

DRAFT 13 November FPOM MINUTES

CENWP-OD

15 November 2007

MEMORANDUM FOR THE RECORD

Subject: DRAFT Minutes for the 13 November 2007 FPOM meeting.

The meeting was held in the St. Helens Room, 1201 NE Lloyd Blvd. In attendance:

Last	First	Agency	Office	Email
Adams	Jim	USACE	503-808-3938	James.r.adams@usace.army.mil
Bailey	John	USACE	509-527-7123	John.c.bailey@usace.army.mil
Benner	David	FPC	503-230-7564	dbenner@fpc.org
Bettin	Scott	BPA	503-230-4573	swbettin@bpa.gov
Cordie	Bob	USACE	541-298-7406	Robert.p.cordie@usace.army.mil
Fredricks	Gary	NOAA	503-231-6855	Gary.fredricks@noaa.gov
Hevlin	Bill	NOAA	503-230-5415	Bill.hevlin@noaa.gov
Jonas	Mike	FFU		
Kiefer	Russ	IDFG	208-334-3791	rkiefer@idfg.idaho.gov
Klatte	Bern	USACE	503-808-3943	Bernard.a.klatte@usace.army.mil
Kruger	Rick	ODFW	971-673-6012	Rick.kruger@state.or.us
Lee	Randy	USACE	503-808-4876	Randall.t.lee@usace.army.mil
Lorz	Tom	CRITFC	503-238-3574	lor@cirtfc.org
Mackey	Tammy	USACE	503-808-4305	Tammy.m.mackey@usace.army.mil
Martinson	Rick	PSMFC	541-296-8989	rickdm@gorge.net
Moody	Greg	USACE	509-527-7124	Gregory.p.moody@usace.army.mil
Richards	Steven	WDFW	509-545-2050	richaspr@dfw.wa.gov
Schwartz	Dennis	USACE	503-808-4779	Dennis.e.schwartz@usace.army.mil
Scott	Shane	NWRP	360-576-4830	Sscott06@earthlink.net
Skidmore	John	BPA		jtskidmore@bpa.gov
Stephenson	Ann	WDFW	360-906-6769	stephaes@dfw.wa.gov
Swenson	Larry	NOAA	503-230-5448	Larry.swenson@noaa.gov
Wills	Dave	USFWS	360-604-2500	David_wills@fws.gov

1. B. Klatte started the meeting with introductions. Attendees are listed above. No one called in.
2. October FPOM meeting minutes were approved, with the addition of Shane Scott to the list of attendees. The agenda was approved after #9 BPA pikeminnow program was moved to just after #3.
3. Action Items.
 - 3.1. [Oct 07] J. Adams requested some discussion on the Water Management Plan so altered operations for navigation can occur quickly. **ACTION:** B. Hevlin, J. Bailey and J. Adams will discuss appropriate language for inclusion in the FPP.
 - 3.2. [Oct 07] Dam Angling and Hazing program plans. **ACTION:** D. Wills will send an example of a lethal take permit application to Klatte, Cordie and Mackey.
 - 3.3. [Aug 07] Draft tube grizzly drains. **ACTION:** BON and TDA to work on a design for new grizzly grates.

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- 3.4. [long time ago] Switch Gate Seal at BON: **ACTION:** TDA and BON will collaborate on new, possibly air bladder, seals. B. Hausmann needs more information regarding the continuous flushing flow request from NOAA Fisheries.
 - 3.5. [Nov 07] Pikeminnow removal at Corps collection facilities. **ACTION:** T. Mackey to find the FPOM minutes detailing USACE policy. **ACTION:** J. Bailey and T. Mackey will collect info on pikeminnow collection at the projects. Ask the Project bios if this is time effective. B. Klatte will look into the legal issues.
 - 3.6. [Nov 07] Pinniped sightings at Bonneville. **ACTION:** FFU will keep an eye on the pinniped numbers and update FPOM at the December meeting. B. Klatte will find the contract information and the proposed hazing start date. **STATUS:** *The contract runs from 1 February to 30 September 2008.*
 - 3.7. [Nov 07] Video counts and the web. **ACTION:** J. Dalen will look into including additional information on the website. **STATUS:** *Notes are posted at <https://www.nwp.usace.army.mil/op/fishdata/home.asp>.*
 - 3.8. [Nov 07] BON spillway erosion repairs and survival information. **ACTION:** D. Schwartz will send out a packet of information prior to Thanksgiving. **STATUS:** *Information sent out on 20 November.*
 - 3.9. [Nov 07] BON VBS cleaning criteria. **ACTION:** D. Schwartz to send out criteria and schedule for FPOM review by the December meeting.
 - 3.10. [Nov 07] TIE crane and TIES. **ACTION:** B. Klatte will head up an ad-hoc committee to put together a fact sheet on the TIES. The committee will consider the impacts of the B2CC, BGS, etc on the effectiveness of the TIES. Committee members include Klatte, Schwartz, Bettin, Fredricks, Wills and Mackey. First meeting is 10 January immediately following FPOM.
 - 3.11. [Nov 07] TDA stub weir removal. **ACTION:** D. Clugston to work up the cost estimates and get the Schlenker analysis on paper.
 - 3.12. [Nov 07] JDA FOG testing procedure. Fredricks would like to see justification for the operation put in the FPP change form. JDA plans on testing the procedure the week of 25 November. **ACTION:** B. Cordie will take the results of the test and make changes to the FPP change request form.
 - 3.13. [Nov 07] FPP Comments. **ACTION:** T. Mackey to send NWP drafts to RCC NLT 30 November.
 - 3.14. [Nov 07] FPP Review meeting. **ACTION:** B. Cordie to look into reserving the Westrick room for 25 January. **STATUS:** *Room reserved on 20 November for 25 January.*
 - 3.15. [Nov 07] JDA U16. **ACTION:** B. Cordie to provide an updated status report in December.
 - 3.16. Discussion of JDA SMF future operations. **ACTION:** D. Schwartz will set up a meeting for all the necessary participants to really, thoroughly discuss the future monitoring needs at the JDA SMF. **STATUS:** *Mackey talked with Lorz about a meeting. Lorz indicated he would meet with other FPAC members first to discuss smolt monitoring needs. Mackey is waiting to hear back.*
4. BPA pikeminnow program. (J. Skidmore)
 - 4.1. Dam angling and sport reward program. John Skidmore reported the catch numbers for the 2007 fishery was 148,000 fish. ODFW estimates this was 15-17% exploitation rate. USDA caught 7552 fish in 2007 compared with 3300 in 2006. The tribal fishermen caught about 2000 fish in 2001. BPA proposes continuing the program in 2008, but they are currently in a budget crunch. Last year USDA was funded by the extra money left over from the sport reward fishery. There may be some funds for this year as well. The USDA contract is about \$92K/year. G. Fredricks mentioned that we need to consider not only total numbers but also the quality of fish. Larger fish are more voracious predators and those are the ones we want to target. Money should be earmarked for this activity rather than rely on the surplus from the sport reward fishery. Skidmore indicated that the budget goes to the council, but BPA is committed to continuing the program. He mentioned B. Cordie may have indicated there were some funds available from USACE. S. Bettin was going to talk to B. Klatte. D. Schwartz asked about expanding the program to Bonneville. Fredricks said the BiOp mentions looking at other sites for removal as well. Skidmore indicated that it was more cost effective to do TDA/JDA.

