

AGENDA

Fish Passage O&M Coordination (FPOM) Team
McNary Theatre (**bring your hard hats**)
April 10, 2008 (1000-1400)
Call in # 888-730-9137
PASSCODE: 10843

1. Review/Approve Agenda and Minutes (Klatte)
2. Action Items (Klatte)
 - 2.1. [Jan 08] Late season counting ended around 20 December at Lower Granite. **ACTION:** WDFW will send counts to Moody and let FPOM know when the counts are posted. **STATUS:** *counts not yet received.*
 - 2.2. [Feb 08] PIT tag detection needs at JDA. **ACTION:** B. Cordie will present info to FPOM and submit a FPP change form for JDA 1.1.3. **STATUS:** *The Projects settled on 17 November for 2008. They will try to stay close to 15 November, depending on weather and staffing. FPP covers an outage in Nov.*
 - 2.3. [Feb 08] BON B2CC closure. **ACTION:** Ops will put together a fact sheet for the March FPOM detailing the issues associated with closing the B2CC on 31 August as opposed to either 29 August or 2 September. **STATUS:** *To be discussed under 3.3*
 - 2.4. [Mar 08] FPP change forms. **ACTION:** FPOM will review the change forms and approve or disapprove at the April FPOM. **STATUS:** *to be discussed under item #7.*
 - 2.5. [Mar 08] Switchgate seals at BON and JDA. **ACTION:** JDA will move forward with the airbladder seals. NOAA worries about fish being able to access areas under the gate. BON will continue moving forward with reducing leakage around and under the gate.
 - 2.6. [Mar 08] PIT tag detection needs at JDA. **ACTION:** FPC will query PTAGIS to see how many fish might go undetected with if the system is shutdown prior to Nov. 30.
 - 2.7. [Mar 08] FPP McNary 2.3.1.2.d language for drawdown over dewatering screens. **ACTION:** L. Swenson will meet with the Project to discuss options.
3. Updates. (Klatte)
 - 3.1. Pinnipeds at Bonneville. [Stansell's pinniped report is attached to this agenda.](#)
 - 3.2. BON Sturgeon. [A MFR was sent on 27 March.](#) It is attached to this agenda. The Army ROV team was unable to get a camera into U13 draft tube on 28 March, will try to get an ROV up a unit during the winter maintenance. Unit 16 returned to service on 31 March. 13 sturgeon were removed from the bottom tail logs and one was seen with abnormal buoyancy after the unit was slow rolled before going online. The Project is looking at changes to the start-up process. Language will be drafted for FPOM to comment on soon.
 - 3.3. B2CC closing date. [Factsheet attached to this agenda.](#)
 - 3.4. TDA fish unit testing. Fish unit exciter problem identified. F-1 and F-2 OOS one at a time in the afternoon 16-18 April for LDC testing. Each unit will be down for about 15 minutes, midday. The other unit will be used to compensate for the outage. This work is necessary to maintain fish unit reliability.
 - 3.5. ICH RSW repair. All repairs are scheduled to be complete on 10 April.
 - 3.6. LGO jumping fish.

