



Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

PUBLIC AFFAIRS

August 27, 2007

In reply refer to: DK-7

Mr. Neal Clark
Save Our *Wild* Salmon
2031 SE Belmont Street
Portland, OR 97214

RE: FOIA Request #07-033

Dear Mr. Clark:

This is the Bonneville Power Administration's (BPA), final response to the above referenced Freedom of Information Act (FOIA) Request. In that request you asked for copies of any and all documents, records, and correspondence, memoranda, emails, papers, maps, scientific or technical data, telephone logs, meetings notes, and notes documenting any communications, regardless of physical form or characteristics, on or after January 1, 2007, through July 19, 2007, by, to or between any BPA employee and any other BPA employee or contractor or the U.S. Fish and Wildlife Service (USFWS), Department of the Interior, the National Marine Fisheries Services within the National Oceanic and Atmospheric Administration (NOAA Fisheries), the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation, or the Council on Environmental Quality (CEQ) regarding or relating in any way to USFWS' participation in the processes to develop a Biological Opinion for the Operation of the Federal Columbia River Power System (FCRPS BiOp) on remand. This response includes any records of any kind that:

1. Mention, discuss, or relate in any way to the role, or any consideration of a role, that USFWS employees or contractors had, currently have, or will have in any aspect of the preparation, review, critique, or development of data and analyses that may inform any aspect of the FCRPS BiOp or the proposed action for consideration in the FCRPS BiOp, including but not limited to the development of the so-called COMPASS model by NOAA Fisheries and others;
2. The requested documents specifically include any that relate in any way to limiting or changing the role or participation of any USFWS employee or contractor in any aspect of preparation of the FCRPS BiOp or analyses related to it.

BPA identified 60 records, labeled Documents 1 thru 60, as responsive to your request. Of those records, BPA originated 11 and has assessed their availability under FOIA. With this letter BPA is releasing Documents 1 thru 6 in their entirety. BPA is redacting non-factual portions of five records labeled Documents 7 thru 11, under Exemption 5 that contain intra-agency deliberative

process communications. The redacted portions contain opinions and recommendations on the following subjects and have not been released outside the Executive Branch of the Federal government:

- January 17, 2007: Hydsim questions
- March 15, 2007: Comments on TMT Meeting Notes 3/14
- April 9, 2007: Draft language on continued FCRPS Biological Opinion Implementation
- June 14, 2007: Shift in dates of Bonneville summer spill
- June 14, 2007: FOP Coordination: Lower Monumental and McNary spill schedules

All factual, segregable portions of these five documents are being released.

Two records, labeled Documents 12 and 13, either originated with or contain information that originated with the USFWS. BPA forwarded these documents to that agency for a determination regarding their release and they have been asked to respond to you directly. The contact information for the USFWS is:

Ms. Patti Carroll, FOIA Coordinator
US Department of the Interior
Fish and Wildlife Service, Regional Office
911 NE 11th Avenue
Portland, OR 97232-4181
Phone: (503) 231-2072

Four records, labeled Documents 14 thru 17, originated with the Corps. BPA forwarded these documents to that agency for a determination regarding their release and they have been asked to respond to you directly. The contact information for the Corps is:

Ms. Janice E. Sorensen, FOIA Officer
Department of the Army
Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946
Phone: (503) 808-4523

A majority of the records, labeled Documents 18 thru 60, either originated with or contain information that originated with NOAA Fisheries. BPA forwarded these documents to NOAA for a determination regarding their release and they have been asked to respond to you directly. The contact information for NOAA is:

Ms. Marie Marks, FOIA Officer
National Oceanic and Atmospheric Administration
Public Reference Facility (OFax2)
1315 East-West Highway, Room 10651

Silver Spring, MD 20910
Phone: (301) 713-3540

The Corps, NOAA and USFWS will respond directly to you concerning the release of these records.

If you are dissatisfied with our determination, you may appeal within thirty (30) days of receipt of this letter to Director, Office of Hearings and Appeals, Department of Energy, 1000 Independence Avenue SW, Washington, D.C. 20585. Both the envelope and the letter must be clearly marked "Freedom of Information Act Appeal."

I appreciate the opportunity to assist you with this matter. If you have any questions about this response, please contact my FOIA Specialist, Laura M. Atterbury, at (503) 230-7305.

Sincerely,



Christina J. Brannon
Freedom of Information Act Officer

Enclosures:
Responsive Records labeled Documents 1 through 11

cc:
Ms. Patti Carroll, FOIA Coordinator, USFWS
Ms. Janice E. Sorensen, FOIA Officer, USACE
Ms. Marie Marks, FOIA Officer, NOAA Fisheries

Document 1

McNary,Sarah R - A-7

Subject: FCRPS AA Coordination with USFWS on Hatchery PA
Location: BPA - Room 421 or Conf # (503) 230-3344 PC 6419

Start: Thu 3/22/2007 10:00 AM
End: Thu 3/22/2007 11:30 AM

Recurrence: (none)

Meeting Status: Meeting organizer

Required Attendees: McNary,Sarah R - A-7; Gislason,Jeff - KEWR-4; Finn, Vicki; Kate pucket; Rock Peters (E-mail); 'douglas_dehart@fws.gov'; 'timothy_roth@fws.gov'; 'jana_grote@fws.gov'; 'Grabowski, Steve'

Optional Attendees: 'Peters, Rock D NWD'

We've moved this meeting to begin at 10 a.m. due to a late-breaking schedule conflict. Same BPA room, same call in #. Hope this works for all of our USFWS colleagues. I've left messages for Vicki but haven't connected with her yet. I'm attaching the hatchery/harvest workgroup's coarse screen document with identifying #s (a huge help - let me tell you) so that we can be efficient in discussing potential actions.

Take care,
Sarah



ATT206242.doc (95
KB)

(Numbering system and Nov 9th modifications added to this document on February 9, 2007)

**To: Policy Working Group
Hatchery and Harvest workgroup**

Fr: US v. Oregon parties

Re: Use of the attached "Coarse Screen of Hatchery Actions" document in the remand collaboration process.

The state, federal, and tribal parties to United States v. Oregon support the attached "Coarse Screen of Hatchery Actions" document for use in the collaboration process. We believe that the artificial production initiatives identified in this document are all worthy of consideration and review by those working in the collaboration process. You will see that we have placed projects in two groups – Group A and Group B. The U.S. v. Oregon parties met on October 11th to review this document and discuss how it would be transmitted to those in the collaboration process. One of the key points we want to emphasize is that projects in Group B should be treated as viable alternatives. These actions are all in various states of review and agreement by U.S. v. Oregon parties and we aim to reach consensus decisions on each of these projects.

If there are any questions about how to understand or interpret the coarse screen hatchery actions document from a U.S. v Oregon perspective, there are several U.S. v. Oregon parties represented in the Policy Working Group and the Hatchery and Harvest Workgroup that can answer any questions you may have.

Categorization & Coarse Screen of Hatchery Actions

FINAL Working Draft October 12, 2006

Projects were not exclusively proposed by USvOR parties but groups A and B refer to US v OR party support via current court order or manager agreement and categories reflect US v OR party assessment of projects.

Group A. Projects that are either identified in the US v. OR interim agreement, or the parties responsible for management all concur on the proposed project.

Category 1: Existing or proposed measures for existing programs that are likely to be required for that program to meet its own ESA obligation. Proposals do not reflect an official assessment or determination by NOAA Fisheries or the USFWS.

A.1.1 Lower Columbia Coho-- Klickitat River: Construct acclimation facilities for 1M coho smolts in Klickitat watershed, pursuant to USvOR interim agreement. Submitted by Yakama Nation (YN). Category 1

A.1.2 Upper Columbia Spring Chinook -- Entiat River: Implement changes to Entiat NFH to address problem of Carson stock hatchery fish on the spawning ground. Options to address the issue may include but are not limited to:

- 1. Reprogram Entiat NFH to 400,000 yearling summer chinook and/or coho salmon smolt release. Submitted by YN. Category 1*
- 2. Discontinue releases of Carson stock spring chinook from Entiat NFH.; Determine if artificial propagation using local stock is warranted for recovery. Submitted by NOAA Fisheries (NOAAF). Category 1*

A.1.3 Snake River Spring/Summer Chinook -- Conduct Lookingglass FH fish passage improvement to address fish passage, adult collection and water intake screening issues. Lower Snake River Compensation Program (LSRCP) program. Submitted by U.S. Fish and Wildlife Service (USFWS). Category 1

A.1.4 Snake River Spring/Summer Chinook-Little Salmon River drainage: Investigate feasibility of redd counts/carcass surveys and drainage genetic survey to assess current natural production. Submitted by Idaho Department of Fish and Game (IDFG). RME Category 1.

A.1.53 Snake River fall Chinook -- Assess additional broodstock collection options for the Snake River ESU to promote development of stock structure/natural fish collection and that consider effects on other anadromous and resident species and river uses. LSRCP and NPCC Fish and Wildlife Program. Submitted by NOAAF. Category 1.

Category 2: Ongoing Measures under existing programs where benefits have not been realized yet and thus are not reflected in the gap.

A.2.1 Mid-Columbia and Lower Columbia Steelhead DPS – Deschutes/Warm Springs and Hood River populations: Continue removal of out-of-basin hatchery steelhead at existing sorting facilities, including Warm Springs weir, Powerdale Dam trap, and Round Butte trap. Out-of-basin hatchery steelhead are identifiable in the Deschutes and Hood River because local broodstocks in these basins already have unique marks. Submitted by Oregon Department of Fish and Wildlife (ODFW). Category 2.

A.2.2 Mid-Columbia Steelhead DPS – All populations in the DPS: Continue and refine alternative broodstock development for Wallowa stock steelhead hatchery program with emphasis on actions to reduce stray rates. Submitted by ODFW. Category 2.

A.2.3 Mid-Columbia Steelhead DPS – All populations in Yakima Basin: Continue the kelt reconditioning program Applies to all tributaries in Yakima). Submitted by YN Category 2.

A.2.4 Upper Columbia Steelhead – Wenatchee: Program transitioned to local broodstock. Discontinued releases of Wells stock in Entiat. Currently funded by PUD. Full realization of benefits not complete. Submitted by Washington Department of Fish and Wildlife (WDFW). Category 2

A.2.5 Snake River Spring/Summer Chinook-- Johnson Creek (East Fork of the SFSR drainage): Continue 100,000 smolt production (JCAPE). Increases abundance of fish spawning naturally. In US v. OR agreement. NPCC Fish and Wildlife Program. Depends on LSRCP infrastructure. Submitted by Nez Perce Tribe (NPT). Category 2

A.2.6 Snake River Spring/Summer Chinook -- Lemhi, West Fork Yankee Fork, and East Fork: Continue the captive rearing program as described in the 07-09 project proposal for NPCC funding. NPCC Fish and Wildlife Program. Depends on sockeye program infrastructure. Submitted by IDFG. RME category, Category 2.

A.2.7 Snake River Spring/Summer Chinook -- Tucannon River: Continue 150K captive broodstock smolt production until phased out by co-managers and increase conventional program to 225K. Important to sustaining population and increasing abundance. NPCC Fish and Wildlife Program and LSRCP program. Depends on LSRCP infrastructure. In the US v. OR agreement. Submitted by NPT. Category 2

A.2.8 Snake River Spring/Summer Chinook -- Grande Ronde River: Continue captive broodstock smolt production for Lostine River, Catherine Creek and Upper Grande Ronde until phased out by comanagers. Important to sustaining populations. In the US v. OR agreement. NPCC Fish and Wildlife Program and LSRCP program. Depends on LSRCP infrastructure. Submitted by Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Category 2

A.2.9 Snake River Fall Chinook -- Snake Basin, including tributaries: Continue the fall Chinook acclimation project at Pittsburg Landing, Big Canyon and Captain John Rapids (FCAP). In the US v. OR agreement. Increases fish spawning naturally and improves spatial structure. NPCC Fish and Wildlife Program and LSRCP program. Depends on LSRCP infrastructure. Submitted by NPT. Category 2

A.2.10 Snake River Fall Chinook -- Clearwater Basin: Continue Nez Perce Tribal Hatchery production, including new broodstock collection and satellite facilities for 1.4M subyearlings. Increases fish spawning naturally and improves spatial structure and diversity. In the US v. OR agreement. NPCC Fish and Wildlife Program. Submitted by NPT. Category 2

A.2.11 Snake River steelhead – Continue to utilize existing LSRCP infrastructure on the East Fork Salmon River to trap and collect locally returning natural steelhead for a supplementation program and utilize HGMP planning to develop an increased smolt production target for supplementation based on biological assessment and production logistics. LSRCP program, dependent on LSRCP infrastructure. Submitted by IDFG, planning and RME. Category 1,2,4.

A.2.12 Mid-Columbia Steelhead DPS – Continue to evaluate the contribution of the transportation program to fall back and straying. This is a continuation of the existing U of I research project. RM&E. Submitted by ODFW. Category 2.

Category 3: New measures related to existing programs that have conservation benefits that are above what is needed to meet the hatchery obligations.

A.3.1 Lower Columbia River Chinook -- Multiple populations – Spring Creek reprogramming, see the proposal table. Has US v. OR endorsement, in resolution list (p. 35-36). Submitted by USFWS. Category 3

A.3.2 Mid-Columbia Steelhead DPS – All populations in the DPS: Review and assess alternative broodstock management strategies for all Snake River steelhead stocks that stray into Mid-Columbia populations. Submitted by ODFW. RME, Category 3.