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- 4.2. USACE authorized euthanasia at Corps facilities. Skidmore mentioned that he heard USACE elected to not remove pikeminnow from collection facilities. J. Bailey indicated there had been lots of controversy about lethal take by Corps biologists. He said that Dave Hurson had previously stated USACE will not kill fish. USACE is not in the business of intentionally killing fish. **ACTION: T. Mackey to find the FPOM minutes detailing USACE policy.** More debate occurred regarding whether the Corps biologists should be killing fish. It is a slippery slope, bad publicity, and undesirable. Right now, any pikeminnow in the samples are released back to the river. These are native fish and the sport reward is not an eradication program. What are the numbers seen at the projects? R. Kiefer would like to know if the projects think this would be cost effective and if they could handle the carcasses. **ACTION: J. Bailey and T. Mackey will collect info on pikeminnow collection at the projects. Ask the Project bios if this is time effective. B. Klatte will look into the legal issues.**
- 4.3. The question was asked if USDA were keeping all fish caught from the tailrace deck. Skidmore indicated 9" was the minimum size to be kept. This is considered the threshold between non-piscivorous and piscivorous behaviour. J. Bailey mentioned smallmouth bass take a number of smolts as well. Skidmore mentioned that a workshop will be held to discuss the options for non-indigenous, piscivorous fish control. These would include the warm water sport fish such as bass, walleye, etc.
5. Updates. (B. Klatte)
 - 5.1. Pinnipeds return to Bonneville. Harbor seal, California and Steller sea lions seen.
 - 5.1.1. [M. Jonas provided a handout.](#) Updates will be provided at future FPOM meetings. The task force recommends lethal take. Some discussion as to if we should start hazing Stellers now. **ACTION: FFU will keep an eye on the pinniped numbers and update FPOM at the December meeting. B. Klatte will find the contract information and the proposed hazing start date.** S. Bettin asked if Stellers could be targeted now and what does hazing cost? Chum are in the system so seal bombs could be a problem.
 - 5.2. New Bonneville winter maintenance schedule will be emailed with the minutes. BI dewatering delayed two weeks. This is ok with the fish counting contract.
 - 5.3. BON FOG sea lion bars- meeting scheduled for 19 November to discuss mods. B. Klatte and T. Mackey to attend.
6. Adult fish counting services. (G. Moody). This is the last year for video counts at TDA, JDA, MCN, LMN, ICH, LGS. BON and LWG will be the only two projects with video counts. R. Kiefer asked how quickly the numbers are updated. He would also like some indication on the website that the counts are not 24 hour counts. A. Stephenson clarified that WDFW is allowed a four day lag time in the winter to view video and get the counts to John Dalen. **ACTION: John Dalen will look into including additional information on the website.**
7. BON spillway erosion repairs and survival information. (D. Schwartz). Contract will be awarded at the end of the month. The contractor will mobilize by mid-December. A 27 November SRWG meeting will discuss Bonneville Project and spillway proposals. At this meeting bay by bay survival will be available. **ACTION: D. Schwartz will send out a packet of information prior to Thanksgiving.**
8. BON PH2 VBS cleaning criteria discussion. (D. Schwartz). D. Schwartz provided a handout. All FGE mods will be completed this winter maintenance period. The VBS cleaning criteria will be included in the 2008 FPP. The criteria is as follows:
VBSs to be cleaned at 1.1' Mon-Wed and .9' on Thurs. All three screens will be cleaned for any unit with a screen exceeding the differential criteria. Units do not need to be shutdown for cleaning. **ACTION: D. Schwartz to send out criteria/schedule for FPOM review by the December**