4. TDA grating decision. (Cordie) [The zinc fact sheet is attached](#). Need decision timeline for scheduling install planning and associated budget. We've been maintaining a Zn fact sheet to help in the final decision.
5. [TDA avian lines](#). (Cordie)
6. Task Group updates
 - 6.1. Fishway velocity (**Chair-Cordie**, Fredricks, Lorz, Meyer, Mackey)
 - 6.2. Lamprey (**Chair-Cordie**, Clugston, Dykstra, Lorz, Mackey, Meyer, Moody, Moser, Peery, Rerecich, Zyndol)
 - 6.3. Pinnipeds (**Chair-Stansell**, Bettin, Benner, Brown, Fredricks, Hausmann, Kruger, Stephenson, Richards, Wills)
 - 6.4. Shad fishery (**Chair-Cordie**, Benner, Fredricks, Lorz, Mackey, R.Dick Jr., Welch, Wills)
 - 6.5. TIES (**Chair-Klatte**, Bettin, Benner, Fredricks, Kruger, Mackey, Schwartz, Wills)
7. Water forecast. (RCC).
 - 7.1. Water forecast and FPOM handout needs.
 - 7.2. <http://www.nwd-wc.usace.army.mil/tmt/> What is the status of the FPOM documents link?
8. FPP proposed changes. Approve/disapprove
 - 8.1. [LGO spill pattern](#)
 - 8.2. [LMO spill pattern](#)
 - 8.3. [MCN unit priority](#)
 - 8.4. [MCN spill pattern](#)
 - 8.5. [JDA U priority/spill patterns](#)
 - 8.6. [JDA SMF PIT tag shutdown](#)
 - 8.7. [TDA ITS closure](#)
 - 8.8. [BON 50K dates](#)
9. FPP hard copies. Per the February meeting, the following number of copies were requested: NWW-20; BPA-15; FPC-1; FFU-1; TDA-4; BON-1; WDFW-1; USFWS-2; NOAA-4; CRITFC-1; NWP Ops-2; NWP Planning-2
 - 9.1. The FPP can be found at www.nwd-wc.usace.army.mil/tmt/documents/fpp/
10. Other
11. Velocity and Shad fishery task group meetings. (Cordie)
12. Check out the TSWs and the fish facilities. BRING YOUR HARD HATS and steel toes.

**STATUS REPORT – PINNIPED PREDATION AND HAZING
AT
BONNEVILLE DAM IN 2008**

Robert Stansell, Sean Tackley, and Karrie Gibbons

4/8/08

This is the fifth status report for 2008 on the pinniped predation and hazing activities being conducted at Bonneville Dam. Regular observations began on January 11, Mondays through Fridays, and switched to 7 days a week on February 4. Observations begin roughly an hour before sunrise and end an hour after sunset. **Please remember all data are preliminary and final figures are likely to change some after further analysis and proofing, so be careful about quoting these figures.** Boat based harassment has been conducted since December 12 for Steller sea lion preying on sturgeon, 2 to 5 days a week, and has continued for California sea lions to date. Boat hazing will now occur 7 days a week as the tribes will be filling in for days the states are not out. Dam based harassment by USDA WS agents began on March 3, and will be conducted 7 days a week, through the end of May. Data collection will end after May 31, as will harassment activities. Some additional observations will occur as long as sea lions are still present.

The states will be attempting to trap and transport several animals after mid-April. The HSUS has filed for an injunction to halt any lethal take, and the courts will have a hearing on that on April 16. Trap and haul to Sea World or other locations was agreed to be allowed to continue. Three additional traps will be built by possibly next week, with a tagging barge to follow by early May.

PRELIMINARY RESULTS

Data presented here are up through April 6, 2008. A final report of the 2005-2007 evaluation is now available on the Corps website.

PINNIPED ABUNDANCE

Steller sea lion (*Eumetopias jubatus*) presence has continued daily through early April, while the number of California sea lions (*Zalophus californianus*) continues to grow (Figure 1). To date, we have seen as many as 12 Steller sea lions and 40 California sea lions at the dam on any given day (see Figure 1). The most number of pinnipeds total for one day so far was 46 on April 5. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen at least 45 different California sea lions, 12 Steller sea lions, and 2 Harbor seals. At least 35 of the California sea lions have been seen in previous years.

Of the 60 animals listed for potential lethal take, 28 have been seen at Bonneville Dam so far this year, with about 19 of those being seen on the single trap already, with several others hauled out nearby. An additional 4 branded animals and possibly 7 others that we can identify now qualify to be on the list, having been hazed, seen to eat at least one salmon, and having been here more than 5 days.

