CENWP-OD 24 March 2011

MEMORANDUM FOR THE RECORD

Subject: DRAFT minutes for the 24 March 2011 FFDRWG meeting.

The meeting was held in the RDP 3B Meeting Room, Portland OR. In attendance:

Last	First	Agency	Office/Mobile	Email
Baus	Doug	USACE-NWD	503-808-3995	Douglas.m.baus@usace.army.mil
Conder	Trevor	NOAA	503-231-2306	Trevor.conder@noaa.gov
Eppard	Brad	USACE-NWP	503-808-4780	Mathew.b.eppard@usace.army.mil
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Haeseker	Steve	USFWS	360-604-2500	Steve_haeseker@fws.gov
Kruger	Rick	ODFW	971-673-6012	Rick.kruger@coho2.dfw.state.or.us
Langeslay	Mike	USACE-NWP	503-808-4774	Mike.j.langeslay@usace.army.mil
Lee	Randy	USACE-NWP	503-808-4876	Randall.t.lee@usace.army.mil
Lorz	Tom	CRITFC	503-238-3574	lort@critfc.org
Mackey	Tammy	USACE-NWP	503-967-5733	Tammy.m.mackey@usace.army.mil
McCann	Jerry	FPC	503-230-4291	jmccann@fpc.org
Medina	George	USACE-NWP	503-808-4753	George.J.Medina@usace.army.mil
Richards	Natalie	USACE-NWP	503-808-4755	Natalie.A.Richards@usace.army.mil
Ruff	Jim	NWPPC	503-222-5161	jruff@nwcouncil.org
Ploskey	Gene	PNNL	509-427-9500	Gene.ploskey@pnl.gov
Ruckwardt	Sondra	USACE-NWP	503-808-4691	Sondra.k.ruckwardt@usace.army.mil
Schneider	Carolyn	USACE-NWP	503-808-4770	Carolyn.b.schneider@usace.army.mil
Schwartz	Dennis	USACE-NWP	503-808-4779	Dennis.e.schwartz@usace.army.mil
Skalski	John	UW-CBR	206-616-4851	Skalski@u.washington.edu
Sweet	Jason	BPA	503-230-3349	jcsweet@bpa.gov
van der Borg	Bob	USACE-NWP	503-808-4782	Robert.d.vanderborg@usace.army.mil
Wills	David	USFWS	360-604-2500	David_wills@fws.gov

1. **Finalized results from this meeting.**

1.1. Future meetings scheduled for many items needing final decisions.

2. The following documents were provided or discussed.

2.1. *Agenda*.
2.2. *Medina handout.*
2.3. *Richards handout.*
2.4. *BON Washington Shore lamprey mods ppt.*
2.5. *Lower River Survival Study handout.*

3. Action Items

3.1. Schwartz to locate better surrogate for kelt study, use Wertheimer paper as reference, talk with other hatcheries for excess broodstock or post-spawned steelhead. *Completed. Schwartz and Conder worked with ODFW to get the fish from Pelton-Round Butte. CRITFC assisted with sea lion hazing at the outfalls.*
3.2. [Mar 11] B2 FGE. **ACTION:** Schwartz will re-send the 30% Alternative report and schedule a special FFDRWG in early May.
3.3. [Mar 11] TDA back-up AWS. **ACTION:** Tackley will schedule a meeting, preferably the same day as the B2 FGE meeting.
3.4. [Mar 11] Adult PIT tag detectors at TDA and JDA. **ACTION:** Eppard will schedule a special FFDRWG to discuss the PIT tag plan.
3.5. [Mar 11] JDA north ladder improvements. **ACTION:** Richards will check with Schlenker to determine at what flows ladder criteria will be violated with only four pumps.
3.6. [Mar 11] JDA survival study. **ACTION:** Skalski will submit an addendum to the study proposal. The addendum will outline all the various assumptions and how the analysis will occur post study.

4. B2 FGE. Medina provided a handout. This item pertains to the turbulence in the gatewell and the belief that the turbulence may be negatively impacting sub-yearling survival.

4.1. Alternative evaluation and model test procedures complete and available. Lee asked if there is a way to narrow the alternatives down. Many of the alternatives pertain to major modifications to the dam. Fredricks asked to schedule a meeting to discuss the alternatives. Medina suggested late April or early May. **ACTION:** Schwartz will re-send the 30% Alternative report and schedule a special FFDRWG for early May.
4.2. CFD validated against field velocity measurements and date from physical model used for constructing existing turning vane.
4.3. CFD model will be used to screen and identify the more potentially viable alternatives this week.
4.4. Completion of 60% Alternative Evaluation Report is scheduled for end of April. Final report is scheduled for September 2011.