A.3.3 Mid Columbia Steelhead -- Klickitat R. A-Run: Construct trap at Lyle Falls to improve monitoring of steelhead and as a potential location for collection of steelhead broodstock for supplementation in the upper upper basin above Klickitat Hatchery. Assess whether genetic marker/DNA can be used to differentiate the two upper basin populations from the other spawning components in the basin. If DNA differentiation is successful then steelhead broodstock could be collected at Lyle Falls. Use Castile Falls to augment and/or transition broodstock collection for the upper basin portion of the program. Construct acclimation facility on McCreedy Creek in the upper basin. Submitted by YN. Category 3

A.3.4 Upper Columbia Spring Chinook -- Wenatchee River: Identify feasible options to acclimate hatchery smolts in upper Chiwawa, and upper Nason Creeks in coordination with anticipated habitat improvements. Submitted by YN. Category 3

- A.3.5 *Upper Columbia Steelhead*-- Wenatchee: Provide juvenile rearing and "semi-natural" acclimation/release ponds on target area water sources distributed throughout Wenatchee basin tributaries (natural acclimation ponds in upper Wenatchee, Peshastin, Chumstick, and Mission Creeks). Adjust release sites in coordination with habitat improvement projects as may be necessary. Submitted by NOAA Fisheries and YN. Category 3
- A.3.6 *Upper Columbia Spring Chinook* – Methow River: Construct acclimation site in the upper Methow River. Submitted by YN. Category 3.
- A.3.7 *Upper Columbia Steelhead* --Develop localized broodstock for use in Methow River. Develop transition plan and feasible options for implementation including adult and juveniles facilities, as needed, to support program. Phase out use of Wells stock. Submitted by NOAAAF. Category 3.
- A.3.8 *Upper Columbia Steelhead* – Methow River - Develop mechanisms to manage hatchery fish on spawning grounds. Submitted by NOAA Fisheries. Category 3
- A.3.9 *Upper Columbia Steelhead* – Okanogan River: Develop localized broodstock for use in Okanogan River. Develop transition plan and feasible options for implementation including adult and juveniles facilities, as needed, to support program. Phase out use of Wells stock. Submitted by NOAAAF. Category 3.
- A.3.10 *Upper Columbia Steelhead* – Okanogan River - Adjust release sites in coordination with habitat improvement projects. Submitted by NOAAAF. Category 3
- A.3.11 *Snake River Spring/Summer Chinook* -- Grande Ronde/Imnaha, Lostine, Upper Grande Ronde, Catherine Creek, Lookingglass Creek: Implement NEOH for about 400,000 more smolts for total program of 1.4M. Target use of up to 250,000 of these hatchery parr/smolts for use into Lookingglass Creek using Catherine Creek stock. Constructs new hatchery on Lostine River and modifies Imnaha satellite facility. Replace existing Imnaha adult weir with a "bladder/Obmeyer" weir that would allow hatchery broodstock collection during high flows. In the US v. OR agreement. NPCC Fish and Wildlife Program. Submitted by NPT. Category 3.
- A.3.12 *Snake River Spring/Summer Chinook*—Johnson Creek: Based on existing assessment of Johnson Creek and other Snake Basin supplementation efforts, re-assess appropriate size and necessary logistics for Johnson Creek program. If increased smolt production necessary for rebuilding and supported by broodstock availability, assess alternative smolt rearing locations along with McCall FH for program growth. NPCC Fish and Wildlife Program. Dependent on LSRCP infrastructure. Submitted by NPT and IDFG. Category 3.
- A.3.13 *Snake River Spring/Summer Chinook*—Complete Idaho Supplementation Studies (ISS) research, including in the upper South Fork Salmon River(McCall), the Upper Salmon River (Sawtooth), and the Pahsimeroi River to guide future enhancement effort. NPCC Fish and Wildlife Program, LSRCP program, IPC program. Dependent on LSRCP and IPC program infrastructure. RME that will assist future recovery management. Submitted by IDFG. Category 3.

A.3.14 Snake River Spring/Summer Chinook—South Fork Salmon River/McCall FH, Pahsimeroi River/Pahsimeroi FH, Upper Salmon River/Sawtooth FH: Utilize ISS and other Snake Basin supplementation and recovery plan information in conjunction with Idaho salmon managers to develop integrated broodstock management guidelines to implement supplementation and mitigation objectives as longer-term management strategies if supported by the information framework. NPCC Fish and Wildlife Program, LSRCP program, IPC program. Dependent on LSRCP and IPC program infrastructure. RME that will assist future recovery management. Submitted NPT and IDFG. Category 3.

A.3.15 Snake River Spring/Summer Chinook --Develop additional wellwater supply for Sawtooth FH to increase rearing capacity and hatchery survival. Not in USvOR agreement but has basin salmon manager support. LSRCP program. Submitted by IDFG. Category 3.

A.3.16 Snake River Fall Chinook-- Snake Basin, including tributaries: Complete Lower Granite Trap expansion to include modifying the adult facility to include a separate trap for sort-by-code PIT tags, improved run reconstruction capabilities, and increased brood stock collection capacity. Trap improvement supported by US v. OR parties, but issues remain on trap operation. Submitted by NPT. Category 3

A.3.17 Snake River Fall Chinook-- Snake Basin, including tributaries: Modify adult holding ponds at Lyons Ferry Hatchery to increase fall Chinook brood holding capacity and flexibility. LSRCP program. Supported by local co-managers. Submitted by CTUIR. Category 3

A.3.18 Snake River Fall Chinook—Develop future research plans for future research plans for one of the major spawning aggregates to determine the sustainability of natural spawners in the absence of hatchery fish, once natural production achieves sustained target levels. Submitted by NOAA. RME Category 3, 1.

A.3.19 Snake River sockeye – Implement expanded smolt production of at least 1 million sockeye smolts with associated broodstock and release infrastructure for Stanley Basin sockeye program. Depends on sockeye program infrastructure of NPCC Fish and Wildlife Program. Submitted by NPT and IDG. Category 3.

A.3.20 Upper Columbia Spring Chinook – Wenatchee River, Methow River: Assess utilizing genetic markers in real time to identify broodstock at the sub-population level within the upper Columbia ESUs. PIT tag returning adults at Priest Rapids Dam and at the same time take a fin clip for genetic analysis. Do real time genetic analysis while the adults continue to migrate to upstream collection sites. Collect broodstock based on stock identification from analysis at Tumwater Dam in the Wenatchee Basin and Wells Dam for the Methow Basin. Submitted by YN. Category 3,4. (this was moved from Group B, Category 3 with Delarm memo of November 9th)

A.3.21 Upper Columbia Steelhead – Wenatchee River, Methow River, Okanogan River: Assess utilizing genetic markers in real time to identify broodstock at the sub-population level within the upper Columbia ESUs. PIT tag returning adults at Priest Rapids Dam and at the same time take

a fin clip for genetic analysis. Do real time genetic analysis while the adults continue to migrate to upstream collection sites. Collect broodstock based on stock identification from analysis at Dryden and Tumwater Dams in the Wenatchee Basin and Wells Dam for the Methow and Okanogan Basins. Submitted by YN. Category 3, 4. (this was moved from Group B, Category 3 with Delarm memo of November 9th)

Category 4: Totally new programs that may have conservation benefits.

A.4.1 Lower Columbia River Chinook, Lower Columbia River Coho, Middle Columbia River Steelhead-- Multiple populations: Rehab Big White Salmon FH ponds (Spring Creek NFH satellite) and water intake structure; Construct weir at Big White Salmon ponds site for broodstock collection and hatchery fish management for upper basin after Condit Dam removal. Submitted by USFWS. Category 4.

A.4.2 Mid-Columbia Steelhead DPS – Expand surveys of all natural spawning areas in the Mid-Columbia DPS to monitor wild fish abundance, hatchery fractions, the spatial distribution of hatchery strays, and the sources of hatchery strays. This monitoring activity would be the basic M&E required for determining whether the benefits and performance measures for this overall program are being met. This M&E would be used to empirically determine the benefits and credit of this action. RM&E Submitted by ODFW. Category 4.

A.4.3 Mid-Columbia Steelhead DPS – Evaluate potential management actions to decrease out-of-basin hatchery fractions in Trout Cr., Backoven Cr., Buck Hollow Cr. and at Sherars Falls (Deschutes Basin). RM&E. Submitted by ODFW. Category 4.

A.4.4 Upper Columbia Spring Chinook and Steelhead – Wenatchee, Entiat, and Methow Rivers. Use nutrient analogs in upper watershed. Submitted by YN. Category 4

A.4.5 Upper Columbia Spring Chinook – Wenatchee River: Develop incubation/rearing space for 100K spring Chinook salmon smolts to be released from smolt acclimation site on Peshastin Creek. Collect hatchery fish from Tumwater Dam. Submitted by YN Category 4

A.4.6 Upper Columbia Steelhead -- Wenatchee R. Group A: Develop options for implementing a kelt reconditioning program. Submitted by YN. Category 4.

A.4.7 Upper Columbia Steelhead -- Methow Group A: Develop options for implementing a kelt reconditioning program. Submitted by YN. Category 4

A.4.8 Upper Columbia Steelhead – Okanogan River: Develop options for implementing a kelt reconditioning program. Submitted by Colville Tribes (CT). Category 4

A.4.9 Upper Columbia Steelhead - -Okanogan River: Test live capture selective gear as a management tool. New project submitted by CT and supported by NOAA. Category 4.

A.4.10 Snake River Spring/Summer Chinook – Yankee Fork Salmon River. Progress beyond initial smolt release of Sawtooth stock in 2006 to develop via HGMP planning a longer-term

supplementation strategy that transitions to locally returning adults and provides appropriate infrastructure for collect adults, rear and release smolts, and does not adversely affect the existing Sawtooth FH program and ongoing research projects in the Yankee Fork. Not in USvOR agreement table but issue identified in resolution list (p. 35-36). Dependent on LSRCP infrastructure. Submitted by IDFG. Category 4.

A.4.11 Snake River Spring/Summer Chinook --Multiple populations: Safety net placeholder, continue to fund the "Safety Net Artificial Production Planning (SNAPP)" process as described in the 2004 Proposed Action. Not in US v. OR agreement but has support for co-manager parties. Submitted by NPT and IDFG. Category 4

A.4.12 Snake River steelhead—Initiate a pilot program in the Yankee Fork Salmon River to collect locally returning natural steelhead for a supplementation program using existing LSRCP rearing infrastructure. Submitted by IDFG. Category 4.

A.4.13 Snake River steelhead -- Fish Creek B-run, Rapid River A-run: Assess population specific abundance by investigating feasibility of sampling juvenile steelhead and using parentage analysis techniques to estimate spawners. Pilot project in these basins-RME category. Submitted by IDFG. Category 4.

A.4.14 Snake River steelhead --Conduct genetic survey of natural steelhead in Little Salmon River mainstem and tributaries compared with hatchery releases to assess natural production. Submitted by IDFG. RME Category 4, 1

Group B. Projects that currently lack consensus by U.S. vs. Oregon parties, or are outside of the US v Oregon process.

Category 1: Existing or proposed measures for existing programs that are likely to be required for that program to meet its own ESA obligation. Proposals do not reflect an official assessment or determination by NOAA Fisheries or the USFWS.

Category 2: Ongoing Measures under existing programs whose benefits have not been realized yet and thus are not reflected in the gap.

B.2.1 Mid-Columbia Steelhead DPS – All populations in the DPS: Continue and expand selective terminal fisheries to remove hatchery steelhead from some areas. Submitted by ODFW. Category 2.

Category 3: New measures related to existing programs that may have conservation benefits that are above what is needed to meet the hatchery obligations.

B.3.1 Mid-Columbia Steelhead DPS – Deschutes populations: Enhance trapping facilities and implement trap and removal on Shitike Cr. and Trout Cr. Traps are currently in place on these creeks, but are ineffective. Submitted by ODFW. Category 3.

B.3.2 Mid-Columbia Steelhead DPS – Walla Walla population. Develop localized broodstock for use in the mainstem Walla Walla River and relocate releases from the mid mainstem to the upper mainstem. Discontinue use of Lyons Ferry stock. Submitted by CTUIR. Category 3.

~~*B.3.3 Upper Columbia Spring Chinook – Wenatchee River, Methow River:* Assess utilizing genetic markers in real time to identify broodstock at the sub-population level within the upper Columbia ESUs. PIT tag returning adults at Priest Rapids Dam and at the same time take a fin clip for genetic analysis. Do real time genetic analysis while the adults continue to migrate to upstream collection sites. Collect broodstock based on stock identification from analysis at Tumwater Dam in the Wenatchee Basin and Wells Dam for the Methow Basin. Submitted by YN. Category 3, 4.~~

B.3.4 Upper Columbia Spring Chinook – Wenatchee River: Scale Chiwawa Spring Chinook salmon program to fit habitat capacity of the target major spawning aggregate. Submitted by NOAA Fisheries. Category 3

B.3.5 Upper Columbia Spring Chinook – Wenatchee River: Establish mechanisms to manage surplus hatchery adults returning to areas above Tumwater Dam, including options of using hatchery fish at Leavenworth RFH and seeding lower Wenatchee River tributaries after completing habitat improvements. Submitted by NOAA Fisheries. Category 3.