PREDATION FIGURES

Unexpanded numbers for fish observed taken between January 11 and April 6 are:

- 723 Chinook, 237 steelhead (see Figure 2)
- 598 sturgeon (21 larger than 5 feet)(see Figures 2, 3 and 4)

- 7 lamprey
- 460 unidentified (see Figure 2)

Steller sea lions are the primary predators of white sturgeon (*Acipenser transmontanus*) in the Bonneville Dam tailrace (Figure 5). Only six sturgeon were taken by California sea lions in past years; 9 this year and 2 by harbor seals (<2'). California sea lions had primarily been taking steelhead, but the past few weeks they have begun catching numerous Chinook (Figure 7). It is likely that most unknown fish observed caught by Steller sea lions are sturgeon, while those unknown fish observed caught by California sea lions are steelhead or Chinook. Just over a third (449 of 1,149 or 39%) of the prey taken by California sea lions has been attributed to specific individuals, or 45% (411 of 923) for salmonid prey specifically.

Most sturgeon have been caught at the spillway followed by PH2, while most steelhead and Chinook have been caught at PH1 and PH2 (Figure 6). Figure 3 shows that sturgeon take has far exceeded the take of last year as the presence of Steller sea lions continues. However, smaller sturgeon are being taken proportionally more this year than in previous years (Figure 4).

Observations from the area of Tanner Creek to Ives Island by PSU student volunteers has been collected also, and up through March 19, an additional 12 Chinook, 15 steelhead, and 4 sturgeon have been observed taken (plus 8 unknown). The area between our observers at the dam and Tanner Creek will be observed by WDFW/ODFW personnel as well from now until the end of the season, but this data will take more time to process and may not be available for updates.

HAZING IMPACTS

Full hazing from both boat and dam began on March 3rd. After March 15, the tailrace of PH2 will not be hazed with above water pyrotechnics to allow for animals to haul out more on the traps for capture and for other potential activities in the future. This may change if the situation warrants in the future. SLEDs were installed at PH2 entrances on January 28. Cascades Island SLEDs were installed the week of February 10, and PH1 and B-branch SLED's were installed the week of February 24. Acoustics were deployed at all major fishway entrances by January 10. Personnel, weather, and boat maintenance issues have reduced boat hazing during some weeks. Some animals have been observed to be successfully chased downstream while others have not responded to multiple crackershells or rubber bullets.

OTHER ITEMS OF INTEREST

Many California and Steller sea lions have been observed to use the one trap already. The states reported seeing up to **42 Steller sea lions** hauled out on Phoca Rock below Cape Horn.

Night predation - We have conducted some before dawn and after daylight observations (about 8 hours so far). I don't want anyone to panic and start calculating expanded catch estimates without more information, but we have noticed hunting activity and catch occurring during these periods, both by California sea lions and Steller sea lions. This may explain why we see many animals only hauled out during the day and not hunting. Whether this is a result of daytime hazing activities, less dominant animals being pushed from daytime predation by larger numbers of dominant animals, or if it extends throughout the night has yet to be determined. We will keep you posted.

SUMMARY

Pinniped numbers are now averaging between 30-40 a day, as more California sea lions are showing up. Predation on Chinook has greatly increased over the past week. Boat and dam based harassment continues. Some night-time predation has been observed.

Figure 1. Daily minimum pinniped abundance.

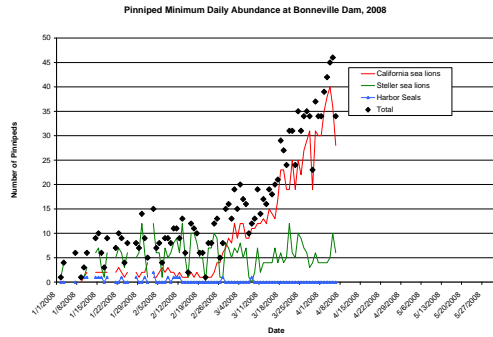


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

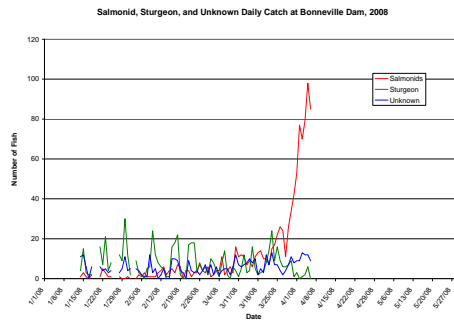


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 are data not expanded and are preliminary.