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meeting. B. Cordie asked if JDA should be using the same criteria. **FPOM said the same criteria are not needed, but some criteria should be developed.**

9. TIE crane. (B. Klatte). TIE crane boom is still broken. Crane is used for many projects besides just installing and removing TIES. The crane was on the UFR, submitted to large cap, and now it is back at the District. Is it O&M or CRFM responsibility? The new cost estimate for repairs is \$1.1 million. Part of the issue appears to be that the crane was built before the CRFM program (built under the PIES program). There are six good TIES, with a life expectancy of 20-30 year, which will not be installed this year. Six lead contaminated TIES to be scrapped, removal will occur 14 November through 14 December. Klatte asked where do we go from here? The TIES haven't been evaluated since the B2CC went in, do we need them? Can we use a physical model to test them? Can we use COMPAS? Fredricks indicated a sub-group needs to go through the exercise of evaluating the effectiveness of the TIES. He does not recommend using COMPAS. Schwartz said there was no structured component to test the TIES in 2008. There are evaluation studies planned for 2010, once the FGE work, PH1 rehab and PH1 ITS modifications are complete. **ACTION: B. Klatte will head up an ad-hoc committee to put together a fact sheet on the TIES. The committee will consider the impacts of the B2CC, BGS, etc on the effectiveness of the TIES. Committee members include Klatte, Schwartz, Bettin, Fredricks, Wills and Mackey. First meeting is 10 January immediately following FPOM.** There was discussion about changing the name of the TIE crane to the FISH crane, to better reflect the work it performs. B. Hevlin mentioned the crane is on the SCT agenda for the next meeting. There are two issues for SCT to discuss- fixing the TIE crane boom and redesigning or reevaluating the need for the existing TIES. **FPOM agrees that the boom needs to be fixed. FPOM accepts that TIES are not going to be installed in 2008.**
10. TDA/JDA dam angling and gull hazing. (B. Cordie). B. Cordie provided a handout at the October meeting. That handout detailed a modified avian hazing schedule. It would allow hazers to concentrate efforts in a three month period, when avian numbers are highest and most problematic. He needs to know if FPOM agrees to the schedule. **FPOM says okay and to add a provision to allow an earlier start if necessary.**
11. TDA stub weir removal. (B. Cordie). B. Cordie talked with the hydraulic engineers. Schlenker says it would be ok, hydraulically, to remove the stub weir. The removal isn't as easy as anticipated so it will need to be contracted out. Cordie handed the project over to David Clugston and it is now in the realm of CRFM. R. Kiefer asked why CRFM would pay for the removal of a non-fish issue item. Fredricks explained that it would really be a fishway channel improvement if flows were improved and it would help with lamprey passage. **ACTION: D. Clugston to work up the cost estimates and get the Schlenker analysis on paper.**
12. TDA fish lock test. (B. Cordie). The Corps is looking at the fish lock as an alternate AWS. All valves and components are there, though nothing has been moved in a very long time. The Engineers are drafting plans for testing the system. The first phase of the test will flush the valves. The second phase will supply water to the east fishway. The goal is to get this done this winter maintenance season.
13. JDA FOG testing procedure. Comments or concerns? (B. Cordie). B. Cordie provided test information at the October FPOM. Fredricks would like to see justification for the operation put n the FPP change form. JDA plans on testing the procedure the week of 25 November. **ACTION: B. Cordie will take the results of the test and make changes to the FPP change request form.**
14. Use of galvanized steel in the fishways. Leaching rate of zinc. Corps recommendations. A [fact sheet](#) was attached to the agenda.

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- 14.1. The recommendation is to not use galvanized in-water. Engineers are looking at new grate design and materials. They are evaluating fiberglass, stainless steel, and aluminum. The final product needs to meet loading requirements and be lamprey/salmon friendly.
- 14.2. If TDA can hold off replacing grates, that is the preferred option. If there are critical areas, those grates should be replaced this winter. FPOM still agrees critical areas should be replaced.
- 14.3. Unused grating might be considered for use in non-submerged walkways. Is there any concern about galvanized steel being used in that manner?
- 14.4. B. Cordie indicated there was about \$400K worth of grating at TDA, sitting on the deck. The Project hasn't any plans to use it for anything else. He found that the galvanizing is designed to have a constant rate of decay over a life span of about 20 years. He asked if the recently (five years ago) replaced grating at TDAN would also need to be replaced. Fredricks said that zinc is lethal and it may be that all grating will need to be replaced or replace the grates as they wear out. There was more discussion about the background zinc levels and the responsibility of reducing toxic metals in the rivers.
15. FPP Comments. **ACTION: T. Mackey to send NWP drafts to RCC NLT 30 November.** The drafts will be posted to the TMT website.
16. FPOM Calendar. The FPP review meeting will be held on 25 January. **ACTION: B. Cordie to reserve the Westrick room for the meeting.**
17. River Flow Forecast (RCC). J. Adams indicated the forecast is available on the web. Chum operations began on 10 November. Excess flows will pass at night.
18. Other. JDA U16 has been out of service. **ACTION: B. Cordie to provide a status update at the December FPOM.** The unit is expected to return to service in February.
19. 1300-1600 Shad task group meeting. **Call in # 503-808-5199, passcode 2580**
20. Finalized results from this meeting.
 - 20.1. **FPOM says it is ok to install the 1" galvanized grating in high priority areas, otherwise wait until the engineering evaluation is complete and FPOM has made a decision.**
 - 20.2. **FPOM would like to see criteria developed for cleaning JDA VBSs. It does not need to be the same at BON criteria.**
 - 20.3. **FPOM agrees that the TIE crane boom needs to be fixed. FPOM accepts that TIES are not going to be installed in 2008.**
 - 20.4. B. Klatte will head up an ad-hoc committee to put together a fact sheet on the TIES. The committee will consider the impacts of the B2CC, BGS, etc on the effectiveness of the TIES. Committee members include Klatte, Schwartz, Bettin, Fredricks, Wills and Mackey. First meeting is 10 January immediately following FPOM.
 - 20.5. **FPOM says okay, and to add a provision to allow an earlier start if necessary, to the changes in the TDA/JDA avian hazing schedule. The hazing would take place over three months instead of five or six.**
21. The following information was distributed, most are attached to these minutes:
 - 21.1. Agenda, Fish Passage O&M Coordination Team. Provided by B. Klatte.
 - 21.2. [Galvanization and Fish Passage fact sheet](#). Provided on agenda.
 - 21.3. [FPOM Calendar](#). Provided by B. Klatte.
 - 21.4. [O & M report for Walla Walla projects](#). Provided by J. Bailey.
 - 21.5. B2 VBS information. Provided by D. Schwartz.