B.3.6 Upper Columbia Spring Chinook -- Methow River: Construct acclimation sites in the upper Chewuch, and Twisp rivers. Submitted by YN. Category 3

B.3.7 Upper Columbia Spring Chinook -- Methow River: Develop physical mechanisms to manage surplus hatchery fish on spawning grounds and increase number of natural origin fish in broodstock. Submitted by NOAAF. Category 3

B.3.8 Upper Columbia Steelhead-- Okanogan River: Upgrade and expand Cassimer Bar broodstock collection and juvenile rearing facilities. New project. Submitted by CT. Category 3.

~~*B.3.9 Upper Columbia Steelhead – Wenatchee River, Methow River, Okanogan River:* Assess utilizing genetic markers in real time to identify broodstock at the sub-population level within the upper Columbia ESUs. PIT tag returning adults at Priest Rapids Dam and at the same time take a fin clip for genetic analysis. Do real time genetic analysis while the adults continue to migrate to upstream collection sites. Collect broodstock based on stock identification from analysis at Dryden and Tumwater Dams in the Wenatchee Basin and Wells Dam for the Methow and Okanogan Basins. Submitted by YN. Category 3, 4.~~

B.3.10 Snake River Spring and Fall Chinook, Upper Columbia Spring Chinook, – All populations in the ESUs: Install recirculation water treatment system at Umatilla Hatchery to reduce straying of hatchery fish into other populations and ESUs. Submitted by ODFW. Category 3.

B.3.11 Snake River Fall Chinook, Tucannon Spring Chinook, Endemic Steelhead --Snake Basin, including tributaries: Modify Lyons Ferry FH to increase well water supply, supply pipeline and

rearing containers to increase juvenile production capacity. LSRCP program. Submitted by NPT. Category 3

B.3.12 Snake River Fall Chinook --Mark all of the hatchery releases to simplify and increase certainty of ID of adults targeted for broodstock, ease operations at Lyons Ferry H, improve run reconstruction, and assist in managing hatchery fish on spawning grounds. LSRCP Program. Submitted by NOAAF. Category 3.

B.3.13 Snake River Spring/Summer Chinook-- Replace Innaha water supply. LSRCP Program. Submitted by ODFW. Category 3.

B.3.14 Snake River Spring/Summer Chinook --Replace existing Innaha adult weir with a "bladder/Obmeyer" weir that would allow hatchery broodstock collection during high flows. In the USvOR agreement as a component of NEOH. NPCC Fish and Wildlife Program. Submitted by ODFW. Category 3.

B.3.15 Snake River sockeye -- Implement ongoing expansion of captive brood program to add 150,000 smolts (at ODFW Oxbow FH). NPCC Fish and Wildlife Program, depending on sockeye program infrastructure. Submitted by IDFG. Category 3

Category 4: Totally new programs that may have conservation benefits.

B.4.1 Mid-Columbia Steelhead DPS – All populations in the DPS: Decrease fraction of Snake River hatchery steelhead that are transported. Submitted by ODFW. Category 4.

B.4.2 Mid-Columbia Steelhead DPS – Deschutes populations. Develop and implement a trap-and-removal program at Sherars Falls fish ladder to remove out-of-basin hatchery strays. Submitted by ODFW. Category 4.

B.4.3 Mid-Columbia Steelhead DPS – Deschutes populations. Following the completion of an evaluation study (see RME) develop and implement management actions to decrease out-of-basin hatchery fractions on Bakeoven and Buck Hollow Creeks. Submitted by ODFW. Category 4.

B.4.4 Mid-Columbia Steelhead DPS – Umatilla population. Consider a unique mark for local hatchery steelhead that would allow trap-and-removal of out-of-basin hatchery strays at Threemile Dam. Submitted by ODFW. Category 4.

B.4.5 Upper Columbia Spring Chinook – Wenatchee River: Develop incubation/rearing space for 150K at Eastbank, LeavenworthNFH, Entiat NFH or TBD Grant PUD spring Chinook facility. Construct smolt acclimation site in the Little Wenatchee River. Establish new 150K smolt release program using brood collected at adult traps in the White River or marked Chiwawa Hatchery fish at Tumwater Dam. Submitted by YN. Category 4

B.4.6 Upper Columbia Spring Chinook -- Okanogan River: Implement Okanogan reintroduction HGMP & Chief Joseph Hatchery Master Plan using Methow donor fish. New project. Submitted by CT. Category 4.

B.4.7 Snake River steelhead-- Lemhi River-Build adult collection and acclimation facilities for 240K steelhead smolts annually from locally adapted fish in the Lemhi River. Submitted by the Shoshone-Bannock Tribes (SBT). Category 4.

B.4.8 Snake River steelhead --Transition 330K Sawtooth FH smolt release to 330K locally adapted hatchery stock. Submitted by SBT. Category 4.

B.4.9 Snake River steelhead --Valley Creek. Transition 50K Sawtooth FH smolt release to 50K locally adapted hatchery stock. Submitted by SBT. Category 4.

B.4.10 Snake River steelhead --Slate Creek. Transition 100K Sawtooth FH smolt release to 100K locally adapted hatchery stock. Submitted by SBT. Category 4.

B.4.11 Snake River steelhead --Morgan Creek. Build adult collection and acclimation facilities for 150K steelhead smolts annually from locally adopted hatchery fish in Morgan Creek. Submitted by SBT. Category 4.

B.4.12 Snake River steelhead --Panther Creek-Build adult collection and acclimation facilities for 150K steelhead smolts annually from locally adapted hatchery fish in Panther Creek. Submitted by SBT. Category 4.

B.4.13 Snake River steelhead --Build adult collection and acclimation facilities for 150K steelhead smolts annually from locally adapted fish in North Fork Salmon River. Submitted by SBT. Category 4.

B.4.14 Snake River Spring/Summer Chinook --Lemhi River: Initiate supplementation program. Submitted by NPT. Category 4

B.4.15 Snake River Spring/Summer Chinook --Convert the captive rearing conservation experiment in the West Fork Yankee Fork Salmon River to captive broodstock. Develop Yankee Fork ponds for juvenile rearing. Submitted by SBT. Category 4.

B.4.16 Snake River Spring/Summer Chinook—Valley Creek: Initiate acclimation and release of 300,000 indigenous spring chinook smolts in Valley Creek. Submitted by SBT. Category 4.

B.4.17 Snake River Spring/Summer Chinook --Acclimate and release 750K spring chinook smolts in the East Fork Salmon River. Convert the captive rearing conservation experiment to captive broodstock with an adult return goal of 1K adults. Submitted by SBT. Category 4.

B.4.18 Snake River Spring/Summer Chinook --Initiate side-stream and in-stream incubation of at least 600K spring/summer chinook salmon eggs annually in Salmon River tributaries above the Middle Fork Salmon River. Submitted by SBT. Category 4.

B.4.19 Snake River Spring/Summer Chinook --Panther Creek: initiate acclimation and release of 150K spring/summer chinook smolts using Pahsimeroi or McCall FH as donor stock and phase out to locally adopted broodstock collection as adults return. Submitted by SBT. Category 4.

B.4.20 Snake River Spring/Summer Chinook-- Rapid River: Use 200,000 Rapid River FH smolts for supplementation in Rapid River and plan for hatchery origin fish to spawn naturally. Submitted by NPT. Category 4

B.4.21 Snake River Spring/Summer Chinook – Asotin Creek: Develop reintroduction/supplementation program for Asotin Creek in conjunction with Lyons Ferry Hatchery and Tucannon program. 150K smolt production. Submitted by NPT. Category 4.

B.4.22 Snake River sockeye -- Implement expanded smolt production to 1M for Warm Lake. Submitted by NPT and SBT. Category 4

B.4.23 Snake River sockeye -- Implement expanded smolt production to 1M for Wallowa Lake. Submitted by NPT. Category 4

B.4.24 Snake River sockeye-- Develop acclimation, release, and adult collection of 1M sockeye smolts in Stanley Lake. Submitted by SBT. Category 3.

B.4.25 Snake River steelhead --Utilize existing LSRCP infrastructure on the East Fork Salmon River to trap and collect locally adapted natural steelhead to release 240K steelhead smolts. Submitted by SBT. Category 4.

B.4.26 Snake River Spring/Summer Chinook—Yankee Fork Salmon River. Initiate new 350K smolt supplementation project using Sawtooth FH stock transitioning to local returns. Complete construction of a satellite facility on Yankee Fork for adult collection and expand Sawtooth FH to accommodate juvenile rearing. Not in USvOR agreement table but issue identified in resolution list (p. 35-36). Elements of proposal has support from basin manager parties. Submitted by SBT. Category 4.

Document 2

Kerr, Mary K - KE-4

From: Chris Van Holmes [cvh@cbr.washington.edu]
Sent: Tuesday, February 13, 2007 10:17 AM
To: Ocker, Paul A NWD
Cc: Merlin Smith; Bruce Suzumototo; Chris Toole; Earl Weber; Ron Boyce; Rod Woodin; Charlie Petrosky; Tony Grover; Blane Bellerud; Katherine Cheney - NMFS; Tony Nigro; Ed Bowles; Fodrea, Kimberly A - PGPL-5; Margaret Filardo; Jerry McCann; Rich Zabel; Tom Lorz; Steve Haeseker; Rick Kruger; Russ Kiefer; Steven smith; Shutters, Marvin K NWW; Sweet, Jason C - KEWR-4; Steve Grabowski; Stephen Smith; Gary Fredricks; Wik, Tim O NWW; Al Giorgi; Kris Ryding; Bill Hevlin; Higginbotham, Fred G NWW; Ann Setter; David Wills; Mark Scheuerell; Jim Faulkner; Jim Anderson; Nick Beer; Eppard, Matthew B NWP; Tom Berggren; Clugston, David A NWP; Michele DeHart; Geiselman, Jim - KEWR-4; Greg Haller; Hurson, Dave F NWW; Langeslay, Mike J NWP; Jim Litchfield; Charles Paulsen; Peters, Rock D NWD; Dave Statler; Dunmire, Scott T NWW; Tim Dalton; Kalamasz, Rebecca L NWW; Walt Haerer; Kenneth Ham; Rebecca Buchanan; Paul Wilson
Subject: Re: From Charlie Paulsen - SR Adult Conv_7-31-06 draft _2_.xls (UNCLASSIFIED)

Paul,

Here are the Steelhead conversion rates from IHR to LGR From DART:

Obs_Years	SPRRT	IHR_OBS	LGR_OBS	Conversion_Rate
(2003- 2006)	All_Sthd	2456	2360	0.96 O M **

Hatchery results: .97
Wild Results: .96

** - Includes Fish that Overwintered during upstream passage and some fish were seen Multiple times at IHR

Chris Van Holmes

The PIT Tag Adult Returns Conversion Rate Report includes all adult detections (as determined by DART) at the lower project, Ice Harbor, for PIT-tagged Steelhead released in Snake River Basin (above LGR). The detections reported for the upper project, Lower Granite, only include detections for the PIT-tagged fish which were first observed at Ice Harbor. That is, only fish detected at Ice Harbor can be reported as detected at Lower Granite. Observation numbers are based on the number of unique PIT-tagged fish observed at the project, not on the total number of detections at a project. For example, a fish detected at both B01 and B02 detectors would only be counted once for Bonneville.

Ocker, Paul A NWD wrote:

> Classification: UNCLASSIFIED
> Caveats: NONE

>
> Hmm, don't we have some harvest between ICH and LGR for STH? There is a
> pretty big fishery in there.

> Paul

> -----Original Message-----

> From: Merlin Smith [mailto:merlin.smith@noaa.gov]
> Sent: Monday, February 12, 2007 2:55 PM
> To: Bruce Suzumototo; Chris Toole; Earl Weber; Ron Boyce; Rod Woodin; Charlie
> Petrosky; Tony Grover; Blane Bellerud; Ocker, Paul A NWD; Katherine Cheney -

> NMFS; Tony Nigro; Ed Bowles; Kim Fodrea; Margaret Filardo; Jerry McCann; Rich
> Zabel; Tom Lorz; Steve Haeseker; Rick Kruger; Russ Kiefer; Steven smith;
> Shutters, Marvin K NWW; Jason Sweet; Steve Grabowski; Stephen Smith; Gary
> Fredricks; Wik, Tim O NWW; Al Giorgi; Kris Ryding; Bill Hevlin; Higginbotham,
> Fred G NWW; Ann Setter; David Wills; Mark Scheuerell; Jim Faulkner; Jim
> Anderson; Nick Beer; Chris Van Holmes; Eppard, Matthew B NWP; Tom Berggren;
> Clugston, David A NWP; Michele DeHart; Jim Geiselman; Greg Haller; Hurson,
> Dave F NWW; Langeslay, Mike J NWP; Jim Litchfield; Charles Paulsen; Peters,
> Rock D NWD; Dave Statler; Dunmire, Scott T NWW; Tim Dalton; Steven smith;
> Kalamasz, Rebecca L NWW; Walt Haerer; Kenneth Ham; Rebecca Bucahan; Paul
> Wilson
> Subject: From Charlie Paulsen - SR Adult Conv_ 7-31-06 draft _2_.xls
>
> (Charlie asked that I distribute this document to the COMPASS Modeling
> workgroup.)
>
>
> Note that Rich & Mark may have returns of jacks in 1999 - harvest rates
> on these would be very low - I'm guessing 5% or less.
> Charlie
>
> Charles M. Paulsen
> Paulsen Environmental Research Ltd.
> 503-699-4115
> 16016 SW Boones Ferry Rd #4
> Lake Oswego, OR 97035
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
>
>