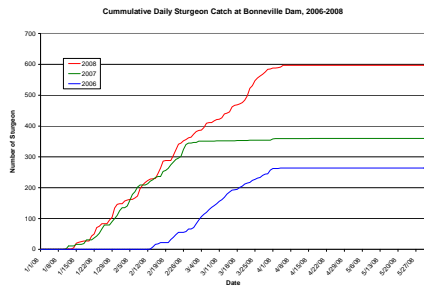


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

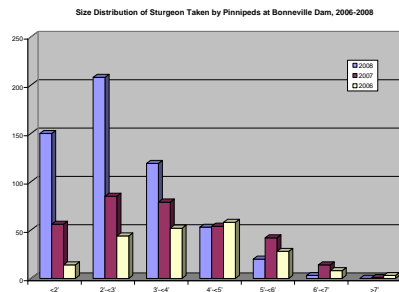


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

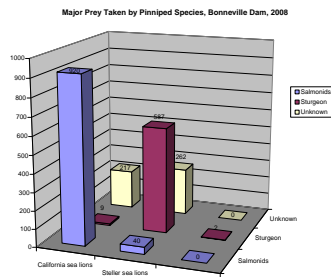


Figure 6. Location of prey taken at Bonneville Dam, 2008.

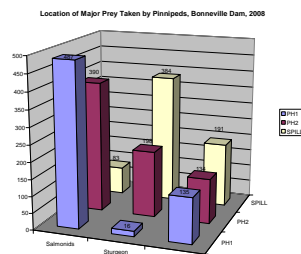
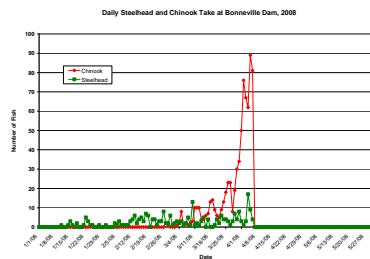


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008.



MEMORANDUM FOR THE RECORD

SUBJECT: Sturgeon impacted during Bonneville's Unit 17 water-up.

Unit 17 was returned to service on the afternoon of 26 March. The unit had been down for several months to accommodate VBS sensor installation. Tail logs were not installed as the work performed could be done above tailwater elevation.

Project Fisheries was notified by the Control Room about the dead sturgeon later in the afternoon, so this report is based on observations by others.

Upon water-up on 26 March, sea lion observers noted one 2' sturgeon with ventral hemorrhaging between 1200-1300 in the PH2 tailrace. Between 1300-1400 they saw a large discharge of water and counted 42 sturgeon floating belly up. At 1357 there was another discharge with 37 additional belly up sturgeon. Observers by the Hamilton Island boat ramp reported five floating sturgeon between 1400-1500, plus two more they couldn't confirm as sturgeon floating on the Oregon side of the river. All of those observed fish were less than three feet long. Between 1500-1600, one more floating sturgeon was observed. At 1900 one four foot sturgeon was seen floating by the sea lion trap.

Riggers reported seeing a floating sturgeon that looked as if the back half had been sliced off.

On 27 March, Project Fisheries received information from Tech Staff that the sea lion hazers had collected 11 dead sturgeon and had them in the hazing boat at the boat dock by the navlock. Project Fisheries contacted Robert Stansell to take a look at the fish. There appeared to be evidence of blade strike as well as hemorrhaging in the fins and bellies of many of the sturgeon. Stansell contacted the WDFW hazers about the sturgeon. They reported that enforcement requested they corral the floaters to prevent the public from "poaching" them. A couple of would-be poachers were required to put the sturgeon back in the water. WDFW will take tissue samples and the carcasses will be returned to the river, downstream of the dam.