5. B2 Orifice Lighting. Follow on to the work completed at MCN. This is closely tied to the B2 FGE alternatives.

5.1. Site visit observations:

5.1.1. No significant vacuum being created in the orifice tubes.
5.1.2. Jet disturbance is a result of the jet striking the valve opening prior to entering the channel
5.1.3. A combination of shortening the valve offset from the wall and increasing the valve opening may allow the jet to freely clear the valve opening.

5.2. Project scope:
5.2.1. Evaluate and identify alternatives with most potential
5.2.2. Develop preliminary designs.

5.3. 60% report out by end of July 2011 and final report completion by mid-November 2011.

6. B2 Corner Collector Gate Hoist. Plans and specs are complete. In final negotiations with the contractor. The fabrication would be in late Spring and installation will be in winter 2011/12. The contractor will be given a start date of 1 September 2011.

7. JDA Configuration and Operation Plan.

7.1. COP Addendum. Should be completed and ready for review by end of April.

7.2. CAES- report should be completed by the end of this year.

7.3. Deflector Optimization. Medina said the deflectors will be tied into an existing DDR.

7.4. Avian Wires. Contractor on-site and should have the wires repaired by 1 April. Wires will be returned to 20' above the water. Vibration will be addressed and a method to allow for in-house adjustment will be installed. Lorz asked if the two wires were installed. Medina said the last two were not installed but the array provides adequate coverage without them.

7.5. TSW. Langeslay asked if we have discussed the permanent TSW. The current TSWs haven't been painted and cannot be lifted by the Project crane. A PDT is working on designing permanent structures.

8. The Dalles North and East Adult Fish Ladder Study.

8.1. Alternatives report currently being drafted.

8.2. Focus of recommendations;
8.2.1. Rehab fish units and purchase spare parts.
8.2.2. In the event of failure, utilize the east ladder entrances.
8.2.3. Identify available hydraulic resources (fish-lock, sluiceway, etc). 1400 cfs is the target for back-up flow. Medina stated we do not want to do anymore studies. He would like to choose an option currently under investigation. Fredricks would like to have a meeting to discuss the options in more detail and before the PDT has moved too far down the road of narrowing options.
ACTION: Tackley will schedule a meeting, preferably the same day as the B2 FGE meeting.
8.2.4. Low cost/available alternatives/features.

9. **Turbine Survival Program**. Direct capture plans and specs complete. Need a biological evaluation plan prior to the installation of the turbine units. Looking at injectable tags, external tags, etc, but the options are limited. Need to get together with FFDRWG and the PDT to discuss further options. Fredricks recommends including this discussion on the 4 April meeting agenda. Medina said Schwartz is working with ERDC to put together a strawman.
   - **9.1.** USGS completed a data correlation report for JDA/MCN. There appears to be some correlation but there enough data gaps that the report is considered inconclusive. Schwartz is working on internal review comments then he will send it to the Region for review.
   - **9.2.** B1/B2 studies continue at ERDC. Budget constraints may slow the B2 studies.
   - **9.3.** ICH model results. Fredricks said he was not as thrilled with the results as he had expected to be. There was too much swirl below the runner and bead spin from all areas on the blade. He felt they may have been trying to retain too much efficiency, from a fish perspective. The model was set correctly. Fredricks felt the blade may have been too flat. He suggested fish going through the elbow with the turbine modeled may be worse than the existing turbine. Sweet asked if the Kaplan version would be tested as well. Fredricks said the Kaplan version would be looked at starting in June. The Kaplan version may have more blades.
   - **9.4.** Langeslay asked about the B1 operating range. Schwartz is working on the white paper; it should be available for internal review before the end of March. It was noted the change should be in place before the Performance testing starts. Sweet said BPA is ok with the proposed changes since the range is shifting but the width of the range isn't. Fredricks said the range may increase, except at B2 which has a narrower range due to the B2 FGE issues.

10. **Survival Study Methods.** No updates.

11. **JSATS Transmitter Downsize.** Eppard reported he received the first bi-monthly update on progress. He offered to send the reports out to those interested. Conder asked if these are the injectable tags. Eppard said they will be injectable. Engineers are investigating battery options. Transducer size may become smaller. Coating material options, such as Teflon, are being investigated. Code space management is another issue. 65,000 codes are available for 2011, may need more codes. An alternative may be to increase the bit length to exponentially increase the available codes. The code may be altered to better identify targeted tags. Conder asked if the same efficiency is the goal. Eppard said the current efficiency may be exceeded but not reduced.