Document 3

Kerr, Mary K - KE-4

From: Stuart Ellis [ELLS@critfc.org]
Sent: Tuesday, February 13, 2007 12:34 PM
To: Sweet, Jason C - KEWR-4; Geiselman, Jim - KEWR-4; Fodrea, Kimberly A - PGPL-5; huntersmith@canby.com; cvh@cbr.washington.edu; jim@cbr.washington.edu; nick@cbr.washington.edu; LORT@critfc.org; WEBE@critfc.org; rydinker@dfw.wa.gov; woodirmw@dfw.wa.gov; lcg@europa.com; jmccann@fpc.org; mdehart@fpc.org; mfilardo@fpc.org; tberggren@fpc.org; david_wills@fws.gov; Paul_H_Wilson@fws.gov; steve_haeseker@fws.gov; cpetrosky@idfg.idaho.gov; rkiefer@idfg.state.id.us; walthaerer@msn.com; daves@nezperce.org; greg@nezperce.org; bill.hevlin@noaa.gov; blane.bellerud@noaa.gov; bruce.suzumoto@noaa.gov; chris.toole@noaa.gov; gary.fredricks@noaa.gov; jim.faulkner@noaa.gov; katherine.cheney@noaa.gov; mark.scheuerell@noaa.gov; merlin.smith@noaa.gov; rich.zabel@noaa.gov; Steven.G.Smith@noaa.gov; tgrover@nwcouncil.org; paul.a.ocker@nwd01.usace.army.mil; rock.d.peters@nwd01.usace.army.mil; aegiorgi@nwlinc.com; matthew.b.eppard@nwp01.usace.army.mil; ann.1.setter@nww01.usace.army.mil; fred.g.higginbotham@nww01.usace.army.mil; marvin.k.shutters@nww01.usace.army.mil; Scott.T.Dunmire@nww01.usace.army.mil; tim.o.wik@nww01.usace.army.mil; sgrabowski@pn.usbr.gov; Kenneth.Ham@pnl.gov; cpaulsen@spiritone.com; ed.bowles@state.or.us; raymond.r.boyce@state.or.us; rick.kruger@state.or.us; tim.dalton@state.or.us; tony.nigro@state.or.us; rabuchan@u.washington.edu; dave.f.hurson@usace.army.mil; david.a.clugston@usace.army.mil;
Cc: EHLKERDE@dfw.wa.gov; leflecmi@dfw.wa.gov; henry_yuen@fws.gov; timothy_roth@fws.gov; ssharr@idfg.idaho.gov; skiefer@idfg.state.id.us; aarong@nezperce.org; enrique.patino@noaa.gov; ktardy@shoshonebannocktribes.com; Idenny@shoshonebannocktribes.com; J.Chris.Kern@state.or.us; John.A.North@state.or.us; kathryn.e.kostow@state.or.us; hortonho@ucs.orst.edu; lholliday@wstribes.org; mgauvin@wstribes.org; parker@yakama.com; rdi@yakama.com
Subject: Re: From Charlie Paulsen - SR Adult Conv_ 7-31-06 draft_2_.xls

Folks,
Tom Lorz forwarded me a copy of this email with attached spreadsheet.

I hate to throw a wet blanket on things, but....

This spreadsheet is not ready for prime time. The harvest rates for spring and summer Chinook are not correct. I provided updated estimates to Richie Graves in December and the updated estimates are not in this version. I also will have the 2006 fall harvest rates very soon. The harvest rates that the U.S. v. Oregon Technical Advisory Committee (TAC) typically tracks for Chinook are river mouth based estimates. These estimates have to be converted into estimates specific to the reach you are trying to estimate survival for. There may be some other problems with applying our harvest rate estimates to PIT tag based passage survival estimates, because the harvest rate estimates are created in part by using dam count based conversion loss. (We may have some strange circular logic problems here).

There is also a problem with estimating conversion from McNary to Lower Granite. Our stock specific run size estimates at McNary are a bit iffy. It is very hard to sort out very precisely how many fish that pass McNary are headed towards the Snake Relative to the Upper Columbia. TAC has struggled with estimating conversion between McNary and Ice Harbor or McNary and Priest Rapids and I think most TAC members have not been super happy with how we have had to do it.

For Spring/summer Chinook we have some sport harvest between Ice Harbor and Lower Granite. We can estimate a harvest rate based on the run size at Ice Harbor more realistically than we can based on the run size at McNary. These sport harvest rate estimates while small are not included in this version of the spreadsheet.

I (along with some other TAC members I believe) also have some concerns about some of the small sample sizes in some years especially for the wild groups. My concerns may be tempered a bit by how folks intend to use these results. If people were only going to

make qualitative assessments of these results to say things like, *gee, most of the time these fish seem to be getting upstream pretty well*, I think that would probably be fine, but if people start using these results to say wild fish are passing upstream better (or maybe worse) than the hatchery fish, or if they say that in some particular year there was reduced flow/spill and the fish had a 5% improvement in upstream passage, then I think we would need to look at the statistical significance of some of these estimates.

For steelhead, we have a huge problem. The problem is that TAC does not generate total or hatchery or wild harvest rate estimates specific to Snake River steelhead. We simply don't have harvest rates that can be plugged into this type of analysis. We, for better or worse, simply don't manage fisheries specifically for Snake River steelhead impacts. We do have total Zone 6 tribal steelhead catches and hatchery and wild estimates for fall season fisheries, but these are impacts to the combination of all steelhead populations, not just Snake River. TAC does not have any estimates of the number of Snake River steelhead at Bonneville by which these harvest impacts could be turned into Snake River harvest rates. We also do not have (to my knowledge) catch reports for sport steelhead impacts between Bonneville and Lower Granite for the past 3-4 years (It takes a long time to get the punch card data finalized). When these catches do come available, they will also not be specific to Snake River steelhead and will likely not have complete accounting for wild steelhead release mortality. In short, using PIT tags to estimate conversion loss corrected for harvest for steelhead simply is not possible.

Anyway, please do not go putting these conversion estimates into an new Hydo BiOp or anything like that at least right away. They need some work.

Thanks.
Stuart

Stuart Ellis
Fishery Management Biologist
Columbia River Inter-Tribal Fish Commission
729 NE Oregon Street, Suite 200
Portland, Oregon 97232

503-731-1312
fax 503-235-4228
<http://www.critfc.org>

>>> Merlin Smith <merlin.smith@noaa.gov> 02/12 2:54 PM >>>
(Charlie asked that I distribute this document to the COMPASS Modeling workgroup.)

Note that Rich & Mark may have returns of jacks in 1999 - harvest rates on these would be very low - I'm guessing 5% or less.
Charlie

Charles M. Paulsen
Paulsen Environmental Research Ltd.
503-699-4115
16016 SW Boones Ferry Rd #4
Lake Oswego, OR 97035

Document 4

Kerr, Mary K - KE-4

From: Rick Kruger [Rick.Kruger@state.or.us]
Sent: Thursday, March 22, 2007 2:23 PM
To: Gary Fredricks; Lorz, Tom; Boyce, Ron; Langeslay, Mike J; Fodrea, Kimberly A - PGPL-5; Shutter, Marvin; David Clugston; Tim Wik; Dave Hurson; Jerry McCann; Al Giorgi; Russell Kiefer; David Wills; Brad Eppard; Charlie Paulsen; Kris Ryding; Charlie Petrosky; Paul Ocker; James D. Ruff; Chris Toole; Rich W. Zabel; Bill Hevlin; Fred Higginbotham; Ann Setter; Walt Haerer; Kenneth Ham; Sweet, Jason C - KEWR-4; Jim Faulkner; Eppard, Matthew B NWP
Subject: Passage Model Data Team Call to Action: Spill Passage Efficiency

The COMPASS Workgroup needs the Passage Model Data Team to revive itself and revisit the SPE data and functions for use in the COMPASS model. Current SPE functions used in the COMPASS model are based on a logit fitting function that adds "theoretical" values of 0% fish at 0% spill and 100% fish at 100% spill. There are issues with this approach and some of the other data used in fitting the SPE functions. This is also an opportunity to update the data sets with 2006 results.

The COMPASS WG tentatively scheduled a meeting for the Passage Model Data Team for Thurs. Mar. 29th, 9-12. Volunteers from the COMPASS WG that want or need to participate, in addition to the base Data Team members are:

Walt Haerer, Jim Faulkner, Kenneth Ham and Charlies Paulsen. Jason Sweet and myself also volunteered, but we were part of the Data Team already.

Revised SPE data and functions are needed for incorporation into upcoming Prospective COMPASS runs and updated Action Agency "Proposed Action" runs. These runs need to be completed in 2-3 weeks, so the Data Team needs to work on the SPEs very soon.

Please respond with your availability to participate in this revived Data Team effort and your availability for the tentative Thurs. Mar. 29th meeting.

Document 5

Kerr, Mary K - KE-4

From: Charlie Paulsen [cpaulsen@paulsenenvironmentalresearch.com]
Sent: Thursday, May 10, 2007 12:24 PM
To: Rich Zabel; Merlin Smith
Cc: Bruce Suzumoto; Chris Toole; Earl Weber; Ron Boyce; Rod Woodin; Charlie Petrosky; Tony Grover; Blane Bellerud; Paul Ocker; Katherine Cheney - NMFS; Tony Nigro; Ed Bowles; Fodrea, Kimberly A - PGPL-5; Margaret Filardo; Jerry McCann; Tom Lorz; Steve Haeseker; Rick Kruger; Steven Smith; Marvin Shuttters; Sweet, Jason C - KEWR-4; Steve Grabowski; Stephen Smith; Gary Fredricks; Tim Wik; Al Giorgi; Kris Ryding; Bill Hevlin; Fred Higginbotham; Ann Setter; David Wills; Mark Scheuerell; Jim Faulkner; Jim Anderson; Nick Beer; Chris Van Holmes; Brad Eppard; Tom Berggren; David Clugston; Michele DeHart; Geiselman, Jim - KEWR-4; Greg Haller; David Hurson; Mike Langeslay; Jim Litchfield; Charles Paulsen; Rock Peters; Dave Statler; Dunmire, Scott T NWW; Tim Dalton; Rebecca Kalamasz; Walt Haerer; Kenneth Ham; Rebecca Buchanan; Paul Wilson; Warren Seyler; Russ Kiefer; Lynne Krasnow
Subject: SPE with no revision marks (I swear they were invisible when I sent this the first time)
Attachments: SPE review draft 05-10-07.doc



SPE review draft
05-10-07.doc ...

At 12:11 PM 5/10/2007, Rich Zabel wrote:

>Reminder that we have a COMPASS model scheduled for tomorrow afternoon.
>Details below.

>
>Topics:

- >1) Update of modeling
- >2) Spill passage efficiency

>
>Regarding topic 2, I have attached a writeup on recent analyses
>produced by Charlie Paulsen

>
>Rich

>
>
>>
>>COMPASS Model
>>Friday, May 11th, 1-3 PST
>>Willamette Room, NOAA
>>gotomeeting - 175-717-633
>>Call 7.773.681.5866, passcode 73156

>
>
>

To: COMPASS Spill Passage Efficiency (SPE) group
From: Kenneth Ham, Charlie Paulsen, Jim Faulkner
Subj: **DRAFT** update on SPE curves for potential inclusion in COMPASS
Date: Wednesday, May 09, 2007
File: \COMPASS RT 2007\lgr to mcn\write-up 05-07\SPE P, H, F 05-08.doc

Introduction

Note: This builds on Kenneth's 4/10 memo on the same topic, so please consult that before launching into this version.

Spill is one of the primary tools available for influencing fish passage conditions and survival rates at FCRPS dams. To make the most of spill as a management tool, it is necessary to have some idea how changing the spill proportion will change the distribution of fish passage. Empirical data on fish passage distributions is collected primarily by studies utilizing active (radio or acoustic) tags in fish or by using hydro-acoustics to quantify untagged fish passage. That empirical data can be examined to reveal relationships between spill and passage.

In recent usage, "Spill Passage Efficiency" (SPE) represents the proportion of migrating smolts that pass a project by spill routes (which may be generalized to include surface routes such as removable spillway weirs). The term "Spill Passage Effectiveness" (SPS) is used to represent the proportion of migrating smolts that pass a project by spill routes divided by the proportion of water passing those routes. SPE is used for describing the distribution of fish among routes. SPS is used when evaluating whether passage distribution differs from the distribution of water among routes. Spill proportion provides a better relative indication of the distribution of water across the entire project, and it has been chosen here as the basis for building relationships with SPE.

SPE changes with proportion of spill, the species of interest, and other factors such as time of day. By fitting models to the spill efficiency versus spill proportion relationships, we hope to predict the distribution of fish passage for a given project, species of interest, and spill proportion.

Methods

To develop spill passage efficiency relationships, it is first necessary to identify and acquire suitable passage data. Passage events must then be associated with dam operations data. Relationships can then be developed by fitting curves to passage and spill data. Similar techniques are applied to develop RSW passage efficiency relationships to determine what proportion of spill passage occurs through the RSW. Work to date by USGS and NOAA has been funded by the Walla Walla District of the Corps of Engineers focused on the Snake River Dams and McNary Dam. These techniques are applicable to any project where passage and operations data are available.

Passage Events

A passage event represents the passage of an individual radio-tagged fish. The species (and run), route of passage, and time of passage must be known for each event. Dam operations data must also be available for the time of passage to allow for further analysis. For spill analysis, each event is assigned a 1 if passage is through a spillway route (including RSWs), or a 0 if passage is through non-spill routes. For analysis of RSW passage as a fraction of spill passage, events that were assigned a 1 for spill passage are assigned an additional 1 if passage was through the RSW or a 0 if passage was through a normal spill bay.

