sampling will continue as usual.

Potential Mitigation Actions:

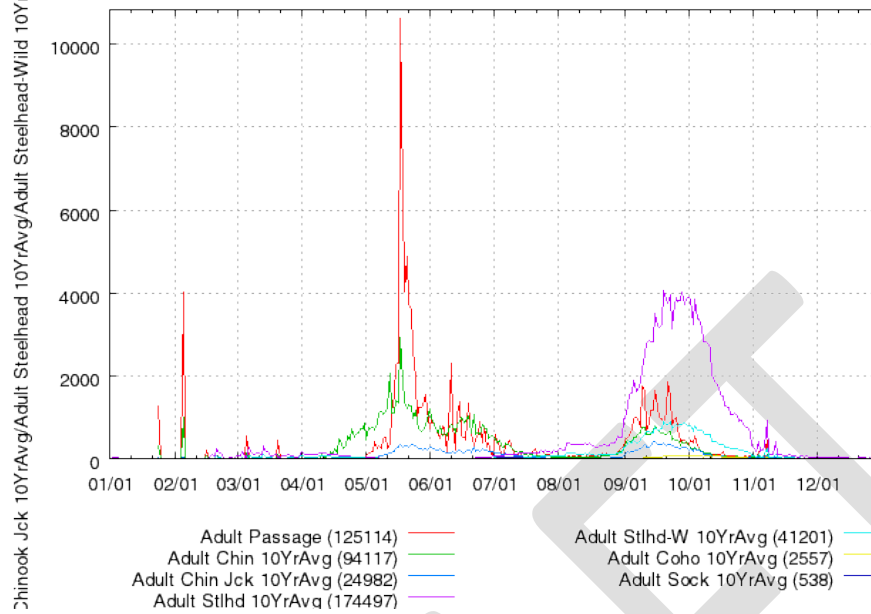
Operate spillbay 8 to minimize clockwise eddy on right bank of river to improve adult fish attraction to north shore entrances. Spill may shut down at night to maximize juvenile fish collection.

Operate all 3 fish pumps, and manipulate sluice way gates and diffusers to optimize attraction flow at the south shore entrances. Could also manipulate the water supply to maximize attract at the north powerhouse and north shore entrance. However, too much water in the downstream end of the collection channel will slow channel velocities.

Fish Passage Historical Data



Chinook Jck 10YrAvg/Adult Steelhead 10YrAvg/Adult Steelhead-Wild 10YrAvg
 2012, Little Goose, Chinook, 10YrAvg 2012-2003

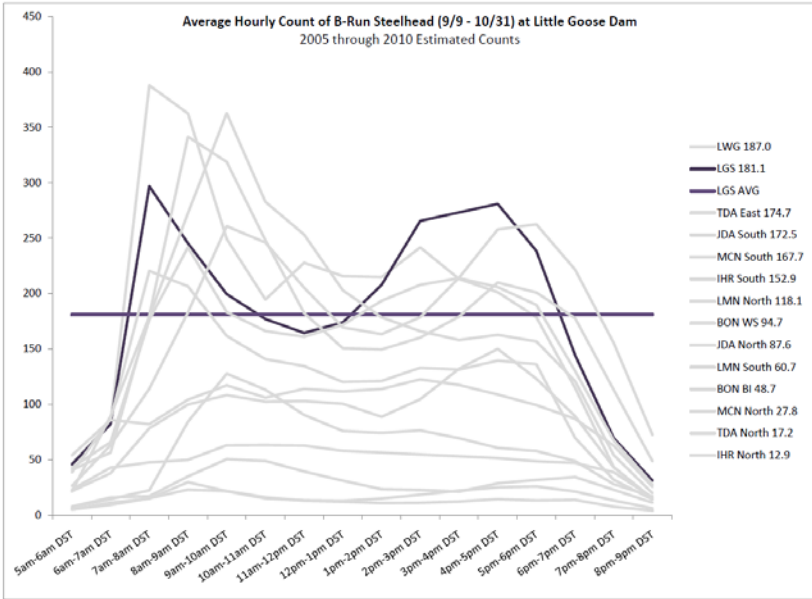
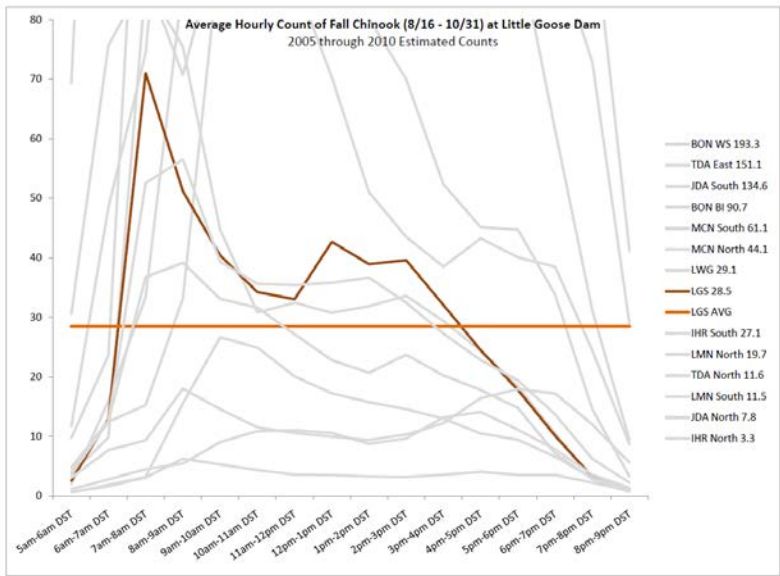


Little Goose Adult Fish Migration -10 Year Average 2003 - 2012

Dam	PassDate	ChinookAdult	ChinookJack	Steelhead	Unclipped Sthead	CohoAdult	CohoJack
LGS	9-Sep	606	227	1869	442	8	2
LGS	10-Sep	757	281	2168	514	13	3
LGS	11-Sep	759	336	2517	596	19	5
LGS	12-Sep	586	280	2777	638	20	3

Little Goose Adult Fish Migration - 9/9-9/12, 2010-2012.

Date	Adult Chinook	Jack Chinook	All Steelhead	Unclipped Steelhead	Adult Coho	Jack Coho
9/9/2012	768	370	1266	421	12	2
9/10/2012	1762	828	2127	634	24	10
9/11/2012	1626	944	2942	799	58	28
9/12/2012	667	379	1793	486	34	6
9/9/2011	536	203	1350	310	17	7
9/10/2011	582	190	1637	360	29	2
9/11/2011	922	233	2062	496	30	6
9/12/2011	779	240	2189	510	42	10
9/9/2010	1716	271	2787	769	20	2
9/10/2010	1655	300	3435	934	16	2
9/11/2010	1609	266	4323	1159	40	7
9/12/2010	904	126	4296	1140	36	1



Comments from agencies

From: Bill Hevlin - NOAA Federal [<mailto:bill.hevlin@noaa.gov>]

Sent: Friday, August 02, 2013 12:53 PM

Subject: Re: Coordination Request - 13 LGS 08 Rescheduling of Doble Tests

John,

Thank you for the timely coordination on this date change for the Doble testing at Little Goose. As you mention, the change in unit priority to units 5 and 6 on September 9 to 12 will reduce powerhouse tailrace conditions conducive to adult salmon and steelhead locating the south shore ladder entrances, likely resulting in tailrace migration delay over that time period. You also mention that there may be alternative powerhouse and spillway flow operations during the morning hours on those days which may aid adult location of the north shore ladder entrances. We will need to examine the FPP uniform spill pattern (no ASW) to see whether adjustment to a