12. **Avian Predation Actions.** New PM, Warner, is out on maternity leave. Sondra will be handling the project during Warner's maternity leave.
   - **12.1. Island construction-** island construction is going forward. The geotechnical exploration is happening this week, but the team doesn't believe the island construction will be stopped. One of the floating islands is having difficulties. The island is getting beat up by waves, but the contractor is making repairs.
   - **12.2. Inland monitoring.** The inland monitoring will occur at JDA and TDA. No lethal take/stomach content analysis for 2011. Fredricks said he is trying to push through a more systematic avian evaluation at each Project, something that can be handed off to Project Fisheries and reported in weekly reports. NWP is lead for a cormorant management plan. Lorz asked about lamprey protection and if

lethal take is completely off the table. Langeslay said there is no flexibility with lethal take this year however, there is flexibility in moving hazers as needed during the lamprey migration.

13. JDA and TDA PIT tag detectors. VanderBorg will be the PM. A special FFDRWG will be held to review the scope of work. A completion date in 2012 is expected. Wills asked about the purpose and goals. The AMIP states we will do a study this year and then evaluate whether construction is warranted in future years. Conder suggested the PIT tag data would be a benefit for the Zone 6 fishery. Langeslay cautioned that it may create more confusion given all the over-shoot. **ACTION:** Eppard will schedule a special FFDRWG to discuss the PIT tag plan.

14. Bonneville Fish Unit Trash Rake. No PM as yet. Mackey and Brian Smith working on a paper outlining automated trash rake needs at BON; priorities (from a Project perspective); estimated costs, etc. This will likely be discussed at FPOM rather than FFDRWG.

15. Adult Salmon and Steelhead Studies.

15.1. TDA ITS. BPA comfortable with the kelt configuration through the 2013 season.

15.2. BON ITS. Low forebay due to TDA low tailwater has reduced the effectiveness of the ITS. The gates have less than 2.5' flow over the top of the gate. BPA expects to have annual discussions on the B2CC/PH1 ITS kelt ops.

16. John Day North Ladder Improvements.

16.1. Richards thanked everyone for allowing the contractor to make the light box repairs.

16.2. The entrance plans and specs should be available by 4 April. Tackley will send them out for review.

16.3. Tackley requested additional in-water work time for the entrance work. He has worked with the Region and will send an updated coordination form.

16.4. Excavation for the electrical building to begin in April.

16.5. Langeslay pointed out that the numbers of pumps planned for installation in 2012 is not the full complement due to funding constraints. The ladder will remain in criteria for most flows but not all flows. Fredricks asked if the conditions will be worse than what we have seen. Richards said she will have to ask Schlenker. **ACTION:** Richards will check with Schlenker to determine at what flows ladder criteria will be violated with only four pumps.

17. Lamprey Program. Richards provided a handout. The team is headed to ERDC on 11 April to look at the model. Next Accord meeting will follow the SCT meeting

17.1. BON WS NDE mods. Richards presented via .ppt the plans for the mods. AWS flow will come from behind the DSM dewatering screens instead of from pumps. The pipe will be 36" and need to step down to an 18" pipe before reaching the LPS.

17.1.1. Richards asked for an exception to allow excavation work to start during the fish passage season. The plan is to award in June 2012 to allow for fabrication. Fredricks asked for specifics. Richards said 60-80 decibels during July- September.

Fredricks said no, that is the peak of the run. There may be some flexibility if working at night. Richards asked if there would be a possibility of doing any of the excavation in June – July. Regional reps said there may be a possibility but it depends on time of day and what kind of work would be done. Will request a start date of 15 November, similar to the start date originally scheduled in 2010.

17.1.2. Fredricks stressed the need for a no effect determination since this work isn't covered under the existing BiOp.

18. B1 ITS gates. Schwartz provided and update. Repairs to the seals have been completed. The gates are currently in manual due to a problem with the transducers talking with the PLC in the Control Room. All should be repaired in the next couple of weeks. In addition, the indicator arm will be installed on the gates starting on 28 March. Sweet suggested a B1 Sluiceway app for Fredricks' phone so he could see the elevation at any time.

19. Lower Columbia River Survival Study. Eppard provided a schematic.

19.1. Eppard explained that the original study had a single treatment at JDA, TDA and BON. Since agreement could not be reached regarding JDA, there will be two treatments (30% and 40%) at JDA. The purpose of the study is to estimate dam passage survival. No test, no study other than estimate dam passage survival. Will use the virtual paired release model.