Data

Numerous radio telemetry studies have been conducted at the dams of interest. The researchers expended considerable effort to provide data in a form that was usable for developing passage events. Most data were collected in studies performed by USGS or NMFS for the Walla Walla District of the Corps of Engineers. Error! Reference source not found. shows the data that were available for analysis at the time of this writing. Note that 2002 fish passage data at Lower Granite Dam were included in the analysis despite the Behavioral Guidance Structure (BGS) operation, in an effort to increase sample size.

The quantity and distribution of data varied by species group and dam. Wild and hatchery fish of the same species and run were combined into a species group. Only two RSWs, at LGR and ICH, are currently in operation, so data with an operating RSW are more limited. In contrast, Lower Granite Dam has recently been run almost exclusively with the RSW in operation, making non-RSW data scarce for that project. It is important to recognize that data are often not nearly uniformly distributed across the range of spill proportions. An absence of data at the high or low end of the range means that curves will be extrapolated and less certain in those areas.

Dam Operations

In most cases, dam operations data were available by passage route on a 5-minute basis. Because it is likely that operations at and prior to the passage event may influence the route of passage, several alternatives were evaluated for summarizing the operations for use in developing spill-passage relationships. Some of those alternatives for summarizing spill flow percent included:

- 1) Nearest 5-minute instantaneous operation
- 2) Average of the previous 60 minutes
- 3) Hourly average at the top of the hour. (e.g., 1:30 to 2:30 operations averaged for fish passing between 1:30 and 2:30)
- 4) Hourly average at the bottom of the hour. (e.g., 1:00 to 2:00 operations averaged for fish passing between 1:00 and 2:00)

The 5-minute operational data explained the most variation in passage route distribution in 5 of 9 comparisons (results in April memo) and was selected for fitting spill passage relationships. In any case, the four measures were very highly correlated (Pearson $R > 0.99$), so the results are not sensitive to the spill measure employed in the analysis.

Spill Proportions and RSW operation

The ideal set of data for developing spill passage efficiency relationships would include all four dams operating across a wide range of spill proportions, with many tagged chinook and steelhead passing when RSW's were operating and when they were not. In point of fact, only Lower Granite and Ice Harbor have RSW's, no tagged steelhead were detected at Lower Monumental, and spill proportions at Little Goose (0.14 – 0.33) are almost all below spill proportions at Ice Harbor (0.32 – 0.95), from Table 1. This is very different from the PIT tag data used to develop survival and travel time relationships. It occurs in part because the data are simply more limited (16K fish and four years of data spread unevenly among projects, versus millions of fish and 11+ years for PIT tags passing all projects). Perhaps more importantly, due to both expense and logistical constraints, radio tagging has mostly been done to test the effectiveness of particular dam operational scenarios (e.g., nighttime spill vs. daytime spill, RSW's on or off), rather than as long-term trend and status monitoring addressed with PIT tags. As will be seen in the next section, this in turn imposes constraints on model development.

Model Estimation

Techniques developed to fit spill passage efficiency relationships to hydro acoustic data have used logit-transformed flow proportions and passage proportions. One benefit of the logit transformations is that the relationships are then fit with a simple linear regression. When back-transformed, those relationships are forced through the mandatory points of (0%,0%) and (100%,100%) (spill, passage). As a result, these relationships do not produce values of passage less than 0% or greater than 100%.

In previous analyses, hydro acoustic data were often grouped by 12-hour operational periods for analysis. Grouping allowed spill passage proportion and spill flow proportion to be computed for each operational period. Active tag data, such as radio or acoustic telemetry, usually include fewer passage events, and thus need to be grouped by something other than 12-hr operational periods to utilize the established curve fitting techniques. In a similar vein, for the 2006 COMPASS analyses, passage events were grouped into 10% bins of spill proportion. This allowed simple modeling techniques to function, but raised concerns about how the binning influenced the fits.

To avoid those concerns, we sought a technique that could treat the passage events as a binary comparison of passage through spill or non-spill routes. Dr. John Skalski, University of Washington, has long been a resource for Battelle in fitting Spill Efficiency Curves for hydro acoustic data. When presented with the need to fit a relationship between spill proportion and individual passage events, he suggested using Bernoulli regression (on the set of passage events for individual tagged fish) with a logit link function. When spill flow proportions are represented as logit-transformed values, this method produces curves of the same (logit-logit) form that are currently incorporated into COMPASS. This method can analyze passage events as individual data points, and did not require grouping or binning. The April memo displays and discusses results that use logit-logit model on individual fish passage events, with separate models for each species and dam. The results discussed here use the same regression techniques, but utilize a multivariate model to simultaneously fit spill efficiency relationships for multiple species (spring chinook and steelhead) and dams (Lower Granite, Little Goose, Lower Monumental, and McNary) to the extent that data are available.

Because the data are obtained as a result of numerous site-specific experiments, rather than as a directed effort at developing spill efficiency relationships, we believe that there are limits to the complexity of the models that these data can support. In the April memo, Kenneth showed results from models that assume that every project and species is different from every other project and species. Here, we present the results of a much simpler logit-logit model which assumes that spill passage efficiency varies by dam and species, with RSW operation, and that the influence of a dam or RSW may vary by species, but that the slope of logit (SPE) versus logit (spill proportion) will be the same across species and projects. The estimated model, using individual fish passage data and a logit link function, is thus:

$$Y_i = B_0 + B_1 X_i + B_2 S_j + B_3 D_k + B_4 RSW + B_5 D_k * S_j + B_6 S_j * RSW + \varepsilon_i$$

where $Y_i = \ln\left(\frac{SPE_i}{1 - SPE_i}\right)$;

$$X_i = \ln(\text{spill proportion} / (1 - \text{spill proportion}));$$

S = categorical variable for Species

D = categorical variable for Dam

RSW = indicator variable for RSW operation

B = regression parameters estimated by maximum likelihood methods.

While some more complex models do result in improved AIC scores, etc., we believe that estimating such models is fraught with potential problems due the dam-by-dam experimental nature of the data collection process.

Results

Regression results are displayed in Tables 2 and 3a – 3c. Predicted values are shown in Figures 1 and 2, for chinook and steelhead respectively. Roughly 3/4ths of the 16,918 fish passed via spillways or RSW's (Table 2). Overall model fit is quite good for a logistic regression model (Table 3a), with a pseudo-R-square of 0.22 (table 3b). All main effects are significantly different from zero, with the notable exception of RSW operation (Table 3b). Turning to individual coefficients (Table 3c), we see that three of the four dams have intercepts that differ from that at McNary (the excluded category), RSW operation (main effect) is not significant, chinook differ from steelhead, and the dam * species and RSW * species interactions are important with the exception of chinook at Little Goose. Logit of spill is significant, with a slope of approximately one (1.0314), and is quite precisely estimated, with a standard error of only 0.035. The association between predicted and observed responses is also quite strong for this type of model (bottom of table 3c).

Figures 1 and 2 show how the estimated curves differ among dams, RSW operation, and species (blank panels denote no fish data are available). Although only intercepts differ among dams, spill passage efficiency relationships can appear quite different. The curvature of the relationship between spill proportion (horizontal axis) and predicted proportion of fish spilled (vertical axis) differs substantially among dams, from nearly linear (indicating a proportionate influence of spill on passage) at McNary, the reference case, to strongly curved at Ice Harbor and Lower Monumental (indicating a disproportionately large influence on passage), with Little Goose being nearly linear and having wide confidence bounds on the predicted values. Steelhead, with generally sparser data, have wider confidence bounds on the predictions at most dams, McNary being the notable exception.

A strict interpretation of the results would say that RSW's have no effect on steelhead (the main effect is not significant), but do increase the probability of spillway passage for chinook (the chinook * RSW interaction is significant). We strongly suspect that this is an artifact of the available data: Lower Granite had only 201 steelhead passing with the RSW off, while Ice Harbor had 694 passing with the RSW on (Table 1). It seems plausible that RSW effects on steelhead may be masked by other model parameters and perhaps by the experimental nature of the data collection. The only way to clarify this is with additional data (2006 information may be available soon), or with new data collected under different project operations

Discussion

Previous efforts to develop spill passage relationships using single dams and species, or using a complex multivariate model resulted in relationships that were implausible. An example of an implausible relationship would be one that predicted an extremely rapid increase in passage at low but increasing spill proportion, followed by a plateau of very little change in spill passage across a broad range of spill proportion, with another rapid change in spill passage as spill proportion approached 100%. It is hard to imagine a biological mechanism that would result in such large variations in the attractiveness to spill across such small ranges of spill proportion. We believe our previous approaches to developing spill passage efficiency relationships were over-fitting the available data. The simplified multivariate approach was developed to avoid such

over-fitting, while still allowing the data to define the influence that dams, species, and RSWs have on spill passage efficiency.

The simplified multivariate regression approach presented here allowed spill passage efficiency relationships to be developed which reflect the influence of species, individual dam, and RSW operation and allowed the influence of dam and RSW to differ among species. The resulting spill passage efficiency relationships ranged from a gradual increase in spill passage with increasing spill proportion at McNary dam, to a rapid increase in spill passage with spill discharge proportion at Lower Monumental.

The slope of the relationship determined how sigmoidal (S-shaped) the curves appear. By requiring the relationships to have a common slope, all curves were forced to have the same S-shaped quality. Curves were allowed to be very much or very little S-shaped, but the best overall fit was achieved when the curves were not S-shaped at all. The common slope avoided relationships that produce unreasonable estimates of passage outside the range of spill proportions that occur in the existing data. Efforts at fitting spill passage efficiency curves one dam and species at a time or with multivariate models that allowed slopes to vary among dams and species sometimes produced such curves that were termed “implausible” in Kenneth’s 4/10/2007 memo. No such problem has arisen with the current simplified multivariate approach.

Although this approach has provided a reasonable set of spill passage efficiency curves for incorporation into the COMPASS modeling effort, it has not eliminated all concerns about the limitations of the existing data set. Where data are clumped within high spill proportions (e.g., Ice Harbor) the influence of the relatively small proportion of RSW discharge is unlikely to be large. Unfortunately, data for operations without an RSW are scarce at Lower Granite, the only other site where an RSW currently exists.

It will be advantageous to incorporate new data as it becomes available. We expect existing data from lower river projects to be available for similar analyses soon. For future studies, releases of tagged fish across wider ranges of spill, and better balance between RSW on – RSW off, are obvious methods to help extend and strengthen the results described here. In addition, releases and detections of acoustic tagged smolts promise to be useful, perhaps extending the range of environmental and operational conditions under which fish pass the dams.

Table 1. Distribution of tagged fish and spill levels across dams and RSW operation.

CH1 = Spring chinook, STH = Steelhead	DAM	1 if RSW on, else 0	Number of RT smolts	Minimum spill proportion	Average spill proportion	Maximum spill proportion
CH1	IHR	0	4898	0.31618	0.69502	0.94881
CH1	IHR	1	1251	0.33638	0.42400	0.75398
CH1	LGO	0	402	0.05934	0.14358	0.32623
CH1	LGR	0	221	0.18638	0.34512	0.71527
CH1	LGR	1	1123	0.11010	0.27417	0.71527
CH1	LMN	0	732	0.15374	0.40952	0.53333
CH1	MCN	0	3394	0.05177	0.49696	0.79172
STH	IHR	0	1141	0.33358	0.75945	0.94515
STH	IHR	1	694	0.33939	0.41964	0.75398
STH	LGO	0	187	0.05987	0.13782	0.32437
STH	LGR	0	201	0.18559	0.35172	0.71070
STH	LGR	1	1019	0.08384	0.26526	0.45097
STH	MCN	0	1655	0.08255	0.59646	0.79054

Table 2. Distribution of fish by spillway passage vs. other routes.

Response Profile		
Ordered Value	Spill Pass	Total Frequency
1	0	4034
2	1	12884

Table 3.a. Overall model Fit.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	18587.439	14396.467
SC	18595.175	14489.300
-2 Log L	18585.439	14372.467

Table 3.b. Pseudo R-Square and effects analysis.

R-Square	0.2204	Max-rescaled R-Square	0.3307
Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > Chi Square
DAM	4	361.0051	<.0001
RSW ON	1	0.1563	0.6926
Species Group	1	5.0498	0.0246
logit (spill)	1	889.8087	<.0001
DAM*Species Group	3	81.2483	<.0001
RSW ON*Species Group	1	8.9721	0.0027

Table 3.c. Effects of individual covariates.