On 27 March, Unit 13 was taken out of service for exciter work. Tail logs were not installed as the work to be performed is all above tailwater. It will remain out of service for up to four weeks. On 28 March, the Project will utilize the Army ROV team to inspect U13 draft tube to see how many sturgeon enter the draft tube after 24 hours.

Project Fisheries is working with Operations, FFU, and Maintenance to draft FPP language to help minimize impacts to sturgeon during unit outages. The proposed language will be presented at FPOM for regional discussion.

Bonneville Fisheries

MEMORANDUM FOR THE RECORD

Subject: B2CC closure fact sheet for 10 April 2008 FPOM meeting.

Date	29 August	31 August	2 September
Spill (Y/N)	Y	Closes within 12 hours of spill	N
Volunteers needed (Y/N)	Y	Y	N
Volunteers available (Y/N)	Maybe No Guarantee	No	Yes
Overtime (Y/N) additional labor \$	Y \$700-1000	Y \$700-1000	N \$0
Crane costs			
Transport restrictions	Maybe	Absolutely Yes Holiday Restrictions	No
Crane rental lead time	1-2 months	1-2 months	1-2 months

In summary, the cheapest and least impacting date to close the B2CC would be 2 September. The next preferred date would be 29 August, if volunteers are available.

ZINC GALVANIZATION vs FISH PASSAGE

Literature Information

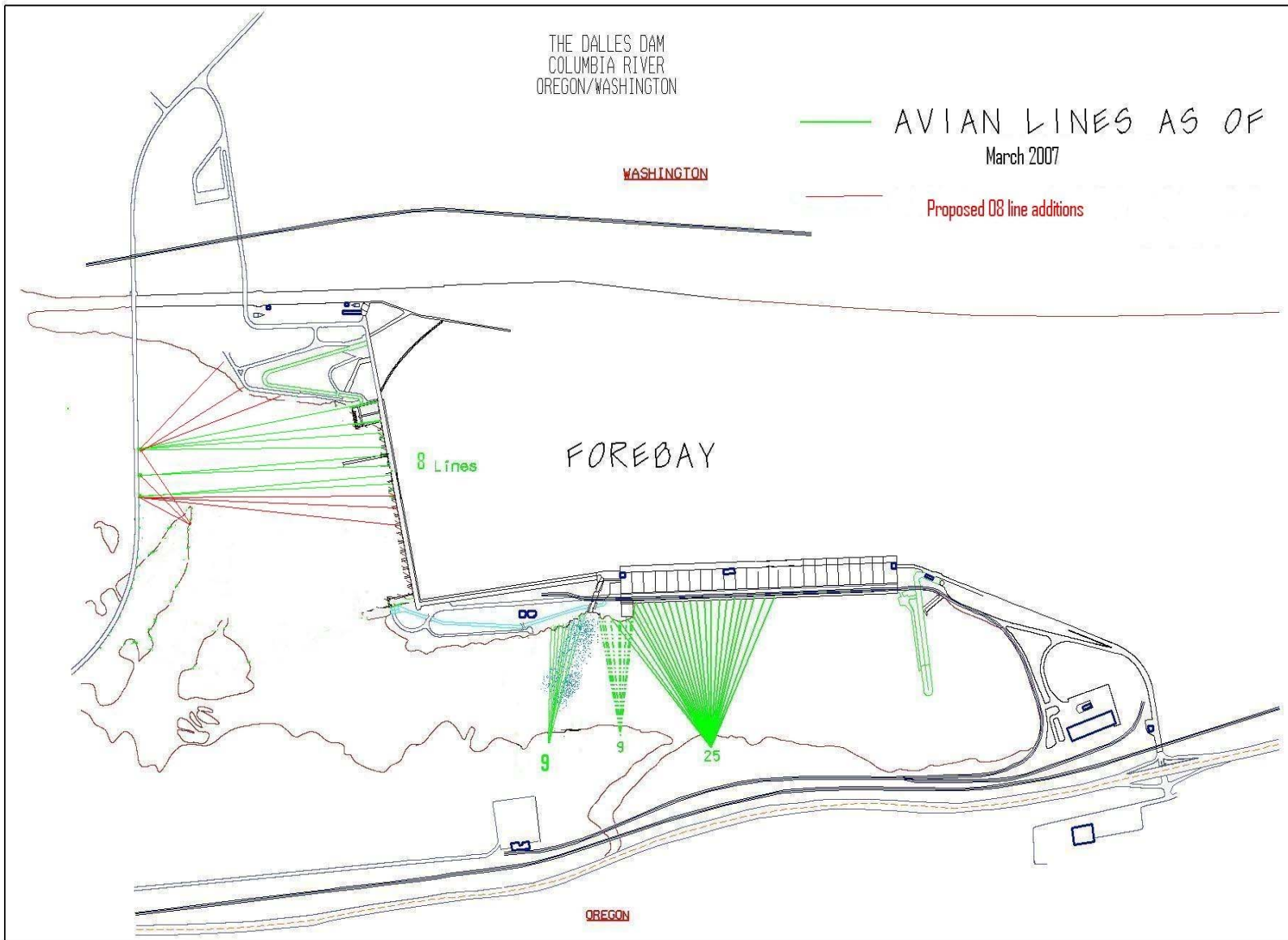
- Rainbow trout avoidance limit 0.0001mg/l Fish do eventually acclimate and lose avoidance behavior. (Acta Zoologica Lituanica Hydrobiologia '99 Vol 9).
- Leaching rate 5mg/cm²/day. (WES tech note ZMR-2-15, Crump) Zebra mussel anti-fouling.
- Galvanized grating likely results in concentration above rainbow trout avoidance threshold (Clugston)
- 1mg/l can impact aquatic biota (Krenkel '79)
- Zn runoff possible cause of Coho mortalities in Seattle
- 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)
- Zebra Mussel fouling: galvanized steel is not susceptible to fouling. This material should be considered for retrofit, maintenance, and construction.
<http://el.erdc.usace.army.mil/zebra/zmis/>
- No EPA limitations found for Zinc application in the mainstem Columbia river. (TMDL EPA website)
- Painted steel should be avoided in the water because paint flakes can be toxic to aquatic organisms such as fish and other species. Unpainted steel can rust and detract from the appearance of your shoreline, it has little effect on water quality. Stainless steel, galvanized steel or bronze fittings are often more expensive than steel, but last longer.
http://www.dfo-mpo.gc.ca/regions/CENTRAL/pub/fact-fait-on/c3_e.htm