19.2. Lorz asked if a comparison could be made to PIT tagged fish in the same reach (forebay entrance line to BON tailrace). Skalski said that information can be calculated. Using the tailrace may result in some false positives due to dead fish. The data will be available so the comparison may be made if desired. Haeseker suggested, since the fish are double tagged, you could estimate lambda by using the JSATS arrays below BON for the acoustic tags and using the PIT tag detections in the same way normal PIT tag detections are defined at JDA and BON. Skalski asked if the arrays would be in the same place to account for the same bias. He said BON is a difficult dam due to the configuration of the various passage routes.

19.3. Lorz asked if there would be any site specific differences between the R2 and R3 releases. McCann asked if there is a potential for greater predation on fish released in different areas. The assumption is that the R2 and R3 fish will experience similar handling effects. The R2 fish may be disoriented prior to entering a high predation area and that could potentially bias the results. Skalski said the fish are released across the river to avoid releasing all fish in the same spot. Ploskey said the fish are going to be released below the islands and where flow is steady and constant and velocity is high, that there are no eddies present. Eppard added that its not likely that predators will hold given the lack of habitat and increased flow.

19.4. Haeseker asked what the model assumptions are in regards to tagging and handling effects. Skalski said they look at individual tagger bias. In terms of delayed tagging effects, the R1 fish are fresh fish that form a virtual release group when they reach the face of the dam. R2 and R3 are releases of fresh fish and the sites are located such to account for post tagging mortality. Haeseker requested these assumptions be added to the list of assumptions. He believes there is a biological basis to assume the R2 may experience higher predation than R3. Skalski said the S2 and S3 distance can be adjusted to different downstream arrays if needed and it is what was done in 2010, but the results showed similar results as the detection field moved further downstream. Fredricks said the reason for the 2010 results is because the distance between R2 and R3 doesn't change.

19.5. Eppard requested people submit their comments on the JDA portion of the study by Wednesday 30 March, 2011. If there are comments on the model, Langeslay recommends everyone review the document Skalski wrote in 2009.

19.6. Fredricks said he has comments on the two operations at JDA. Eppard said there would be no randomized blocks. The 30/40 blocks would be systematic in four day blocks (two days for each operation). The switch from one to the other would occur at 2000 or 2100. The proposal details the times and locations of the releases. There were questions about how fish would be assigned to an operation. What happens if spill was 35%? These details will need to be discussed post season, after it can be determined if that is even an issue. Kruger asked why the blocks wouldn't be randomized. Skalski said there isn't a survival test between 30% and 40% but a study of survival through the dam at both 30% and 40%. Since the data is pooled, then the randomization isn't as important. Eppard added that the goal is to get equal distribution across the season of both operations. Sweet asked if it would be an issue for everyone if BPA looked at the schedule and changed the spill blocks to accommodate weekend preferences (more or less spill on weekends versus the weekdays).

19.7. Fredricks asked about making sure the common control is truly homogenous between the two spill conditions. Skalski said they considered separate 30% and 40% controls. The R2 line should be below the hydraulic effects of the dam. Kruger said that while it may be below the hydraulic effects, there may still be water quality effects. Virtual release groups could be formed for each of the spill groups but there is a dead fish issue. **ACTION:** Skalski will submit an addendum to the study proposal. The addendum will outline all the various assumptions and how the analysis will occur post study.

19.8. Haeseker asked about the forebay estimates. Why are some measured by mean v. median? He also stated that at some dams forebay residence time is report for 100 m upstream where others are 2 km upstream. Skalski said the Accords used the term mean instead of median. Haeseker requested mean and median be reported in the final reports. Eppard stated the 100 m was used to ensure that we weren't "back sliding" from previous data per the Fish Accords. The forebay line is the boundaries, even though some are using the term BRZ is being used synonymously.

19.9. Eppard asked Lorz if the Corps needed to continue estimating forebay residence time at the 100 m line, if the forbay entrance line was acceptable. Lorz said the forebay entrance line was acceptable.

19.10. Haeseker asked about the distribution of the data, raw and processed. Eppard said the data could be made available after the draft report is out for review. Skalski will create a repository for the data. Ruff said it would be nice to have the management decision framework available for discussion.

19.11. Eppard summarized the main issues.

- **19.11.1.** R2 more prone to predation than R3.
- **19.11.2.** Common control issue.
- **19.11.3.** Systematic operation of JDA spill.
- **19.11.4.** Data access.
- **19.11.5.** Comments due by 30 March.