Analysis of Maximum Likelihood Estimates							
Parameter			DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi Square
Intercept			1	0.6149	0.0582	111.5076	<.0001
DAM	IHR		1	0.9461	0.1171	65.3303	<.0001
DAM	LGO		1	-0.2211	0.2131	1.0767	0.2994
DAM	LGR		1	1.0688	0.1316	65.9107	<.0001
DAM	LMN		1	2.1012	0.1268	274.6799	<.0001
RSW ON	1		1	0.0459	0.1162	0.1563	0.6926
Species Group	CH1		1	-0.1564	0.0696	5.0498	0.0246
logit (spill)			1	1.0314	0.0346	889.8087	<.0001
DAM*Species Group	IHR	CH1	1	0.6482	0.1354	22.9185	<.0001
DAM*Species Group	LGO	CH1	1	-0.0775	0.2474	0.0980	0.7543
DAM*Species Group	LGR	CH1	1	-0.5056	0.1644	9.4541	0.0021
DAM*Species Group	LMN	CH1	0	0	.	.	.
RSW ON*Species Group	1	CH1	1	0.4357	0.1454	8.9721	0.0027

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	81.1	Somers' D	0.624
Percent Discordant	18.7	Gamma	0.626
Percent Tied	0.3	Tau-a	0.227
Pairs	51974056	c	0.812

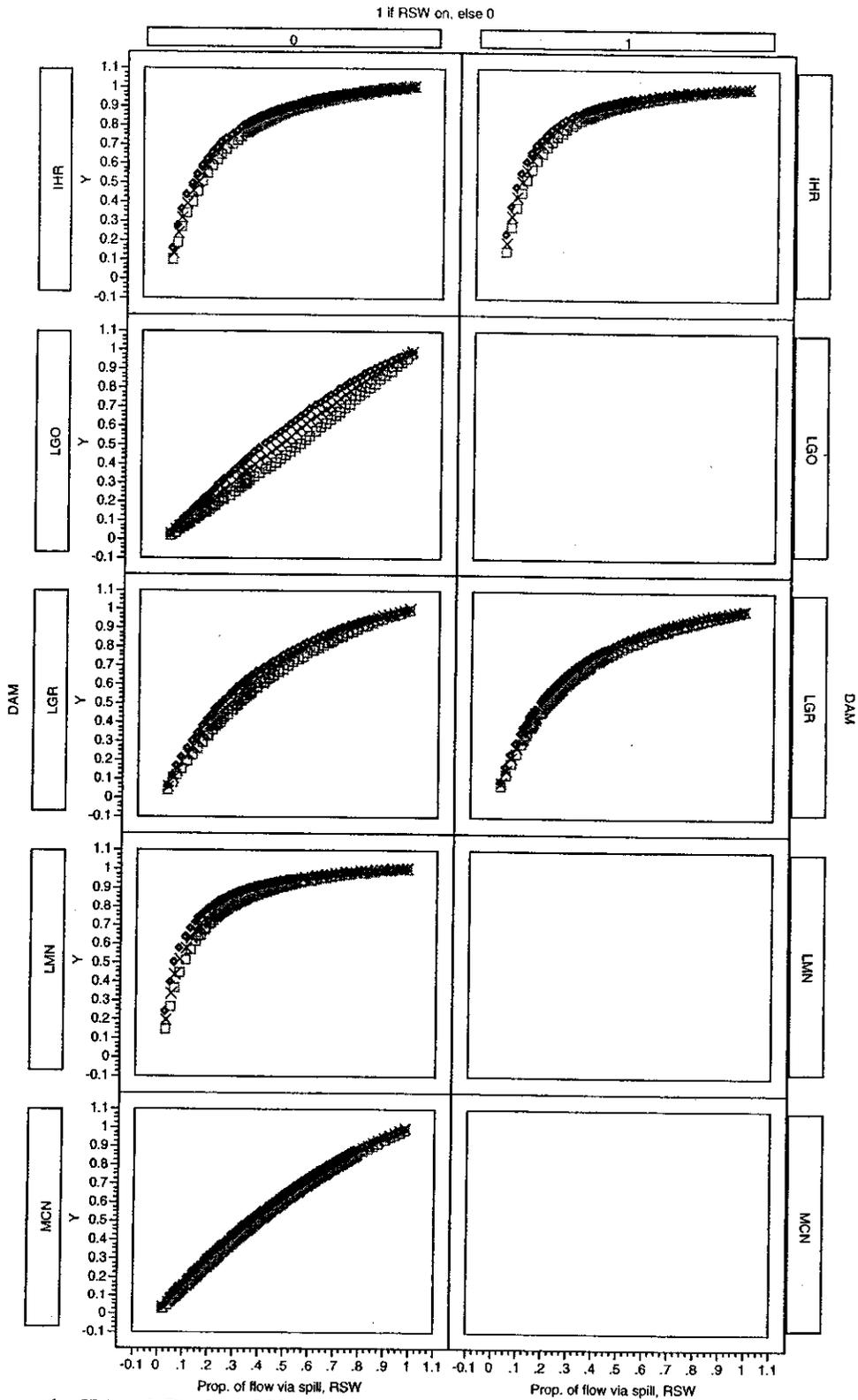


Figure 1. Chinook Predicted Values

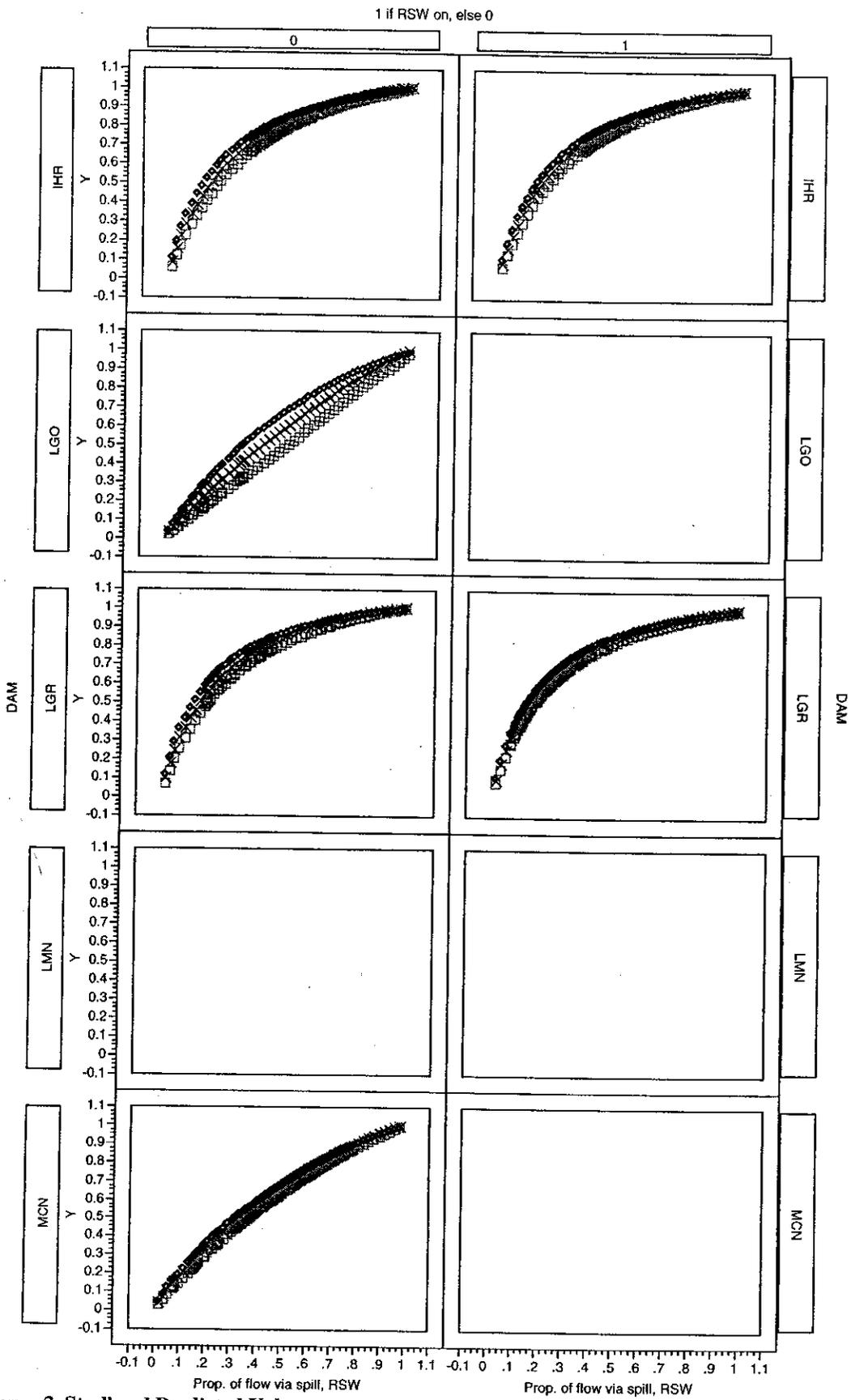


Figure 2. Steelhead Predicted Values.

Document 6

Schiewe,Roger P - PGPL-5

From: Schiewe,Roger P - PGPL-5
Sent: Friday, March 02, 2007 1:57 PM
To: Spear,Daniel J - PGB-5
Subject: RE: TMT Meeting Notes - 2/28

Dan: A couple of observations on the notes.

Aren't the SLEDs to keep the Sea Lion's out of the fish ladders?

"The Sea Lion Exclusion Devices (SLEDs), prison bar-like structures that are meant to stop sea lions from entering spillways, have been placed over the egresses of the BON spillway."

The reference to HGH elevation appears to be a Libby elevation:

Hungry Horse 2389'

From: Spear,Daniel J - PGB-5
Sent: Wednesday, February 28, 2007 4:26 PM
To: Barham,Theodore J - PGS-5; Bartlett,Kristine L - PGPO-5; Barton,Steven B - PGST-5; Bennett,Jennifer - PGS-5; Berry,William A - PGSP-5; Bettin,Scott W - KEWR-4; Bird,Ian M - PGPO-5; Busse,Patty J - PGS-5; Chisholm,Thomas A - PGPO-5; Cocks,Michael D - PTFM-5; Coe,Scott A - PGK-5; Connolly,Kieran P - PGPL-5; Cooper,Suzanne B - PG-5; Corrigan,Emily - PGPO-5; Daley,Dan - KEWR-4; Delwiche,Gregory K - KE-4; Fazio,John P - PGPO-5; Federovitch,Eric C - PTF-5; Feil,Dan H; Fodrea,Kimberly A - KEWR-4; Frazier,Holly M - PGSP-5; Glabau,Bruce D - PGPO-5; Hanson,Scott G - PTFM-5; Horvath,Cynthia J - PGSP-5; Hughes,Stephen P - PGPW-5; Hutchison,Cynthia A - PGSP-5; Hyde,Jeremy Z - PGK-5; Jackson,Linda M - PGPO-5; James,Eve A L - PGSD-5; Jenks,Tiffany F - PGSP-5; Kems,Steven R - PGSP-5; Kingsbury,Pamela A - PGPO-5; Klement,Anthony J - PGSD-5; Koehler,Birgit G - PGSP-5; Krueger,Paul Q - KEWR-4; Lamb,William D - PTFR-5; Larson,Cheryl A - P-6; Larson,Terry A - PGSD-5; Long,Cherie S - PTFM-5; MacKay,Robyn L - PGPO-5; Mai,Dennis T - PGPO-5; Mainzer,Elliot E - PTF-DITT-2; Martin,Shawn C - PGSD-5; Maslen,Bill - KEW-4; Mason,Geraldine K - PGPL-5; McCarthy,Cara S - PGPW-5; McManamon,Ann - PGPW-5; Mosey,Edward F - PGB-5; Neal,Robert E - PGSD-5; Norris,Tony - PGB-5 - PGB-5; Nysten,Victoria L - PGP-5; Oliver,Stephen R - PG-5; Olson,Greger J - PGPO-5; PBL PGSD (BPA); Pearson,Terrin L - TSPP-TPP-2; Pendergrass,Richard M - PGP-5; Pulcini,Marcella J - KEW-4; Reller,Mark D - DR-MSGL; Salvo,Karen L - JP-3; Schiewe,Roger P - PGPL-5; Spear,Daniel J - PG-5; Swedo,Robert L - DR-SPOKANE; Sweet,Jason C - KEWR-4; Tetnowski,Sonya M - DKT-7; Thompson,Terry P - PGPO-5; Togo,Travis - PGSD-5; Viles,Mike R - TOT-DITT2; Wellschlager,John D - GP-7; Winner,Scott W - PGSD-5; Zimmer,Pat R - DKR-7
Subject: TMT Meeting Notes - 2/28

TMT Meeting Notes 2/28/07

Discussion of DWR Water Supply Forecast

At the February 14 TMT meeting the COE presented several different water supply forecasts for DWR. In a follow up e-mail the COE explained that the Weather Service forecasts use precipitation and the COE's forecasts do not. This invited additional questions so the COE invited Steven King and Rick van der Zweep, from the Weather Service, and Randy Wortman from the COE, to explain the differences in their weather forecasts.

King said that the Weather Service forecasts are dependent on several weighted measures of snow, precipitation and global weather conditions. Wortman described how the COE forecasts are based on mathematical models that represent the best available science. Because the Weather Service model is based on in-year measurements it often "waffles," or changes dramatically, from month to month in response to precipitation events or dry weather. The COE forecast tends to stay more consistent.

In response to a question on why the COE and Weather Service do not work on one model together, King replied that the result would probably be a forecast in between those currently provided and that he felt it was most useful for the region to have two tools to base management decisions on.

Kyle Dittmer, of CRITFC, exclaimed that what truly hurts the salmon community is when an initial forecast for a wet weather year changes into a forecast that shows the weather to be drier. Wortman replied that each update of the forecast is always representing, with greater certainty, a more accurate picture of what the actual volume of runoff will be. You do not know exactly what the runoff is until the water year is over, King added.

King's presentation and Wortman's presentation can be viewed as links on the agenda for the February 28 TMT meeting: <http://www.nwd-wc.usace.army.mil/tmt/agendas/2007/0228.html>.

Water Management Plan Fall/Winter Update

Bernard Klatt again asked for the TMT to finalize the Water Management Plan (WMP) and its Fall/Winter Update. Kyle Dittmer, of CRITFC, said that Bob Heinith is still preparing CRITFC's comments and might have them ready in a week to ten days. Klatt said that he was anxious to begin work on the Spring/Summer update.