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?

THE DALLES DAM
COLUMBIA RIVER
OREGON/WASHINGTON

— AVIAN LINES AS OF
March 2007
— Proposed 08 line additions



FPP Change Forms

Change Request Number:

Date: March 31, 2008

**Proposed by: Fred Higginbotham, Fishery Biologist, Environmental Assessment
Section, Walla Walla District**

Proposed Change: Spill pattern schedule to be used for the adult passage and behavior study at Little Goose Dam during the 2008 spill season.

Reason for Change: The research spill pattern changes are necessary in order to help determine the affects of different tailrace conditions and spill patterns on passage and behavior of adult salmon and steelhead.

Change Request Number: 3 – LMO 2008 Spill Pattern

Date: 14 March 2008

Proposed by: Ann Setter. Ken Hansen, John Bailey

Proposed Change:

A new spill plan is being proposed for 2008 to provide 2nd uniform flat pattern.

Reason for Change:

The additional uniform pattern is being provided as a means of improving juvenile egress out of the tailrace, and to reduce levels total dissolved gas (TDG) during higher river flows.

Change Request Number:

Date: 3/14/2008

Proposed by: NWW - District Hydrology (K. Hansen)

Proposed Change:

Concerns over egress developed with last years TSW's operation and lower steelhead survival at McN spillbay 22. Observation at the physical model concluded that the powerhouse priority change would be beneficial. The following the existing and the proposed change:

Proposed change to:

1,2,3,14,13,12,11,10,9,8,7,6,5,4 units 1 thru 3 then switch to northern units.