20. Upcoming meetings.

20.1. Special FFDRWGS and ERDC trips throughout April.

20.2. NWW FFDRWG- 4-5 May.
20.3. NWP FFDRWG- 2 June.

March 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb 27 - Mar 5	**Feb 27**	**28**	**Mar 1** NWW ERDC TRIP Adult steelhead study at BON Fish passage season TDA ITS open Video fish counting sta 8:30am 9:00am Bonn 9:00am 10:00am FPAC	**2** 9:00am 12:00pm TMT	**3** 9:00am 11:00am sturgeon task group (UNCLASSIFIED) - Hausmann, Ben J NWP	**4**	**5**
Mar 6 - 12	**6** Happy Birthday	**7**	**8** 9:00am 10:00am FPAC	**9**	**10** 9:00am 3:00pm FPOM	**11**	**12**
Mar 13 - 19	**13** Happy Birthday	**14**	**15** 9:00am 3:30pm Willamette RME 9:00am 10:00am FPAC	**16** 9:00am 12:00pm TMT	**17** 9:00am 12:00pm SCT	**18**	**19**
Mar 20 - 26	**20**	**21** 9:30am 5:00pm 3DA-N upper ladder dewater	**22** 9:00am 10:00am FPAC	**23**	**24** 9:00am 1:00pm NWP-FFDRWG	**25**	**26**
Mar 27 - Apr 2	**27**	**28**	**29** 9:00am 4:00pm Willamette Fish Passage Team 9:00am 10:00am FPAC	**30** 9:00am 12:00pm TMT	**31** Video fish counts end a 9:00am 12:00pm SRWG- Juvenile Survival	**Apr 1**	**2**

April 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mar 27 - Apr 2	**Mar 27**	28	29	30	31	**Apr 1** Juv. bypass begins Visual Fish counts 9:00am 12:00pm SRWG- estuary	2 Snake River spill
Apr 3 - 9	3	4 11:00am 4:00pm TSP meeting	5 9:00am 3:00pm 2012 Research Summary Objectives 9:00am 10:00am FPAC	6	7 1:30pm 3:00pm Lamprey Collection Coordination Meeting (CONFERENCE CALL ONLY) - Tackley, Sean C NWP	8 9:00am 3:00pm Bi Monthly Lamprey Meeting (UNCLASSIFIED) (Conference Call) - Richards, Natalie A NWP	9
Apr 10 - 16	10	11 NWW-McNary Entrance Lamprey Model Trip	12 9:00am 10:00am FPAC	13 9:00am 12:00pm TMT	14 9:00am 3:00pm FPOM	15	16
Apr 17 - 23	17	18 NWW ERDC trip	19 Happy Birthday Juv. transport 9:00am 10:00am FPAC	20	21 9:00am 12:00pm SCT	22	23
Apr 24 - 30	24	25	26 7:00am Salmon Recovery conference - 5:00pm 9:00am 10:00am FPAC	27 Happy Birthday 9:00am 12:00pm TMT	28	29	30

May 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 1 - 7	**May 1** Happy Birthday	2	3 9:00am 10:00am FPAC	4 NWW FFDRWG	5	6	7
May 8 - 14	8 Mother's Day	9 delayed mortality workshop	10 9:00am 10:00am FPAC	11 9:00am 12:00pm TMT	12 9:00am 3:00pm FPOM	13 9:00am 4:00pm SRWG	14
May 15 - 21	15	16	17 9:00am 10:00am FPAC	18	19 9:00am 12:00pm SCT	20	21
May 22 - 28	22	23	24 9:00am 10:00am FPAC	25 9:00am 12:00pm TMT	26	27	28
May 29 - Jun 4	29	30 Memorial Day Holiday	31 9:00am 10:00am FPAC	**Jun 1**	2	3	4

June 2011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May 29 - Jun 4	**May 29**	30	31	**Jun 1**	2 9:00am 1:00pm NWP-FFDRWG - Mackey, Tammy M NWP	3	4
Jun 5 - 11	5	6	7 9:00am 10:00am FPAC	8 9:00am 12:00pm TMT	9 9:00am 3:00pm FPOM	10	11
Jun 12 - 18	12	13	14 9:00am 10:00am FPAC	15	16 9:00am 12:00pm SCT	17	18
Jun 19 - 25	19 Father's Day	20	21 9:00am 10:00am FPAC	22 9:00am 12:00pm TMT	23	24	25 Happy Birthday
Jun 26 - Jul 2	26	27	28 9:00am 10:00am FPAC	29	30	**Jul 1**	2