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- 21.6. [Steller sea lion predation on white sturgeon](#)... Provided by M. Jonas.
- 21.7. [NWW dewatering schedule](#) was emailed by G. Moody prior to the meeting.
- 21.8. [Updated BON dewatering schedule](#).

GALVANIZATION and FISH PASSAGE

Literature Information

- Rainbow trout avoidance limit 0.0001mg/l Fish do eventually acclimate and lose avoidance behavior. (Acta Zoologica Lituanica Hydrobiologia '99 Vol 9).
- Leaching rate 5mg/cm²/day. (WES tech note ZMR-2-15, Crump) Zebra mussel anti-fouling.
- Galvanized grating likely results in concentration above rainbow trout avoidance threshold (Clugston)
- The Dalles new grating has approx 2.7mm galvanize coating (per contractor spec)
- 3mm coating provides approx 20yr corrosion protection (www.gtiengr.com)
- Zinc concentration in sea water = 0.6ppb (www.lenntech.com)
- Zinc concentration in rivers = 5-10ppb (www.lenntech.com)
- Zinc solubility depends on pH. More soluble with increased acidity (www.lenntech.com)

Questions that need to be answered

- What do salmon and steelhead avoid?
- What is Columbia river pH?
- What is the concentration in a flowing fish ladder with new grating?
- Does aging the grating on the deck reduce leaching rate when installed?
- What is background concentration in the river?
- What is the acclimation rate?
- What are alternatives to galvanized grating?
- Do alternatives leach detrimental compounds? (fiberglass resins, aluminum)
- What is the cost difference for alternatives?
- Is there a simple test (lab or field) we can conduct to determine if we have a galvanization avoidance problem?
- Two sections of galvanized grating were installed last winter. Can we determine avoidance from UofI radiotelemetry?
- If galvanization prevents zebra mussel colonization, should we take this into account?
- Can we conduct a water quality test immediately downstream of installed galvanized grating to confirm concentration levels?

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November 2007						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Happy B-day	2	3
4	5	6	7	8	9	10
11	12 VETERAN'S DAY	13 FPOM Meeting NWW dewatering schedules due. Input for draft FPP due	14	15 Happy B-day	16	17
18 Happy B-day	19 Bon FOG bars mtg.	20	21	22 HAPPY THANKSGIVING	23	24
25	26	27 BON SRWG- survival/spill passage.	28	29	30 Draft FPP Due in NWD	

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December 2007						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 JDA S. Turbine bulkhead install <i>Δ FFP review</i>	4 JDAS dewater <i>Δ FFP review</i>	5 Happy Hanukkah TDA East dewater BON F2 OOS	6 JDAS entrance dewater <i>Δ FFP review</i>	7 <i>Δ FFP review</i>	8
9	10	11 TDA dewater	12	13 FPOM Meeting- NMFS <i>Draft EDD issued</i>	14	15 Adult fish counting ends LWG. <i>BON BI ladder</i>
16 Begin Dewatering Juv Bypass Systems	17 BI dewater BON PH2 screens nulled	18 BON B-branch dewater	19 JDA SMF dewater BON DSM2/pipe dewater	20 DSM1 dewater	21	22
23	24	25 Merry Christmas	26 Happy Kwankaa	27	28	29
30	31					

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January 2008						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Happy New Year	2 NWW adult fish facility begins	3	4	5
6	7	8	9	10 FPOM Meeting- RDP TIES ad-hoc mtg	11 NWP FFDRWG	12
13	14	15	16	17	18	19
20	21 MLK OBSERVED	22	23 BON ROV inspect	24 NWW FFDRWG	25 FPP Review Meeting- TDA	26
27	28	29	30	31		

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February 2008						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8 Happy B-day Revised Draft FPP Due to NWD	9
10	11	12 TDAN dewater	13 TDAN dewater	14 FPOM Meeting	15	16
17	18 PRESIDENT'S DAY	19 JDAN dewater	20 JDAN dewater	21	22	23
24	25	26	27	28 NWP FFDRWG SLEDs installed	29 Annual FPP Issued Adult fish facility maintenance ends	

FISH PASSAGE O&M COORDINATION TEAM
Adult and Juvenile Fish Facilities Status Report
U.S. Army Corps of Engineers
Walla Walla District
November 13, 2007

Construction

McNary:

- Turbine units 13 and 14 remain out of service for transformer replacement.
- Turbine unit 1 remains out of service for 9 year overhaul.
- Turbine units 7 and 8 out of service Oct 29 – for Doble tests and transformer maintenance.