Reason for Change:

The proposed change would attempt to mitigate egress issues from the TSW's while maintaining water velocities at the juvenile bypass outfall.

Comments from others:

FPOM members on March 13, 2008, unanimously agreed to the MCN priority changes discussed at ERDC in February.

Change Request Number: 4 – MCN 2008 Spill Pattern

Date: 14 March 2008
Proposed by: Ann Setter, Ken Hansen

Proposed Change:
New spill pattern being submitted for use at McNary during the 2008 season.

Reason for Change:
A new pattern is necessary to accommodate the movement of a TSW from spill bay 22 to spill bay 19. The TSW in spill bay 20 remains in the same location. This spill pattern chart has also been tested at ERDC - appears to be compatible with towboats and barges entering and exiting the navigation lock. Interruption of TSW operations for navigation safety reasons will be minimized under this spill pattern.

Change Request Number:
Date:4/1/08
Proposed by: Robert Wertheimer

Location of Change
JDA Table 5

Proposed Change:
JDA Main Units prioritized: 5, 1, 3, 16, 14, 12, 10, 8, 15, 2, 11, 7, 4, 13, 9, 6.

Reason for Change:
Such a pattern provides the best attraction flow near the PH, while first maintaining support flow for the JBS. Russell Johnson from the project favorably reviewed this prioritization schedule during our project meeting.

Change Request Number:
Date: 3/27/2008
Proposed by: John Day Project

Location of Change
JDA 1.1.3

Proposed Change:
Change November 30 to November mid November.

Reason for Change:
The Project is concerned about freezing temperatures and staffing. They will attempt to keep the facility operating for PIT tag interrogation for as long as possible but feel anything beyond 15 November is risky.

Change Request Number:
Date:3/12/08
Proposed by: Bonneville Power Administration

Location of Change

The Dalles section 2.5.1.2e. 2007 Fish passage plan page TDA-12

Proposed Change:

Modify the paragraph to read from December 1 through the end of **March**, put the ITS on seal (do not operate).

Reason for Change:

True up language to match the FPP language contained in section 1.1.1 of The Dalles.

Change Request Number:

Date:3/12/08

Proposed by: Bonneville Power Administration

Location of Change

BON 2.2.2.

JDA 2.2

Proposed Change:

The NMFS 2004 BiOp sets a minimum spill level of 50 kcfs for BON and 30% for JDA **from April 10 through August 31.**

Reason for Change:

Clarification of the Biological Opinion requirement. Is not intended to be applied year round.

NWW FPOM UPDATES 10 APRIL 2008

Construction

McNary: U3 returned from 9-year overhaul on March 12.

Ice Harbor: U6 remains out of service due to transformer gas problem.

Lower Monumental: RSW work completed, in operation.

Little Goose: U6 has been out of service due to water in stator since December 11.

Lower Granite: U2 OOS for rewind and 6-year O/H, with completion expected September 2008.

Operations and Maintenance - Juvenile Fish Facilities

Note: out of service turbine units do not necessarily have fish screens deployed.

McNary: Transport Facility/Bypass System: emergency bypass began March 12, all screens lowered by March 27, switched to primary bypass March 31, first every-other-day sample completed April 3. Bypass outfall water cannon in service.

Ice Harbor: Sample Facility/Bypass System: bypass began March 17, all screens lowered by March 27, first sample took place April 4.

Lower Monumental: Transport system/Bypass System: primary bypass began March 19, all screens lowered by March 20, start of secondary bypass and first sample took place April 1.

Little Goose: Primary Dewaterer: Support I beam replaced March 11-12. Transport system/Bypass System: primary bypass began March 24, all screens lowered by March 26, secondary bypass began April 1, first sample took place April 3.

Lower Granite: Transport system/Bypass System: bypass began March 17, all screens lowered by March 21, initial fish condition sample completed March 25, first 24-hour sample was completed April 1. RSW: 2 logs removed on April 3 with two separate closures (20 min and 1 min) required.