After a brief discussion the TMT approved the WMP and Fall/Winter Update with the proviso that CRITFC's comments would be posted to the web and acknowledged whenever they are delivered.

Spring Creek Hatchery Operations (SOR # 2007-02)

The subyearlings at the Spring Creek Hatchery will be discharged in two releases on March 5 and March 9. In SOR # 2007-02 Oregon, Washington and the Shoshone-Bannock Tribes recommend that 75 kcfs of spill be provided and the corner collector be operated for one release and that just the corner collector be operated for the other release. The choice of which release to spill for would be at the discretion of the Action Agencies. In addition, the SOR requests that the amount of flow necessary to offer a tailwater elevation suitable to protect chum redds below BON from TDG associated with spillway spill be provided for both releases in order to make conditions surrounding both releases the same to the greatest extent possible. Currently, it is estimated that it would take 158 kcfs to 172 kcfs of flow to maintain a 14.5' tailwater below BON. For the non-spill release the higher flow would not be used to maintain the tailwater elevation. CRITFC also signed the SOR but, in a footnote, explained that their signing of the 2007 Operations Agreement with BPA precluded them from making any recommendations on spill, but they did not oppose the spill portion of the SOR and were in favor of the other provisions of the SOR. The SOR can be viewed on the TMT website at the following link: <http://www.nwd-wc.usace.army.mil/tmt/sor/2007/2007-02.pdf>.

Steve Haeseker, an FWS staffer, explained that the purpose of the SOR was to continue testing to see if the spillway or corner collector provided a better passage route for the Spring Creek Hatchery subyearlings. Haeseker added that results from the 2004 release, which included a test of spill and corner collector passage, showed that spillway fish had a higher level of survival, although the data is incomplete because the four-year-old portion of the 2004 release has yet to return.

The COE reported their planned operation which was developed at the policy-level by the COE, BPA and FWS. The COE's operation will utilize the corner collector for both releases of Spring Creek Hatchery subyearlings. No additional flows will accompany the releases unless TDG created by operation of the corner collector necessitates a higher tailwater to protect incubating chum. The COE explained that the rationale for their decision was that testing has shown that the spillway has a lower level of survival than the corner collector, and that the data that Haeseker referred to showing higher survival through the spillway for Spring Creek Hatchery subyearlings than for the corner collector does not include harvest data or the return of four-year-old fish.

The TMT was polled on the SOR. The COE and BPA said that they support the COE's planned operation. FWS did not support or object to the SOR but did support the COE's operation. NOAA and the BOR were neutral on the SOR; the BOR was most interested in trying to ascertain the amount of GCL draft that would be necessary to support the SOR's recommended flows. Idaho and Washington supported the SOR. Oregon was not present at the meeting, but on Oregon's behalf NOAA stated Oregon's pre-determined request to elevate the SOR to the Implementation Team.

Document 7

Schiewe,Roger P - PGPL-5

From: Sweet,Jason C - KEWR-4
Sent: Wednesday, January 17, 2007 2:17 PM
To: Schiewe,Roger P - PGPL-5
Subject: Hydsim questions

Hi Roger,

Question 19a.

[Redacted [Exemption 5 Deliberative Process]]

Question 19b.

[Redacted [Exemption 5 Deliberative Process]]

Document 8

Schiewe,Roger P - PGPL-5

From: Schiewe,Roger P - PGPL-5
Sent: Thursday, March 15, 2007 8:24 AM
To: Spear,Daniel J - PGB-5
Subject: RE: TMT Meeting Notes 3/14

Redacted [Exemption 5 Deliberative Process]

From: Spear,Daniel J - PGB-5
Sent: Wednesday, March 14, 2007 5:19 PM
To: Baker,Lynn W - DKR-7; Barham,Theodore J - PGL-5; Bartlett,Kristine L - PGPO-5; Barton,Steven B - PGST-5; Bennett,Jennifer - PGL-5; Berry,William A - PGSP-5; Bettin,Scott W - KEWR-4; Bird,Ian M - PGPO-5; Busse,Patty J - PGL-5; Chisholm,Thomas A - PGPO-5; Cocks,Michael D - PTFM-5; Coe,Scott A - PGK-5; Connolly,Kieran P - PGPL-5; Cooper,Suzanne B - PF-6; Corrigan,Emily - PGPO-5; Daley,Dan - KEWR-4; Delwiche,Gregory K - KE-4; Fazio,John P - PGPO-5; Federovitch,Eric C - PTF-5; Feit,Daniel H - PGB-5; Fodrea,Kimberly A - PGPL-5; Frazier,Holly M - PGSP-5; Glabau,Bruce D - PGPO-5; Hanson,Scott G - PTFM-5; Hilliard Creecy,Jamae - PGB-5; Horvath,Cynthia J - PGSP-5; Hughes,Stephen P - PGPW-5; Hutchison,Cynthia A - PGSP-5; Hyde,Jeremy Z - PGSD-5; Jackson,Linda M - PGPO-5; James,Eve A L - PGSP-5; Jenks,Tiffany F - PGSD-5; Kerns,Steven R - PGSP-5; Kingsbury,Pamela A - PGPO-5; Klement,Anthony J - PGSD-5; Koehler,Birgit G - PGSP-5; Krueger,Paul Q - KEWR-4; Lamb,William D - PTF-5; Larson,Cheryl A - P-6; Larson,Terry A - PGSD-5; Long,Cherie S - PTFM-5; MacKay,Robyn L - PGPO-5; Mai,Dennis T - PGPO-5; Mainzer,Eliot E - TSP-TPP-2; Martin,Shawn C - PGSD-5; Maslen,Bill - KEW-4; Mason,Geraldine K - PGPL-5; McCarthy,Cara S - PGPW-5; McManamon,Ann - PGPW-5; Mosey,Edward F - PGB-5; Neal,Robert E - PGSD-5; Norris,Tony - PGB-5 - PGB-5; Nylen,Victoria L - NWPP-B1-R; Oliver,Stephen R - PG-5; Olson,Greger J - PGPO-5; Pearson,Terrin L - TSPP-TPP-2; Pendergrass,Richard M - PGP-5; PWR PGSD (BPA); Reller,Mark D - DKR-MSGL; Renner,Marcella P - KEW-4; Salvo,Karen L - JP-3; Schiewe,Roger P - PGPL-5; Spear,Daniel J - PGB-5; Swedo,Robert L - DKR-SPOKANE; Sweet,Jason C - KEWR-4; Tetnowski,Sonya M - DKT-7; Thompson,Terry P - PGPO-5; Togo,Travis - PGSD-5; Viles,Mike R - TOT-DITT2; Wellschlager,John D - GP-7; Winner,Scott W - PGSD-5; Zimmer,Pat R - DKR-7
Subject: TMT Meeting Notes 3/14

**TMT Meeting Notes
3/14/07**

Hanford Reach Fall Chinook Emergence Update

Russell Langshaw of Grant County PUD reported that 880 Temperature Units (TUs) had accumulated below PRD. The Hanford Reach Fall Chinook will commence emergence when 1000 TUs have accumulated. Between February 17 and 23 there were twenty hours when the minimum protection flow was exceeded.

Water Supply Forecasts

The COE provided several updates of the Water Supply Forecasts. Overall, the water supply is near or slightly above average in Canada and at TDA, but is slightly below average in the Snake. All of the data that the COE presented is linked to the agenda for the TMT meeting: <http://www.nwd-wc.usace.army.mil/tmt/agendas/2007/0314.html>.

DWR/GCL Flood Control Shift

Three feet of flood control space might be shifted from DWR to GCL.

Spring Creek Hatchery Release "After Action Report"

Dave Wills of USFWS reported that approximately 6.6 million subyearling fall Chinook were released on March 5 and approximately 1.2 million were released on March 9. Wills said that the fish would normally be released all at once but they were put into two groups in anticipation of having spill accompany one of the releases. Although the FWS and Action Agencies chose to provide the corner collector operation for both releases with no spillway spill Wills said that the fish were released in two treatments in hope that a rain event would necessitate spillway spill for the second release.

The fish released on March 5 "were healthy and happy," according to Wills, and experienced the regular 1%-2% mortality through March 7. On March 8 the mortality level climbed to 4%. On March 9 the mortality rate was at 8%. After the second group of fish was released an Emergency TMT Meeting was called to respond to an SOR request for 85 kcfs of spill to help keep the fish out of the bypass system where the mortality was being observed. After much discussion Gary Fredricks, the NOAA biologist for the lower Columbia River, determined that the mortality was being caused upstream and the SOR was not accepted. (Please see Emergency TMT Notes from March 9 for more information)

Over the weekend Fredricks continued to investigate the reason for the higher than normal mortality observed in the bypass system. The only difference to the bypass system, compared to years past when mortality levels were lower, is that the fluorescent light bulbs in the gatewell had been replaced by energy efficient compact fluorescent LED light bulbs which are not as bright as regular fluorescent bulbs. NOAA explained that the light is one of the environmental attractions to the egress of the bypass. In addition to the dull lights, the water velocity in the gatewell was higher than normal. Fredricks' hypothesis is many fish died from exhaustion due to not being able to find the egress because of the lackluster light and greater water velocity.

The COE changed back to the brighter if less efficient light bulbs on Saturday. While the mortality level in the daily samples continued to be high most of the deceased fish appeared to have been dead for several days. This supports Fredrick's hypothesis that most of the fish died in one "event" and that the bypass system simply passed dead fish over several days thereafter.

Scott Bettin of BPA asked Wills why the hatchery released the second treatment of fish when the mortality levels were high. Wills said that the fish were released at 10 in the morning and the hatchery did not learn about the high mortality levels until later that day.

Tony Norris of BPA also pointed out that the bypass system is only one route of passage for the fish. Norris asked Wills how many fish pass through the bypass system. Wills said that he did not know what proportion passed for the Spring Creek release, but said that in general 25%-30% pass through the bypass system.

BON Maintenance Issues

The TMT agreed to the COE's request to have a 12' tailwater for four hours on March 22 in order to allow divers to inspect possible erosion in the B2 corner collector's mattress, to remove the old and broken staff gages from the Washington-side adult fish ladder, and to install data loggers. The COE said that the operation would last for a maximum of four hours.

Turbine Outage on Snake River Projects

The COE reported that there will be single unit outages at the Snake River projects in order to perform maintenance and fire suppression work.

Operations Review

Reservoirs

Grande Coulee	1278.1'
Hungry Horse	3531.2' releasing operating at minimum outflow due to an increase in inflow from a snow melt event.

Document 9

Schiewe, Roger P - PGPL-5

From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 2:32 PM
To: Schiewe, Roger P - PGPL-5; Hilliard Creecy, Jamae - PGB-5; Krueger, Paul Q - KEWR-4; Pendergrass, Richard M - PGP-5; Bettin, Scott W - KEWR-4; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Norris, Tony - PGB-5 - PGPO-5; MacKay, Robyn L - PGPO-5; Gleason, John M - LC-7; Kinsey, Bill - LC-7
Subject: RE: Update: RE: FOP coordination: LoMo and McNary summer spill schedules.

{
Redacted [Exemption 5 Deliberative Process]
}

-----Original Message-----

From: Schiewe, Roger P - PGPL-5
Sent: Thursday, June 14, 2007 2:27 PM
To: Sweet, Jason C - KEWR-4; Hilliard Creecy, Jamae - PGB-5; Krueger, Paul Q - KEWR-4; Pendergrass, Richard M - PGP-5; Bettin, Scott W - KEWR-4; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Norris, Tony - PGB-5 - PGPO-5; MacKay, Robyn L - PGPO-5; Gleason, John M - LC-7; Kinsey, Bill - LC-7
Subject: RE: Update: RE: FOP coordination: LoMo and McNary summer spill schedules.

{
Redacted [Exemption 5 Deliberative Process]
}

-----Original Message-----

From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 2:05 PM
To: Sweet, Jason C - KEWR-4; Hilliard Creecy, Jamae - PGB-5; Krueger, Paul Q - KEWR-4; Pendergrass, Richard M - PGP-5; Bettin, Scott W - KEWR-4; Feil, Daniel H - PGB-5; Schiewe, Roger P - PGPL-5; Fodrea, Kimberly A - PGPL-5; Norris, Tony - PGPO-5; MacKay, Robyn L - PGPO-5; Gleason, John M - LC-7; Kinsey, Bill - LC-7
Subject: Update: RE: FOP coordination: LoMo and McNary summer spill schedules.

SRWG Representatives from ODFW, NMFS, Walla Walla Dist. Corps, and BPA were present along with researchers from USGS and NMFS Science Center.

NMFS and OR have withdrawn their support for changing to summer spill volumes at LoMo. They feel that by the time this request goes through the Courts that there will be no benefit to the study. CRITFC would not oppose the change in spill at LoMo but would prefer leave operations as they are. BPA and the Corps remained supportive of changing the spill volume.

All parties on the call remained supportive of changing the spill dates at McNary. All parties also supported BPA's request (yes, you read that correctly) to rearrange the test blocks to shift more of the higher spill blocks back into July where they were originally.

The Walla Walla District will now forward the unanimous recommendation for McNary and the split recommendation for Lower Monumental to their counterparts at Division to determine what the next step is.

As an aside, it appears that one of the main drivers of the early run of fall Chinook is upstream hatchery release schedules. It was noted that an attempt will be made in the future to better coordinate hatchery releases to coincide with planned summer spill dates.