Ice Harbor:

- Turbine unit 6 out of service due to high gas readings in transformer.
- Turbine unit 2 out of service for blade welding.

Lower Monumental:

- Turbine units 1&2 out of service for fire suppression system installation.
- Turbine unit 5 taken out of service Oct 24 - 30 in support of RSW construction.
- Turbine unit 6 remains out of service in support of RSW construction.
- Spillgates 3-8 out of service in support of RSW construction.
- Spillgates 1&2 out of service October 23 for arrival and placement of RSW.

Little Goose:

- Turbine unit 3 back in service from 6 year overhaul and cavitation repair.
- Turbine unit 6 removed from service October 21 – 24 due to governor oil pump failure. Up to 150 gallons of lubricating oil leaked into the tailrace creating a slick 0.5 miles long. Oil absorbent booms were deployed, no obvious impacts evident on juvenile or adult fish.

Lower Granite:

- Turbine units 1 and 4 out of service for main unit breaker installation.
- Turbine unit 2 remains out of service for rewind and 6-year overhaul, with completion is not expected until January 2008.
- Turbine unit 3: 6 year maintenance and cavitation repair. Estimated return to service: Dec 2007.

Operations and Maintenance - Juvenile Fish Facilities

McNary:

- Primary Dewaterer: Rectangular cleaning screen power cord retractor came apart October 6, initial repair failed Oct 7, final repair completed October 8.
- Emergency bypass: On October 19, the facility was forced into emergency bypass when the screen cleaner hoist recoil spring failed. This spring retracts the cleaner into the stored position. The full flow PIT tag detector is no longer detecting tags as fish are being routed out the emergency bypass. The spring is custom made, and maintenance staff are still awaiting replacement parts.

Lower Monumental:

- Spill gates 3-8 out of service in support of RSW construction
- Primary Dewaterer Screen Cleaner: cleaning brush cable failed Aug 24 and remains out of service. Repairs will take place during the winter maintenance period. Air burst system cycle time decreased to keep inclined screen clean.

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Little Goose:

- Collection and transport ceased October 31. Lower Granite transported Little Goose fish on October 31 due to mechanical problems with the 1-ton truck used to haul the midi-tank.

Lower Granite:

- Collection and transport ceased October 31. 3500 gallon tanker used Oct 22-27 due to increased numbers of fish in the collection.
- Divers inspected submerged portions of RSW on September 28. RSW returned to raised position October 4. Previously the RSW could not be retracted.

Operations and Maintenance - Adult Fish Facilities

McNary:

- Oregon Ladder: Fish pump 3 remains out of service for overhaul. The return to service date is uncertain due to shaft alignment problems.
- Video fish counting began November 1, Visual counts ended October 31.
- Wasco PUD interrupted 3.5 hours Oct 30 & 31 due to transformer tests.

Ice Harbor:

- North shore fish pump 3 failed October 25, followed by failure of fish pump 1 on October 26 (pump 1 was just returned to service). North shore fishway is now in 1 pump operation, with North shore fish entrance weir raised to 6 depth.

Little Goose:

- Fish pump 3 out of service Oct 9 – 10 to repair leaking cooling water line. Operating fish pump RPMs were increased while fish pump 3 was out of service.

Lower Granite:

- The adult fishway is operating satisfactory except for the North shore entrances. There is not enough water to maintain both weir depths and the requisite 1.0 foot of head differential at the north shore entrances resulting in a trade-off situation most of the time.

Research

Lower Monumental:

- All spillbays were out of service October 31 for 1.5 hours in support of Battelle forebay sensor maintenance.

Lower Granite:

- Adult trap operations in progress.
- NOAA Fisheries ended tagging operations October 31.

Ladder Counts:

- Visual Counts: October 31: All Visual ladder counts end on snake and Columbia rivers.
- Video Counts: Nov 1: Video ladder counts began as follows:
 - BON: 3 ladders at present, reducing to 2 ladders in December.
 - TDA: 2 ladders, last year of video counts.
 - JDA : 2 ladders, last year of video counts.
 - MCN: 2 ladders, last year of video counts.
 - LGR: 1 ladder.