Operations and Maintenance - Adult Fish Facilities

Adult Fish Counts: McNary and lower Snake River projects - visual fish counts began April 1.

McNary: Oregon Ladder: Fish pump #1 is OOS due to the oil leak reported last month being worst than originally thought. Repairs are expected to be completed in a month. Washington Ladder – tailwater elevation sensor failed March 9 causing entrances W2 & W3 to bottom out on sill. Sensor was rewired by March 12 and weirs resumed normal operation.

Ice Harbor: North Shore ladder in service. North Shore Fish pump #2 gearbox is currently undergoing manufacturer warranty repairs. South Ladder is in service.

Lower Monumental: North ladder in service. Pump #3 out of service and “bulk-headed off” to reduce leakage and improve efficiency of pumps. #1 and #2 currently in service. Pump #3 has a problem with the diffuser assembly and bearing housing. The south ladder is in service.

Little Goose: Ladder in service, fish pumps operating satisfactorily. SSE2 weir controls tripped breaker due to problem with electrical feed cables. Repairs completed March 13.

Lower Granite: The ladder is service. April 3 - Pump 1 speed reduced due to low tailwater elevations, pump 2 was shut off, and pump 3 placed in operation. Video counts ended with the start of visual fish counts on April 1. NSE-2 motor replaced March 20.

Research

McNary: USGS antennas installed March 25.












Ice Harbor: RSW: Radio tracking equipment is to be reinstalled March 5.

Lower Monumental: Oregon State University collecting steelhead daily in support of avian predation research. NOAA Fisheries STS antennas installed March 13. NOAA Fisheries researchers installed spillway antennas March 20. RSW direct injury study completed April 2.






Little Goose: Two research bulk patterns were tested April 3.

Lower Granite: Adult fish trap resumed operations March 7 with 10% sample rate to monitor steelhead. Limited radio tagging of steelhead taking place. First fish research barge departs Lower Granite April 10. Research barges will depart Lower Granite every Thursday, and on Mondays starting April 21. Six Monday departures planned.

March 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 Adult Passage Season Begins – Start counting at Lower Granite Dam
2	3 Planning Mtg for Lamprey	4 FPAC SRWG	5	6	7	8
9	10	11 FPAC	12 TMT	13 FPOM Meeting- NOAA Shad task group Happy Birthday	14	15
16	17	18 FPAC BON BGS Dive	19 NWP FFDRWG Survival SRWG BON BGS Dive	20 BON BGS Dive	21 BON BGS Dive	22 BON BGS Dive
23	24 BON spillway survey	25 FPAC BON spillway survey	26 TMT BON spillway survey BON U17 returned	27 BON spillway survey	28 BON SDE ROV	29 BON BGS dive
30	31					

April 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 FPAC Adult Fish Counting Starts all Dams. Juvenile Bypass Season Begins	2	3 Juvenile Spill Starts Snake River Dams – Pools to MOP	4	5
6	7	8 FPAC	9 TMT	10 FPOM Meeting- McNary	11	12
13	14	15 FPAC	16 B2CC closed- BGS TDA Fish unit OOS NHC MCN Surface Bypass Agency Visit	17 TDA Fish unit OOS	18 TDA Fish unit OOS	19
20	21 Snake River Juvenile Transport Begins TSP PDT at ERDC ICH COP 1300	22 FPAC TSP PDT at ERDC ICH COP 0930	23 TMT TSP PDT at ERDC NWW SRWG- passage	24 NWP FFDRWG TSP PDT at ERDC	25 TSP PDT at ERDC	26
27 Happy Birthday	28	29 FPAC NWW FFDRWG LMN, ICH	30 NWW field trip- ICH, MCN			

May 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 SCT@ MCN	2	3
4	5	6 FPAC	7 TMT	8 FPOM Meeting- RDP Shad Fishery Task Group Meeting	9	10
11	12	13 FPAC	14	15	16	17
18	19	20 FPAC	21 TMT	22	23	24
25	26	27 FPAC	28	29	30	31