-----Original Message-----

From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 12:25 PM
To: Hilliard Creecy, Jamae - PGB-5; Krueger, Paul Q - KEWR-4; Pendergrass, Richard M - PGP-5;

Bettin, Scott W - KEWR-4; Feil, Daniel H - PGB-5; Schiewe, Roger P - PGPL-5; Fodrea, Kimberly A - PGPL-5; Norris, Tony - PGPO-5; MacKay, Robyn L - PGPO-5
Subject: FW: FOP coordination: LoMo and McNary summer spill schedules.
Importance: High

As you'll see below, a conference call has been scheduled for 1:00 to discuss issues with starting summer ops at LoMo and McNary early. If you have any additional thoughts or comments you'd like to pass along please let me know.

Jason

-----Original Message-----

From: Shutters, Marvin K NWW [mailto:Marvin.K.Shutters@nww01.usace.army.mil]
Sent: Thursday, June 14, 2007 12:18 PM
To: Bill.Hevlin@noaa.gov; Carmen Andonaegui; Feil, Daniel H - PGB-5; david.wills@fws.gov; gary.fredricks@noaa.gov; Sweet, Jason C - KEWR-4; Jim Ruff ; jhunt@nwcouncil.org; Kris Ryding (E-mail); Larry.Swenson@noaa.gov; lort@critfc.org; paul.wagner@noaa.gov; raymond.r.boyce@state.or.us; Rick Kruger; rkiefer@idfg.idaho.gov; steve_haesecker@fws.gov
Cc: Turner, Rudd A NWD; Kalamasz, Rebecca L NWW; Setter, Ann L NWW; Hurson, Dave F NWW; Gordon.Axel@noaa.gov; eric.hockersmith@noaa.gov; kenneth_cash@usgs.gov; Setter, Ann L NWW
Subject: FW: FOP coordination: LoMo and McNary summer spill schedules.

SRWG,

Ron Boyce suggested a SRWG conference call to discuss this issue. I suggest we have a SRWG call at 1:00 pm today. This will give time to let the FPOM participants get free and before a meeting NOAA has at 1:30.

The call in number is 877-867-4413 passcode: 371600.

At the bottom is a description of the proposal and background info.

Provided here is input I have received over the past couple days:

Rick Kruger (ODFW):

Rick's technical recommendation was to support the proposal. However, Policy (Ed Bowles) has not weighed in yet. He also stressed that this is not precedence setting. Dates are for this year only and for research purposes only. (summary of telephone conversation)

David Wills (USFWS):

On a technical level he can agree that this is a good idea, but he needs to let legal and policy folks know and they may disagree. (summary of telephone conversation)

Tom Lorz (CRITFC):

"[Changing the McNary summer operations date] makes a lot of sense and LoMo makes some sense to." "No Brainer for McNary and LoMo would be OK too. (summary of telephone conversation)

Jason Sweet (BPA):

BPA Supports proposed change in summer operation start dates for LoMo and McNary. However, would like to consider changing the treatment schedule to start with 30% days to reduce the number of additional 60% spill days. (summary of telephone conversation)

Sharron Keifer (IDFG):

Russ is off this week and no one is available with the appropriate technical expertise and they take a pass on participating on a conference call. She will rely on the other agencies to catch any problems. However, she "does not oppose" the change in summer start dates. (summary of telephone conversation)

Gary Fredricks (NOAA):

Marvin, This is the same issue we are working for Bonneville Dam research. In both instances (McNary and BON) I recommend moving the start of this year's summer operations to coincide with the fish run and the research

dates. This makes sense given that our research treatments do not include a seasonal shift in operations right in the middle of the research period. It also makes sense that we target the summer salmon out migration with the summer operation. Bill isn't here right now, he has a case of the flu bug but I suspect that he would agree with this reasoning in the case of LoMo as well. I see from DART that over 98% of the yearling chinook and steelhead have cleared Lower Granite and Lower Monumental dams and that the subyearling chinook passage is well above 30% at Lower Granite, so it seems that starting summer operations, at least for the purposes of the research is appropriate. Thanks, Gary (full text of an email from Gary).

Bill Hevlin (NOAA):

For Lower Monumental, as there is only one treatment and the difference in between spring and summer operations is only going from low 20 [June range has been 22-24 kcfs] to 17 kcfs, "a very minor change." He does not think the change in operations during the study is important. (summary of telephone conversation)

WDFW:

Have not been able to contact Carmen Andonaegui.

Description of proposal and background:

From the Fish Operations Plan:

In the LoMo section:

Summer Spill Operations June 21 - August 31, 2007: Spill 17 kcfs 24 hours per day, subject to gas cap limits. See Table 3 for operational spill levels.

Changes in Operations for Research Purposes:

* Spill duration for testing: June 21 - August 31 (entire summer spill period). The dates of testing will be dependent on the size of fish, fish availability, and the number of treatments needed for testing. Final dates for testing will be coordinated through the SRWG."

In the McNary Section:

Changes in Operations for Research Purposes:

* Spill duration for testing: Late June until August (tentative). The dates of testing will be dependent on the size of fish, fish availability, and the number of treatments needed for testing. Final dates for testing will be coordinated through the SRWG.

* Summer research operations: 40% spill 24 hours/day vs. 60% spill 24 hours/day.

Continue to evaluate PTSW performance. The spill will be alternated in two day blocks which will be randomized during testing.

* Objectives of the biological test:

- o Estimate passage and survival rates of subyearling fall Chinook salmon under two treatments of project operations.
- o Characterize juvenile salmon behavior in the forebay of McNary Dam under two treatments of project operations.

Subyearling Chinook are now available in adequate numbers and of size to begin the Snake River summer studies. In fact at LGR and Little Goose releases began last Wednesday, 6 June. Releases for LoMo and Ice Harbor are beginning today. The McNary researchers are planning for releases on 20 June.

For these study to be representative of the run, have adequate number of fish released, and to be complete before subyearling cease migrating, the studies need to begin. However, the operation changes for summer was set in the Fish Operations Plan to begin on 21 June at Lower Monumental and 1 July at McNary (exact dates to be coordinated through SRWG). In order for the

subyearling studies to be representative of both the run at large and for the study operations, the dates for the summer operations should be moved up.

At McNary, this would move up 4-6 days of the 60% spill into June. For Lower Monumental it would be going from the low 20's to 17 kcfs as soon as it can be coordinated. The Lower Monumental study's last release date is 30 June, to avoid the problem of non-migrating fish they see in July. Without this change half the study would be conducted under spring operations and half under summer operations.

As Per the FOP, I have coordinated the summer study dates for McNary and Lower Monumental with SRWG. The status is that NOAA, BPA, CRITFC, USFWS, and COE (could not reach ID or WA, and Ron Boyce should let us know tomorrow) believe it best for the operations to sync with the passage and survival studies and therefore the LoMo operation should go to summer as soon as we can (releases began today) and McNary should on 20 June (date it did last year). However, not all yet have concurrence from their policy folks.

Therefore, I believe we should be set to do what court and NWF vs. NMFS parties coordination is necessary. As the LoMo releases began today and the study only last 2.5 weeks the sooner this can happen the better. We have almost a week for McNary.

Sorry, about this being so late, but I just realized Tuesday that the summer operations were not going to match the research (or the subyearling run).

Marvin Shutters
509-527-7249

Document 10

Schiewe, Roger P - PGPL-5

From: Cooper, Suzanne B - PF-6
Sent: Monday, April 09, 2007 6:25 PM
To: Mosey, Edward F - PGB-5; Bettin, Scott W - KEWR-4; Cooper, Suzanne B - PF-6; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Gleason, John M - LC-7; Hilliard Creecy, Jamae - PGB-5; Irish, James T - PGF-6; Pendergrass, Richard M - PGP-5; Schiewe, Roger P - PGPL-5; Spear, Daniel J - PGB-5; Sweet, Jason C - KEWR-4; Zimmer, Pat R - DKR-7
Subject: Draft language on continued collaboration

Per discussion at this morning's hydro team meeting re: collaboration on Canadian ops, below is the draft language provided to the PWG in early March addressing continued collaboration on BiOp implementation.

{ Redacted [Exemption 5 Deliberative Process] }

4. Continued Collaboration and Oversight of Implementation

The Federal Agencies, States and Tribes share a common interest on long-term fish recovery and sustainable harvests. Recognizing that recovery will take efforts across H's & jurisdictions, sustained over time, it makes sense to establish a way to continue the coordination and communication that has grown out of the remand collaboration.

The parties to this continued collaboration would be senior policy representatives appointed by:

- Federal executives to represent the following federal agencies: NMFS, BPA, Bureau of Reclamation, and Corps of Engineers (and USFWS?).
- The Governors representing the states of Oregon, Montana, Washington, and Idaho.
- Participating Tribal governments appointed by Tribal councils.

The Federal, State, and Tribal representatives would meet [quarterly? Once a year?]. They would collaborate in the following areas:

- Review implementation of FCRPS ESA actions and results
- Discuss and attempt to resolve salmon and steelhead issues in ways that minimize or result in no adverse impact on other Columbia Basin fish and wildlife.
- Clarify, address, and narrow policy issues and differences.
- Promote coordinated funding and partnerships
- Emphasize "on-the-ground" actions that meet or exceed legal requirements and provide accountability for results in a biologically effective and cost-efficient manner.
- Coordinate RME efforts & reporting on results and implementation to provide latest/best available information to sovereigns & public
- Coordinate implementation and oversight of the PA with other regional processes (e.g., Power and Conservation Council; U.S. v. Oregon; NOAA recovery processes)

to minimize duplication and promote efficiencies.

Questions:

What effect on Regional Forum process, particularly IT?

What other reforms or forums might be desirable?

How do we move away from micro-management in the Regional Forum and placing the emphasis on performance metrics for juvenile survival, with flexibility in the hands of the Action Agencies?

Document 11

Schiewe, Roger P - PGPL-5

From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 9:22 PM
To: Oliver, Stephen R - PG-5; Delwiche, Gregory K - KE-4; Pendergrass, Richard M - PGP-5; Hilliard Creecy, Jamae - PGB-5; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Schiewe, Roger P - PGPL-5
Subject: RE: Shift in date of Bonneville Summer spill

{

Redacted [Exemption 5 Deliberative Process]

}

From: Oliver, Stephen R - PG-5
Sent: Thursday, June 14, 2007 4:11 PM
To: Sweet, Jason C - KEWR-4; Delwiche, Gregory K - KE-4; Pendergrass, Richard M - PGP-5; Hilliard Creecy, Jamae - PGB-5; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Schiewe, Roger P - PGPL-5
Subject: RE: Shift in date of Bonneville Summer spill

{

Redacted [Exemption 5 Deliberative Process]

}

Lastly, given the results of the April 3rd issues Court orders, I think we need to require the USACE to operate precisely to the FOP as written and ordered. The FOP requires 120 kcfs night time spill at BPA and not spill to gas cap (although I assume gas cap could still limit spill below 120 kcfs at times). The Court has ordered the 120 kcfs operation, and there should not be a variance unless agreed by all parties and the Court.

Stephen R. Oliver
Vice President, Generation Asset Management
Bonneville Power Administration
Ph: (503) 230-7503 or (503) 230-4090
FAX: (503) 230-3986

From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 3:18 PM
To: Oliver, Stephen R - PG-5
Cc: ~~Delwiche, Gregory K - KE-4; Pendergrass, Richard M - PGP-5; Hilliard Creecy, Jamae - PGB-5; Feil, Daniel H - PGB-5; Fodrea, Kimberly A - PGPL-5; Schiewe, Roger P - PGPL-5~~
Subject: RE: Shift in date of Bonneville Summer spill

{

Redacted [Exemption 5 Deliberative Process]

}

Redacted [Exemption 5 Deliberative Process]

From: Oliver, Stephen R - PG-5
Sent: Thursday, June 14, 2007 2:55 PM
To: Sweet, Jason C - KEWR-4
Cc: Delwiche, Gregory K - KE-4; Pendergrass, Richard M - PGP-5; Hilliard Creecy, Jamae - PGB-5; Feil, Daniel H - PGB-5
Subject: RE: Shift in date of Bonneville Summer spill

Redacted [Exemption 5 Deliberative Process]

Stephen R. Oliver
Vice President, Generation Asset Management
Bonneville Power Administration
Ph: (503) 230-7503 or (503) 230-4090
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From: Sweet, Jason C - KEWR-4
Sent: Thursday, June 14, 2007 2:25 PM
To: Oliver, Stephen R - PG-5
Cc: Delwiche, Gregory K - KE-4; Pendergrass, Richard M - PGP-5; Hilliard Creecy, Jamae - PGB-5; Feil, Daniel H - PGB-5
Subject: Shift in date of Bonneville Summer spill

Hi Steve,

I spoke with Rick regarding your meeting with the Corps yesterday and I just wanted to verify our position on the date change of summer spill at Bonneville to support the planned research. The Corps has proposed to change the date of summer spill from July 1 to June 21 independent of any change in spill volume. I have tentatively supported that request, pending policy level confirmation, with the understanding that the operation would not change from the court ordered spill levels. Rick and Jamae have both supported this position but we just wanted to see if you disagreed, or had any other comments.

This is consistent with our position on the Snake River projects where the fall Chinook run has begun earlier than expected. Roger Schiewe has estimated that this change at Bonneville, shifting from 100 kcfs 24 hrs to 75 day/TDG night 10 days early, would result in \$46,000 increased cost/foregone revenue.

It was understood that this agreement was strictly to increase the quality of the research, that this decision did not set precedent for any other years, and that any negotiations of spill volumes at Bonneville are independent of this.

Thanks.

Jason