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STELLER SEA LION PREDATION ON WHITE STURGEON IN THE BONNEVILLE DAM TAILRACE

General

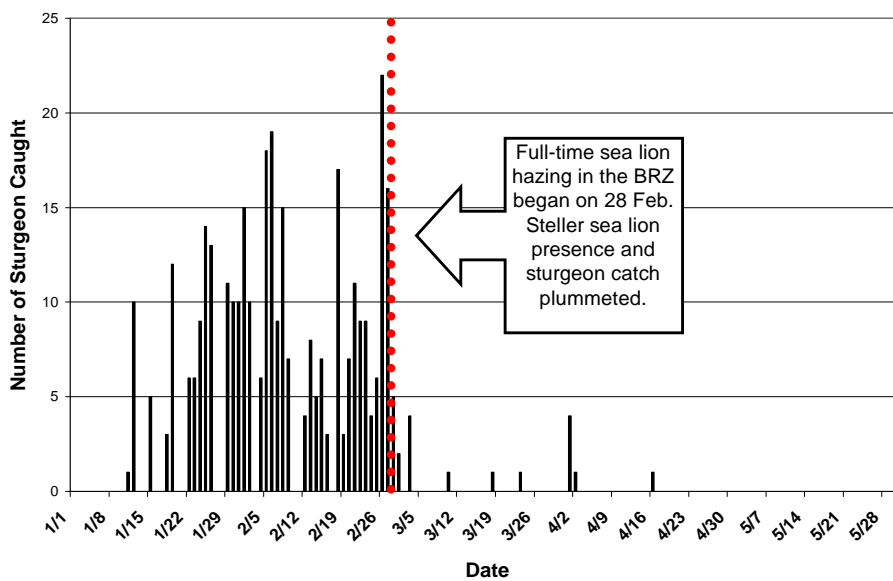
- The BON tailrace area is important white sturgeon habitat
- Steller sea lion predation on sturgeon at BON is increasing dramatically
- Steller sea lions are arriving earlier each year (sightings on 11/6/07)
- Steller sea lions made 97.8% of observed sturgeon catches (611 of 625 observed takes) since 2002
- Non-lethal harassment (hazing) may be an effective deterrent, if it is conducted from Marker 85 to the dam (beyond the BRZ)

	2002	2003	2004	2005	2006	2007
Steller Sea Lions Present	0	3	2	4	10	9
Observed Sturgeon Catch	0	0	0	1	264	360

2007 Hazing Activities

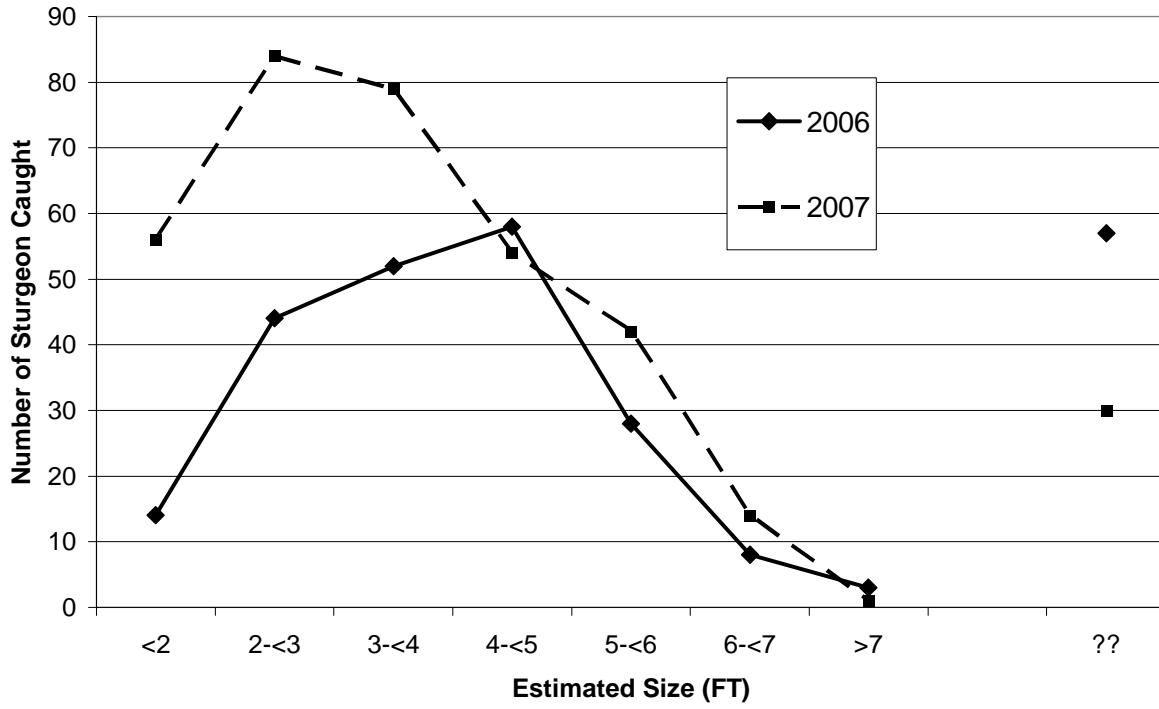
- February 1-26: Single ODFW or WDFW boat crew hazed from Marker 85 to below the BRZ, 3-5 days per week (~6-8 hours per day)
- February 28-May 24: 1 to 3 boats, plus dam-based USDA agents hazed primarily in the BRZ, 7 days per week (~8-10 hours per day)
- Observed sturgeon catch, Steller sea lion hazing events (takes), and Steller sea lion presence all dropped dramatically around 1 March

DAILY STURGEON CATCH AT BONNEVILLE DAM (2007)



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**SIZE DISTRIBUTION OF STURGEON TAKEN BY SEA LIONS
AT BONNEVILLE DAM (2006-2007)**



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Adult Fish Passage Facilities – 2007-08 Winter Maintenance Schedule
U. S. Army Corps of Engineers
Walla Walla District

MCNARY DAM - Washington Shore Fishway

1. Dewater the fish ladder from **January 2 – Feb 14** for maintenance. Diving is required to plug leak prior to dewatering.
2. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
3. **Inspect the collection channel by dewatering**¹
4. Perform maintenance on the small hydro bypass and auxiliary water supply system.
5. Maintain adult PIT tag system as required. Coordinate with PSMFC.
6. Maintain half-duplex PIT (lamprey) antennas. Coordinate with University of Idaho.
7. Resume normal operation of the small hydro/auxiliary water system by **Feb 14**

MCNARY DAM - Oregon Shore Fishway

1. Shut down AWS pumps 1 and 2 on **Feb 2** and place ladder in orifice flow.
2. Dewater the fish ladder from **February 4 – 28** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by a combination of underwater video or diving.**¹
5. Perform routine winter maintenance on the AWS pumps 1, 2, and 3.
6. Maintain adult PIT tag system as required. Coordinate with PSMFC.
7. Replace observation window in fish ladder.
8. Resume normal ladder flow and 2 pump operation on **February 28**.

ICE HARBOR DAM - North Shore Fishway

1. Shut down the AWS pumps on **January 26**
2. Dewater the fish ladder from **January 30` – February 23** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by underwater video.**¹
5. Perform maintenance on the AWS pumps. Fix broken gearbox shaft on pump 2?
6. Maintain adult PIT tag system as required. Coordinate with PSMFC.
7. Resume normal operation of the AWS pumps on **February 23**.

ICE HARBOR DAM - South Shore Fishway

1. Shut down the AWS pumps on the morning of **January 1**.
2. Dewater the fish ladder from **January 2 – 18** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by underwater video.**¹
5. Perform maintenance on the AWS pumps.
6. Maintain adult PIT tag system as required. Coordinate with PSMFC.
7. Maintain half-duplex PIT (lamprey) antennas. Coordinate with University of Idaho.
8. Resume normal operation of the AWS pumps on **January 18**.

LOWER MONUMENTAL DAM - North Shore Fishway

1. Shut down the AWS pumps on the morning of **January 2**.
2. Dewater the fish ladder from **January 7 – 31** for maintenance.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. **Inspect the collection channel by dewatering. See footnote on page 1.**
5. Perform maintenance on the AWS pumps.
6. Resume normal operation of the AWS pumps on **January 31**.

LOWER MONUMENTAL DAM - South Shore Fishway

1. Dewater the fish ladder from **February 4 – February 28** for maintenance.

¹ Methods used in the past for inspecting collection channels at all five dams are shown in Table 1.

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2. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
3. **Inspect the collection channel by dewatering. See footnote on page 1.**
4. Replace picketed leads with stainless steel leads.

LITTLE GOOSE DAM

1. Shut down the AWS pumps on the morning of **January 1**.
2. Dewater the fish ladder from **January 2 – 30** for maintenance.
3. Dewater collection channel from January 3.
4. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
5. **Inspect the collection channel by dewatering. See footnote on page 1.**
6. Perform maintenance on the AWS pumps.
7. Inspect and repair the adult fish fallout fence.
8. Repair/replace light fixtures in adult channel.
9. Resume normal operation of the AWS pumps on **January 30**.

LOWER GRANITE DAM

1. Shut down the AWS pumps on the morning of **December 31**.
2. Dewater the fish ladder from **January 2 – February 22**.
3. Complete winter maintenance according to the Fish Passage Plan, Section 2.3.2.1.
4. Inspect the collection channel by boat and underwater video.
5. Perform maintenance on the AWS pumps.
6. Maintain adult PIT tag system as required. Coordinate with PSMFC.
7. Inspect the adult fish fallout fence.
8. Inspect and repair areas within the adult fish trap.
9. Resume normal operation of the AWS pumps on **February 22**.

Table 1. Methods used to inspect adult fishway collection channels during past winter maintenance periods, compared to the upcoming winter period.

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
MCN WA Shore	dewatering	dewatering	dewatering	dewatering	Dewatering	
MCN OR Shore	underwater video	diver	underwater video and diver	underwater video or diver?	Underwater video or diver	dewatered
IHR North Shore	underwater video	dewatering	underwater video	underwater video	Dewatering	Underwater video
IHR South Shore	underwater video	underwater video	dewatering	underwater video	Underwater video	dewatering
LMO North Shore	dewatering	dewatering	dewatering	dewatering	Dewatering	dewatering
LMO South Shore	dewatering	dewatering	dewatering	dewatering	Dewatering	dewatering
LGO	underwater video	dewatering	underwater video	underwater video	Dewatering	Underwater video then dewatering
LGR	dewatering	dewatering	dewatering	dewatering	Dewatering	dewatering

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Table 2. Methods proposed to inspect adult fishway collection channels during the 2007 -2008 maintenance period.

	2007-2008
MCN WA Shore	Dewatering
MCN OR Shore	Video and dive
IHR North Shore	Underwater video
IHR South Shore	Underwater video
LMO North Shore	Dewatering
LMO South Shore	Dewatering
LGO	Dewatering
LGR	Underwater video

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CENWP-OD-B

MEMORANDUM FOR THE RECORD

SUBJECT: BONNEVILLE DAM WINTER FISHWAY MAINTENANCE 2007/2008.

1. This is a working document detailing Bonneville Dam winter fishway maintenance, 2007/2008. Reviewers can expect changes as we approach the winter maintenance season.

2. ADULT FISHWAYS

2.1. Fish Unit Outages

- 2.1.1. Fish Unit 1: **02 Jan 08 – 01 Feb 08**, annual overhaul.
- 2.1.2. Fish Unit 2: **05 Dec 07 – 01 Feb 08**, annual overhaul.

2.2. Adult Fish Facility

- 2.2.1. Routine maintenance.
- 2.2.2. Repair broken gate cranks and pulleys.
- 2.2.3. Repair flume gates.
- 2.2.4. Pressure wash the lab and handrails.
- 2.2.5. Repair/Replace netting over flumes. (Project Fisheries)

2.3. Washington Shore Ladder (NOT going OOS)

- 2.3.1. Install SLEDS or acoustic deterrents by **28 Feb 08**
- 2.3.2. Inspect PH2 PCC **23 Jan 08**. (ROV inspection)

UMT specific items (01 Oct 07 – March 08 due to VBS mods)

- 2.3.3. Pull Cascades Island picket leads on **01 Oct 07**.
- 2.3.4. Open Cascades Island exit on **01 Oct 07** (raise lamprey barrier prior to opening exit).
- 2.3.5. Install UMT bulkhead on **north** end on **01 Oct 07**

2.4. Cascades Island Ladder. (Not going OOS)

- 2.4.1. Open fish exit on **01 Oct 07**
- 2.4.2. Open barrier at count station on **01 Oct 07**
- 2.4.3. Install SLEDS or acoustic deterrents by **28 Feb 08**
- 2.4.4. Go to orifice flow after BI comes back, if time.
- 2.4.5. Dewater to tailwater.
- 2.4.6. Repair FG6-10.
- 2.4.7. Provide power to FG6-14 (electricians and riggers)
- 2.4.8. Inspect CI entrance **23 Jan 08**. (ROV inspection)

2.5. Bradford Island Ladder (A&B-Branches 01 Dec 07 – 28 Feb 08)

- 2.5.1. Go to orifice flow on **14 Dec 07**
- 2.5.2. Dewater to tailwater on **17 Dec 07**
- 2.5.3. Inspect Bradford Island exit trashrack.
- 2.5.4. Inspect the FV3-7 AWS channel.
- 2.5.5. Pull accelerator wall bulkhead and add bumpers.
- 2.5.6. Maintain the LPS, hard plumb the lamprey pumps. (Mechanics)
- 2.5.7. Inspect PH1 PCC **23 Jan 08**. (ROV inspection)
- 2.5.8. Install SLEDS or acoustic deterrents by **28 Feb 08**

B-Branch specific items

- 2.5.9. Completely dewater the FV4-3/4-4 chamber the week of **17 Dec 07**
- 2.5.10. Repair FV4-3

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- 2.5.11. Calibrate B-Branch water elevation sensors.
- 2.5.12. Dredge BI fish exit. 2008/2009 (contractor)

A-Branch specific items

- 2.5.13. Dewater below tailwater on **when B-branch returns.**
- 2.5.14. Install transverse bulkhead at U10.
- 2.5.15. Repair FG2-22A and FG2-19.
- 2.5.16. Repair FG3-3, 3-4, 3-5, 3-6 (mechanics/electricians)
- 2.5.17. Inspect FV3-7 AWS conduit.
- 2.5.18. Calibrate CC, TW, and entrance gate transducers.

3. JUVENILE FISHWAYS

3.1. DSM 1

- 3.1.1. Pull STSs on **20 Dec 07.**
- 3.1.2. Walk the channel on **20 Dec 07.**

3.2. Juvenile Monitoring Facility (31 October 07 – 28 February 08)

- 3.2.1. Blow out hydro cannon lines on **01 Sep 07** (Operators)
- 3.2.2. Drain and inspect sample flume on **31 Oct 07.** (Project Fisheries)
- 3.2.3. Inspect and PM equipment.
- 3.2.4. Inspect flume joints. Re-caulk as needed.
- 3.2.5. Repair and winterize 2 and 3 way rotating gates.
- 3.2.6. Replace charcoal filters.
- 3.2.7. Drain and inspect bypass flume on **19 Dec 07.** (Project Fisheries)
- 3.2.8. Inspect/Repair lifting cables for the fish lifts. (Riggers)
- 3.2.9. PIT tag detection systems (PSMFC)
- 3.2.10. New seals on upper switchgate.
- 3.2.11. Seal off drain pipe to western wildlife pond.

3.3. Second Powerhouse JBS (17 Dec 07 – 01 Feb 08)

- 3.3.1. VBS mods in Units 14, 18, and 17 (gap closure only) begin on **01 Oct 07**
- 3.3.2. Pull STSs **17-18 Dec 07**
- 3.3.3. Turn off orifice lights on **18 Dec 07**
- 3.3.4. Dewater DSM on **19 Dec 07**
- 3.3.5. Inspect two mile pipe on **19 Dec 07**
- 3.3.6. PM equipment.
- 3.3.7. Replace orifice lenses.
- 3.3.8. Inspect/Repair screen cleaners. Needs to be operable.
- 3.3.9. New gatewell dipping basket. (\$\$ from CG)
- 3.3.10. Install STSs starting **20 Feb 08**
- 3.3.11. Water up when STSs are installed (not later than **28 Feb 08**)

3.4. B2 Corner Collector (31 August 07 – 01 April 2008)

- 3.4.1. PIT tag follow on (PSMFC).

4. SPILLWAY

- 4.1. Test all gates.

KEY TO COLORS-

Black- normal/routine dewatering work

Orange- work to be done by contractors or researchers.

Blue- work to be done by Fisheries

Pink- highlights special requests or non-routine work items.